

Subject Index

CUMULATIVE SUBJECT INDEX
FOR VOLUMES 142-149

A

- Absciscic acid**
effect on
K⁺ channels in guard cell protoplasts (*Vicia faba*), **145**, 284
membrane permeability and ion channels, **143**, 1085
- Acetaldehyde**
mediation of lipid peroxidation, role of ferritin and superoxide radicals (rat liver), **143**, 984
- Acetaminophen**
effect on interferon induction of indoleamine 2,3-dioxygenase in peripheral blood monocytes (human), **144**, 1147
hepatotoxicity
early inhibition of Na⁺/K⁺-ATPase ion pump (rat), **149**, 203
protective effects of superoxide dismutase and catalase (rat), **149**, 889
- Acetate**
intravesicular binding sites, effects on chromaffin granule ATPase regulation of proton pumping (bovine adrenal gland), **149**, 140
synthesis of methane and methyl-CoM *in vitro*, role of acetyl-CoA (*Methanosarcina barkeri*), **147**, 254
- Acetoin**
synthesized by tumoral pyruvate dehydrogenase, inhibition of pyruvate and aldehyde oxidation (rat liver), **145**, 153
- N*-Acetylaminofluorene, *see N*-2-Fluorenylacetamide
- Acetylcholine**
effect on
Ca²⁺-induced closure of outward K⁺ currents in isolated atrial myocyte sarcolemma (dog), **142**, 1039
prostaglandin synthesis in brain (guinea pig), **146**, 1256
- Acetylcholine receptors**
channel properties in myotubes exposed to forskolin (rat), **147**, 1000
muscarinic, subtype M4, identification by homology screening (rat forebrain), **149**, 125
nicotinic
associated phosphatidylinositol, phosphorylation (*Torpedo californica*), **147**, 1251
 α subunit, localization of azidophencyclidine-binding site (*Torpedo* sp.), **145**, 810
- Acetylcholinesterase**
linked immunoassay for atropine: development, validation, and application (human, rat), **144**, 469
- Acetyl-CoA**
role in synthesis of methane and methyl-CoM *in vitro* from acetate (*Methanosarcina barkeri*), **147**, 254
- Acetyl-CoA carboxylase**
inhibition by setoxydim and haloxyfop (*Zea mays*), **148**, 1039
stimulation by phorbol ester (rat hepatocytes), **142**, 135
- α -*N*-Acetylglucosamine-1-phosphate
phosphodiester-linked residues, antibody isolation (*Dicystostelium discoideum*), **148**, 834
- N*-Acetylglucosamine-1-phosphotransferase
phosphorylation of α 1,2-linked mannosylsaccharide, site localization (ML II, W138 fibroblasts), **142**, 354
- β -*N*-Acetylhexosaminidase
imipramine-induced cellular depletion, prevention by dexamethasone: implications for treating psychotic hexosaminidase-A deficient patients, **148**, 1098
lysosomal, detection of sulfated oligosaccharides (human fibroblasts), **143**, 178
- N*-Acetyl leukotriene E₄
 ω -hydroxylation by hepatic microsomes (rat), **143**, 337
- N*-Acetyltransferase
in harderian gland, effects of light-dark cycle and 6-para-chlorophenylalanine administration (female hamster), **145**, 1231
- Achatinins**
specificity for sialic acid (*Achatina fulica*), **148**, 795
- α ₁-Acid glycoprotein
macrophage exposure, induction of interleukin-1 inhibitory activity (human), **147**, 710
- Acid phosphatase**
purple form
Mn³⁺-containing, purification and characterization (sweet potato), **146**, 1173
sequence homology with uteroferrin from porcine uterus (bovine spleen), **144**, 1154
- Acid proteinase**
non-pepsin, from gastric mucosa, and neutrophil cathepsin E, immunochemical comparison (rat), **144**, 1251
- Acinar cells**
Ca²⁺ and inositol trisphosphate levels, comparative effects of carbachol and substance P (rat parotid), **148**, 1017
fluid secretion, association with carbachol-induced chloride efflux (rat parotid), **145**, 754
growth, regulation by α -lactalbumin (rat parotid), **147**, 174
protein kinase C distribution, effects of caerulein or carbachol (rat pancreas), **144**, 551
- Acquired immune deficiency syndrome**
associated retrovirus HIV
infection *in vitro*, inhibition by PS-K, **148**, 726
long terminal repeat-directed expression, effect of sodium butyrate, **148**, 899
replication *in vitro*, selective inhibition by
3'-azido-2',3'-dideoxyguanosine, **145**, 1080
2',3'-dideoxyriboside of 2,6-diaminopurine, **145**, 269

*Boldface numbers indicate appropriate volume; lightface numbers indicate pagination.

Subject Index

- 2',3'-dideoxythymidine and 2',3'-unsaturated derivative, **142**, 128
- reverse transcriptase inhibition by sugar-modified derivatives of thymidine 5'-triphosphate, comparison with cellular DNA polymerases α and β , **148**, 78
- reverse transcriptase inhibitor, low-energy conformations, **145**, 1356
- viral envelope, peptide T amino acid homology with thymosin α_1 , **145**, 884
- therapeutic applications of 2',3'-dideoxynucleoside phosphorylation by deoxycytidine kinase from normal human thymus extracts, **148**, 1252
- 4'-(9-Acridinylamino)methanesulfon-*m*-anisidine and exogenous DNA, interactions with leukemia cell topoisomerase II, implications for cellular drug sensitivity (human), **144**, 787
- induced cleavable complex in lung carcinoma cells, topoisomerase II-mediated formation, comparative effects of *N*¹,*N*⁸-bis(ethyl)spermidine and difluoromethylornithine (human), **149**, 194
- 6-Acryloyl-2-dimethylaminonaphthalene
-oligomycin sensitivity-conferring protein, application in analysis of structural changes upon F₁-ATPase binding (bovine cardiac mitochondria), **142**, 31
- ACTH (adrenocorticotrophic hormone), *see* Adrenocorticotropin
- Actin
binding protein-induced three-dimensional contraction, regulation by caldesmon, **144**, 936
- complexing with vitamin D-binding protein, associated conformational changes (human), **146**, 611
- conventional preparations, Cap Z_(36/32) contamination and inhibition of actin network formation, **145**, 625
- cytoskeletal increase, signaling mechanisms (rabbit neutrophils), **145**, 934
- fibrous form, release of inorganic phosphate after ATP hydrolysis, measurement by linked enzyme assay, **143**, 1069
- and phospholipid-binding 36-kDa Ca²⁺-dependent proteins, isolation and characterization (human placenta), **146**, 912
- polymerization
correlation with changes in optical density at 235 nm (rabbit muscle), **145**, 46
- induction by serotonin in cultured endothelial cells (bovine aorta), **143**, 152
- α -Actinin
specific interaction with vinculin (chicken gizzard), **146**, 554
- Actinomycin D, *see* Dactinomycin
- Activin, *see* Nandrolone phenpropionate
- Actomyosin ATPase, *see* Myosin ATPase
- Acylation
sites on *O*-specific polysaccharide, assay using ¹H/¹³C inversely correlated NMR spectroscopy (*Hafnia alvei* 1187), **146**, 1283
- Acyl-CoA
long-chain, inhibition of protein kinase C (bovine neutrophils), **147**, 428
- Acyl-CoA:cholesterol acyl transferase
action of 5 α -cholest-8(14)-en-3 β -ol-15-one as competitive substrate (rat jejunum, liver), **148**, 934
- microsomal, effect of dietary 5 α -cholest-8(14)-en-3 β -ol-15-one (rat jejunum), **148**, 920
- Acyl-CoA dehydrogenase
general form, inactivation by methylenecyclopropane-acetyl-CoA, kinetic analysis (porcine kidney), **146**, 1277
- Acyl-CoA:estradiol-17 β acyltransferase
solubilization and reconstitution in phospholipid vesicles (bovine placenta), **144**, 569
- Acyl dihydroxyacetone phosphate
fatty acid exchange reaction, mechanism, **145**, 1177
- Acyl groups
in phospholipids, turnover rates, assessment by stable isotope technique (mouse), **142**, 86
- Adenine
metabolism in Duchenne muscular dystrophy, effect of chronic allopurinol therapy (human), **147**, 152
- methylation in zein genes, analysis (maize), **147**, 1082
- Adenosine
metabolism in Duchenne muscular dystrophy, effect of chronic allopurinol therapy (human), **147**, 152
- Adenosine deaminase
activity in recipients of bone marrow from immunodeficient mice homozygous for wasted mutation, **145**, 581
- Adenosine receptors
mediation of cAMP accumulation in Jurkat cells, effects of lectin and phorbol esters (human), **145**, 344
- S-Adenosylhomocysteine
effect on insulin-independent release of pyruvate dehydrogenase activator from adipocyte plasma membranes (rat), **143**, 832
- Adenosylmethionine decarboxylase
activation during hepatic acute phase response (rat), **143**, 856
- induction in parotid gland, effects of sialagogues (mouse), **144**, 1161
- S-Adenosylmethionine:myelin basic protein *N*-methyltransferase
partially purified, role in demethylation of methylarginine in bovine myelin basic protein, **142**, 200
- Adenovirus
type 2, transformed cell revertants resistant to methylglyoxal bis(guanyldrazone), isolation and uptake characteristics (rat brain), **147**, 675
- type 4, sequence-specific binding factor, affinity purification and characterization, **147**, 65
- type 12, E1A gene promoters, analysis in cell-free transcription system, **146**, 783
- as vector for transfer of murine dihydrofolate reductase gene into deficient cell line (human), **147**, 964
- Adenylate cyclase
activated, inhibition by Au(III), mechanism (human osteosarcoma cells), **144**, 1109
- activation in v-Ki-ras-transformed fibroblasts, effects of NaF, cholera toxin, and forskolin (mouse), **146**, 47
- β -adrenergic receptor-coupled, effects of protein kinase C down-regulation (rat glioma cells), **144**, 620

Subject Index

- in cardiac membranes, regulation by NAD^+ (rabbit), **142**, 631
- catalytic subunit, increased activity in epithelial cells expressing viral *ras* genes (rat thyroid), **142**, 527
- forskolin-resistant, identification in cultured cells of *Choristoneura fumiferana*, **145**, 1192
- inhibition by interleukin 2 in T cells, role of protein kinase C (human), **145**, 176
- role in stimulation of locomotion in melanoma cells (human), **146**, 339
- stimulating proteins, tumor-derived, N-terminal amino acid sequence: identification of parathyroid hormone-like and -unlike domains (human), **146**, 672
- stimulation by cholera toxin, enhancement by viral K-*ras* protein in NRK cells, **147**, 596
- stimulatory regulatory protein, effect of estradiol-induced lipolytic defect in adipocytes (hamster), **145**, 369
- synaptosomal, induction by phosphatidylserine vesicles (rat brain), **145**, 631
- transient activation by heparin-binding growth factor in arterial smooth muscle cells (human), **146**, 771
- vasopressin-stimulated, desensitization by vasopressor and antidiuretic antagonist (rat kidney), **144**, 770
- Adhesion/deadhesion apparatus**
- sugar-specific, in marine bacterium, demonstration as sensorium that continuously monitors nutrient levels, **149**, 86
- Adipocytes**
- cholesterol efflux *in vitro*, effect of apolipoprotein A-I and A-I/A-II-containing liposomes (mouse), **142**, 63
- estradiol-induced lipolytic defect, effect on adenylate cyclase stimulatory regulatory protein (hamster), **145**, 369
- fatty acid uptake and triglyceride synthesis, stimulation by serum protein (human), **144**, 94
- glucose utilization, stimulation by inositol glycan, comparison with insulin (rat), **149**, 1084
- high-density lipoprotein receptor sites, relationship to promotion of reverse cholesterol transport (mouse), **149**, 545
- insulin binding
- and insulin-stimulated hexose transport, effect of chronic isoproterenol exposure (rat), **148**, 1093
- and internalization and processing, effects of metalloendoprotease inhibitors (rat), **142**, 205
- insulin-like effects of human growth hormone, role of protein kinase C (rat), **147**, 1232
- isolated
- from cortisol-treated rat, glucagon binding and action, **145**, 90
- 3-*O*-methylglucose uptake, stimulation by glucose tolerance factor (rat), **144**, 1237
- uptake of thyroid hormones, analysis (rat), **145**, 105
- NADPH/NADP ratio**, role in insulin regulation of pentose phosphate cycle (rat), **146**, 920
- plasma membranes and cytosol, phorbol ester binding, insulin-dependent changes, relationship to protein kinase C distribution (rat), **145**, 1384
- precursor differentiation in primary cultures, inhibition by epidermal growth factor (rat), **146**, 194
- Adipokinetic hormone**
- primary sequence analysis by fast atom bombardment mass spectrometry (*Gryllus bimaculatus* corpora cardiaca), **149**, 908
- Adipose tissue**
- brown
- thermogenin mRNA perinatal increase, role of euthyroid status (rat pup), **148**, 9
- uncoupling protein mRNA levels, effect of environmental temperature (rat), **142**, 696
- ADP (adenosine 5'-diphosphate)**
- interaction with matrix side of cytochrome-*c* oxidase, effect on cytochrome *c* affinity (bovine heart), **147**, 1268
- transfer into mitochondria, inhibition by cyanine dye (rat liver), **148**, 1081
- ADP-ribosylation**
- Ca^{2+} -dependent ATPase *in vitro*, enzyme activity suppression (rabbit muscle), **148**, 989
- by cholera and pertussis toxins in *Dictyostelium discoideum* membranes, analysis, **149**, 975
- nucleosomal core particles *in vitro*, effect on intranucleosomal DNA-protein interactions (rat liver), **143**, 1049
- by type C1 and D botulinum neurotoxins, effects of guanine nucleotides and guanidino-containing compounds (murine brain), **142**, 1032
- ADP-ribosyltransferase**
- nuclear, suppression by 5-azacytidine and analogs (Ehrlich ascites tumor cells), **142**, 468
- Adrenal gland**
- [^3H]glutamate-binding sites, solubilization (rat), **142**, 609
- secretion of catecholamines, induction by capsaicin (rat), **142**, 259
- Adrenaline**
- effect on insulin binding in erythrocytes (human), **147**, 158
- stimulation of cAMP synthesis in Ewing's sarcoma cells, **146**, 685
- α -Adrenergic receptors**
- myometrial, dopamine binding (pregnant rabbit), **142**, 947
- type 1
- cardiac, effect of high carbohydrate diet (rat), **144**, 238
- responsiveness in parotid acinar cells, inhibition by alkylating prazosin derivative (rat), **142**, 403
- and vasoactive intestinal peptide, concurrent regulation of pinealocyte cGMP levels (rat), **146**, 1478
- type 2, stimulation by clonidine, effect on plasma atrial natriuretic factor levels (rat), **143**, 159
- β -Adrenergic receptors**
- airway smooth muscle
- effect of hydrogen peroxide (rat), **145**, 357
- and epithelial cells, comparison (bovine), **148**, 178
- in alveolar type II cells, heterogeneity (guinea pig), **142**, 898
- cardiac, effect of high carbohydrate diet (rat), **144**, 238
- coupled adenylate cyclase, effects of protein kinase C down-regulation (rat glioma cells), **144**, 620
- density in cerebral cortex and erythrocyte membranes, effects of ischemia/recirculation and hypoxia/recovery (rat), **149**, 568

Subject Index

- phorbol-mediated redistribution in glioma cells, inhibition by concanavalin A (rat), **144**, 1265
- pulmonary, effect of platelet-activating factor (human), **143**, 1
- synthetic segments, recognition by cAMP-dependent protein kinase and protein kinase C (hamster), **147**, 168
- Adrenocortical cells
- DNA replication and proliferation in synthetic medium, effects of adrenocorticotropin, cAMP, and 12-*O*-tetradecanoylphorbol 13-acetate (rabbit), **148**, 1295
- fetal, glucocorticoid-induced maturation (sheep), **145**, 999
- 11 β -hydroxysteroid formation, role of microfilaments (*Rana ridibunda*), **148**, 1354
- inositol glycopospholipid metabolism *in vitro*, dependence on serum (bovine), **145**, 249
- protein kinase C isoform, isolation and comparison with multiple isoforms from rat brain (bovine), **147**, 382; *erratum*, **148**, 1550
- Adrenocorticotrophic hormone, *see* Adrenocorticotropin
- Adrenocorticotropin
- effects on DNA replication and proliferation of primary adrenocortical cells in synthetic medium (rabbit), **148**, 1295
- induction of cAMP production by cultured adrenal cells, potentiation by phorbol ester, role of Gi protein α subunit (bovine), **146**, 517
- release *in vivo*, differential effects of human interleukin 1 α and 1 β (rat), **146**, 1286
- Adrenodoxin oxidoreductase
- mRNA, cDNA molecular cloning and sequence analysis (bovine adrenal cortex), **145**, 1239
- Adriamycin, *see* Doxorubicin
- Aequorin
- monitoring of Ca²⁺ transients in platelets, effects of protein kinase C activation and inhibition (human), **145**, 66
- Affinity chromatography
- adenovirus sequence-specific DNA-binding factor, **147**, 65
- Aflatoxin B₁
- cytotoxicity mechanism, role of cytochrome P₁-450 (murine hepatoma cells), **145**, 854
- Aflatoxin B₁ 4-hydroxylase
- relationship to hepatic cytochrome P₃-450 (C57BL/6 mouse), **142**, 872
- Agar
- soft, growth on, promotion by autocrine factors secreted by virus-transformed erythroid cells, **143**, 775
- Age
- effect on
- c-myc transcript levels in liver (rat), **147**, 1
- fluidity of renal brush border membrane vesicles (rat), **142**, 849
- glycoprotein fucosylation in IMR-90 fibroblasts *in vitro* (human), **142**, 767
- nerve growth factor receptors in sympathetic ganglia (mouse), **146**, 797
- post-maturation, emergence of β adrenergic-responsive glycogenolysis (rat hepatocytes), **147**, 724
- Agmatine
- inhibition of ADP-ribosylation by type C1 and D botulinum neurotoxins (murine brain), **142**, 1032
- Ah receptor
- molecular mass, variation among vertebrate species and rat strains, **146**, 1439
- AIDS, *see* Acquired immune deficiency syndrome
- Ajoene
- inhibition of fibrinogen binding to platelets (human), **141**, 145; *erratum*, **144**, 1348
- Alanine racemase inhibitors
- and glycine, use in controlled cell lysis and protoplast formation (*Bacillus subtilis*), **149**, 576
- Albumin
- serum, *see* Serum albumin
- Alcohol
- and sucrose, rats fed diets containing high amounts, hypolipidemic effect of garlic oil extract, mechanism, **142**, 1046
- Alcohol dehydrogenase
- inhibition by long-chain 1-mercapto-*n*-alkanes (equine liver), **142**, 993
- subunit β_3 , catalytic properties, comparison with subunit β_1 (human), **146**, 1227
- Aldehyde reductase
- activation, modification *in vitro* (bovine lens), **148**, 369
- Aldehydes
- oxidation, inhibition by acetoin synthesized by tumoral pyruvate dehydrogenase (rat liver), **145**, 153
- Aldolase, *see* Fructose-bisphosphate aldolase
- Aldose reductase, *see* Aldehyde reductase
- Aldosterone
- formation by adrenocortical cells, role of microfilaments (*Rana ridibunda*), **148**, 1354
- Aldosterone receptors
- and RU 26752 receptors, detection in kidney (rat), **143**, 398
- Alkaline elution
- in determination of repair of *N*-methyl-*N'*-nitro-*N*-nitroso-guanidine-induced DNA damage in Alzheimer's disease fibroblasts, evaluation (human), **149**, 355
- Alkaline phosphatase
- in immunoenzymatic localization of GTP cyclohydrolase I in peripheral blood smears (human), **148**, 1232
- intestinal membranous and secreted, encoding mRNA, stimulation by fat feeding (rat), **145**, 363
- isozymes, tissue distribution in rabbits, comparison with other mammals, **143**, 15
- labeling with 3-¹³C-methionine (*Escherichia coli*), **144**, 375
- proinsulin conjugates prepared by gene fusion, in design of simple competitive ELISA, **149**, 607
- Alkaloids
- vinca, inhibition of protein kinase C: implications for drug resistance in tumor cells, **148**, 718
- Alkannin
- effect on cytochrome P-450-linked monooxygenase systems (human placenta, rabbit liver), **146**, 487
- Alkylation
- D₂-dopamine receptor: inconsistency with predictions of ternary complex model (bovine anterior pituitary), **147**, 1070

Subject Index

- O-Alkyldihydroxyacetonephosphate**
 synthesis: mechanism of acyl dihydroxyacetone phosphate fatty acid exchange reaction, **145**, 1177
- Alkyldihydroxyacetonephosphate synthase**, *see* Alkylglycerone-phosphate synthase
- Alkylglycerone-phosphate synthase**
 activity in glomerular mesangial cells, evidenced by alkyl-ether glycerophospholipid synthesis (rat), **144**, 666
- O⁶-Alkylguanine-DNA alkyltransferase**
 covalent binding to DNA containing 1,3-bis(2-chloroethyl)-1-nitrosourea-induced precursors of interstrand crosslinks (human), **142**, 341
- Alkyllysophospholipid**
 regulation of phorbol ester-stimulated protein phosphorylation in HL-60 and K562 cells and differentiation of HL-60 cells, **142**, 661
- 1-O-Alkyl-2-N-methylcarbamyl glycerophosphocholine**
 preparation and properties: relationship to platelet-activating factor (human blood), **147**, 18
- Allografts**
 heart-lung, rejection diagnosis with atrial natriuretic factor plasma levels as indicator (rat), **146**, 625
- Allopurinol**
 effect on purine metabolism in Duchenne muscular dystrophy (human), **147**, 152
 role as free radical scavenger, mechanism (porcine heart), **148**, 314; *erratum*, **148**, 1550
- Alprazolam**
 and triazolam, competitive inhibition of platelet-activating factor binding to platelets (human), **144**, 359
- Alzheimer's disease**
 associated proteins, residue peptide number required for amyloid fibril formation and characteristic X-ray diffraction pattern, **147**, 854
 fibroblasts, normal repair of *N*-methyl-*N'*-nitro-*N*-nitrosoguanidine-induced DNA damage as determined by alkaline elution (human), **149**, 355
- α -Amidating enzyme**
 peptide C-terminal, cDNA, cloning and sequence analysis (*Xenopus laevis*), **148**, 546
- Amidation**
 substance P-Gly₁₂, enzyme isolation and characterization (human), **148**, 24
- Amide protons**
 exchange rates of
 bound pepsin inhibitor, assay by isotope-edited proton NMR (pig), **147**, 892
 group A streptococcal polysaccharide in water, ¹H NMR measurements, **143**, 685
- Amidorphin**
 C-terminal sequence, inhibition of nicotine-induced secretion from chromaffin cells (bovine adrenal medulla), **143**, 545
- Amine oxidase**
 embryonal, fetal, and maternal tissue levels, effects of maternal ethanol consumption (rat), **142**, 843
 fragmentation by free radicals in lipid environment, protective effects of vitamin E (rat liver), **148**, 1277
- Amino acid composition**
 D-aspartic acid-containing protein (aged murine lens), **146**, 1432
- atrial natriuretic factor molecular forms released by perfused neonatal heart (rat), **146**, 547
- high-molecular-weight peptide with salmon calcitonin immunoreactivity (*Nephrops norvegicus*), **148**, 463
- recombinant human interleukin 1 β (*Escherichia coli*), **147**, 315
- D-Amino acids**
 -substituted analogs of human growth hormone-releasing factor, synthesis and in vitro bioactivity, **149**, 531
- L-Amino acids**
 -containing gonadotropin-releasing hormone agonists, synthesis, **144**, 1214
- Amino acid sequence**
 adipokinetic hormone, analysis by fast atom bombardment mass spectrometry (*Gryllus bimaculatus* corpora cardiaca), **149**, 908
- amino-terminal**
 basic fibroblast growth factor from benign prostatic hyperplastic tissue (human), **142**, 702
 carcinoembryonic antigen, comparison with 105- and 165-kDa crossreacting antigens (human meconium), **147**, 212
 cystatin long form, identification by rapid microbore HPLC mapping (human saliva), **145**, 1248
 cytochrome P-450-ALC (human liver), **148**, 232
 85-90K nonhormone binding component of molybdate-stabilized estradiol receptor (bovine uterus), **143**, 218
 erythroid differentiation factor (human leukemia cells), **142**, 1095; *erratum*, **144**, 1349
 erythropoietin-like factor of Cohn Fraction V, comparison with insulin-like growth factor II (bovine), **149**, 1026
 low-molecular-weight pulmonary surfactant-associated proteins (bovine), **148**, 1406
 phospholipid transfer protein (rat lung), **145**, 1310
 platelet glycoprotein Ib α and β chains (human), **147**, 526
 tumor-derived adenylate cyclase-stimulating proteins: identification of parathyroid hormone-like and -unlike domains (human), **146**, 672
- apolipoprotein B, deduction from cDNA sequence (rat), **142**, 92
- atrial natriuretic factor in coronary sinus plasma (human), **146**, 832
- basic fibroblast growth factor (human placenta), **144**, 543
- Ca²⁺-activated neutral protease inhibitor (rabbit erythrocytes, liver), **146**, 630
- carboxy-terminal**
 nuclear transition protein 2 (rat spermatids), **147**, 437
 proteins B-48 and B-100, comparison (human), **149**, 1214
- carcinoembryonic antigen**
 analysis: detection of immunoglobulin-like domains (human), **144**, 634
 deduction from cDNA sequence (human), **142**, 511
- cardiac alpha tropomyosin and streptococcal M protein**, comparison (human), **142**, 813
- cardiac gap junction protein components**, **142**, 228
- complement factor C8 γ chain and α_1 -microglobulin**, homology (human), **149**, 282
- creatine kinase B subunit**, deduction from cDNA clones (human), **144**, 1116

Subject Index

- dihydropteridine reductase peptide fragments (rat liver), **143**, 582
- eclosion hormone (*Manduca sexta*), **146**, 746
- enkephalinase (rat), **144**, 59
- gastrins (chinchilla), **143**, 7
- α -interferons, effect on antiviral response (mouse), **147**, 47
- major intrinsic polypeptide of lens membrane, changes during senile cataractogenesis (human), **142**, 761
- membrane-associated 3,5,3'-triiodo-L-thyronine-binding protein, comparison with protein disulfide-isomerase (bovine liver), **146**, 1485
- mitochondrial aspartate aminotransferase precursor (rat liver), **149**, 859
- myelin basic protein (human), **144**, 1287
- neuronal type II calmodulin-dependent protein kinase, analysis by tandem mass spectrometry, **148**, 1104
- neurophysins
- bovine, **148**, 827
 - vasotocin-associated form (*Rana esculenta*), **149**, 538
- neutrophil-activating factor produced by monocytes (human), **149**, 755
- octapeptides from bovine ribonuclease A and human immunodeficiency virus gp120, comparison, **143**, 248
- palindrome, detection in high-mobility-group I chromosomal proteins (human), **146**, 725
- parathyroid hormone antisense peptide and hormone receptor, comparison (human), **149**, 930
- partial, macrophage colony-stimulating factor (human, mouse), **144**, 74
- peptides from diisopropyl fluorophosphate-labeled lecithin-cholesterol acyltransferase (porcine plasma), **143**, 360
- phosphopyridoxyl peptide from P-protein of glycine cleavage system (chicken liver), **149**, 621
- phosphorylation domain of erythrocyte Ca^{2+} -ATPase (human), **149**, 7
- progesterone receptor, deduction from cloned cDNA (human), **143**, 740
- pulmonary surfactant-associated protein A, deduction (rat), **144**, 367
- purple acid phosphatase and uteroferrin, homology (bovine spleen, porcine uterus), **144**, 1154
- pyridoxal 5'-phosphate-binding site on β -cystathionase and cystathionine γ -synthase, comparison (*Escherichia coli*), **147**, 565
- relaxin (skate), **143**, 273
- 67-kDa protein from aorta, comparison with p36 (bovine), **145**, 961
- tendon small proteoglycan core protein (bovine), **148**, 658
- thymosin α_1 , homology with peptide T from human immunodeficiency virus envelope, **145**, 884
- type I regulatory subunit of cAMP-dependent protein kinase (human testis), **149**, 939
- 3-Aminobenzamide
- cell cycle-dependent potentiation of X-ray-induced chromosomal aberrations (human lymphocytes), **143**, 372
 - prevention of adriamycin-induced interphase death in promyelocytic leukemia cells (human), **144**, 1031
- γ -Aminobutyric acid
- benzodiazepine receptors
 - reconstitution into vesicles, induction of $^{36}\text{Cl}^-$ influx (bovine brain), **146**, 1471
 - types I and II, purification and two-dimensional electrophoresis (rat brain), **146**, 568
 - release from synaptosomes, inhibition by phenolic antioxidants (guinea pig brain), **146**, 603
- γ -Aminobutyric acid receptors
- in brain, effects of avermectin B_{1a} (mouse, rat), **146**, 692
- N^4 -Aminodeoxycytidylic acid
- proofreading by DNA polymerase I (*Escherichia coli*), **143**, 104
- 1-(4-Amino-6,7-dimethoxy-2-quinazolinyl)-4-(2-bicyclo [2.2.2] octa-2,5-dienylcarbonyl) piperazine
- inhibition of α_1 -adrenergic responsiveness in parotid acinar cells (rat), **142**, 403
- 2-Amino-3,8-dimethylimidazo(4,5-f)quinoxaline
- metabolism *in vivo*: metabolite screening by liquid chromatography-thermospray mass spectrometry (mouse), **148**, 1377
- N*-(2-Aminoethyl)-5-isoquinolinesulfonamide
- inhibition of phorbol ester- and DiC_8 -induced histamine release from basophils (human), **144**, 732
- N*-(6-Aminohexyl)-5-chloro-1-naphthalenesulfonamide
- effect on superoxide production in growing and resting histiocytic leukemia cells (human), **144**, 1317
 - inhibition of NADPH-oxidase activation by arachidonate in cell-free system (guinea pig macrophages), **148**, 112
- δ -Aminolevulinate
- nonenzymatic synthesis by Co^{2+} , **143**, 439
- δ -Aminolevulinic acid synthetase
- hepatic, effect of phorone (rat), **145**, 502
- Aminopeptidase
- vasopressin-converting, measurement and distribution in brain (rat), **144**, 726
- Aminopeptidase B
- inhibition by L-lysineethiol, **145**, 1038
- Aminophospholipids
- topology in bilayers, cholesterol-induced rearrangements (ovine platelets), **145**, 1362; *erratum*, **147**, 1302
- 2-Amino-5-phosphonovalerate
- effect on 4-aminopyridine inhibition of synaptosomal plasma membrane protein phosphorylation *in vitro* (rat hippocampus), **147**, 94
- 3-Amino-1,2-propanediol
- dipeptide amides, renin inhibitory activity: studies *in vitro* and in conscious monkey (human, pig), **146**, 959
- 4-Aminopyridine
- inhibition of synaptosomal plasma membrane protein phosphorylation *in vitro*: effect of 2-amino-5-phosphonovalerate (rat hippocampus), **147**, 94
- Aminopyrine demethylase
- hepatic, effect of phorone (rat), **145**, 502
- Ammonia
- toxicity, potentiation by sodium benzoate, inhibition by L-carnitine (mouse), **145**, 817
- Amniotic fluid
- detection of low-density and very-low-density lipoproteins (human), **149**, 208

Subject Index

- AMP (adenosine 5'-monophosphate)
 extracellular, utilization by *Vibrio parahaemolyticus*, **144**, 382
 inhibition of ternary complex formation by initiation factor 2 (rat liver), **146**, 1079
- AMP deaminase
 interactions with polyphosphoinositols (chicken liver), **148**, 106
- Amylase
 bombesin-induced release from pancreatic acinar carcinoma cells (rat), **144**, 463
 type α , promotor activity, regulation by palindromic sequence upstream from encoding gene (*Bacillus subtilis*), **146**, 73
- Amyloid
 fibrils
 deposited in atria, identification of protein N-terminal sequence identical to atrial natriuretic factor (human), **148**, 1087
 formation in Alzheimer's disease, required residue peptide number, **147**, 854
 human, β -protein precursor, isolation of cDNA for murine homolog, **149**, 665
- Amyloid peptide
 high-molecular-weight Alzheimer's disease, identification as IgG in cerebrospinal fluid and serum (human), **145**, 241
- Amyloplasts
 importation and processing of spinach nuclear-encoded chloroplast protein precursors (sycamore), **149**, 799
- Androgens
 binding to aromatase active site, requirements (human placenta), **147**, 1259
 -repressed mRNA, characterization and cloning (rat prostate), **147**, 196
- Anemia
 bleeding-induced, changes in hemoglobin proportions, relationship to plasma prostaglandin E₂ levels (rat), **149**, 1017
- Angiogenesis
 effect of basic fibroblast growth factor, *in vivo* model (rat kidney), **147**, 876
 induction by mixtures of human angiogenin and bovine acidic fibroblast growth factor in chorioallantoic membrane (chicken), **146**, 1122
- Angiogenesis factor
 endothelial cell-stimulating, and basic fibroblast growth factor, synergistic effect on microvascular endothelial cell proliferation, **143**, 947
 from melanoma cell line A-375/2, purification and characterization (human), **146**, 945
- Angiogenin
 and bovine acidic fibroblast growth factor, induction of angiogenesis in chicken chorioallantoic membrane (human), **146**, 1122
 mRNA, distribution in tumor and normal cells (human), **146**, 1240
- Angiotensin I
 release from isolated kidney perfused with angiotensinogen-free medium (rat), **149**, 475
- Angiotensin II
 charge transfer systems, mechanistic consequences: semiempirical calculations, **145**, 1349
 and depolarization, stimulation of Ca²⁺ uptake by vascular smooth muscle cells, comparison (rat aorta), **148**, 225
 effect on
 inositol phosphate formation and metabolism (bovine adrenal glomerulosa cells), **142**, 15
 inositol 1,4,5-trisphosphate levels in cultured mesangial cells (rat), **142**, 70
 generating enzymes, distribution in aortic wall (dog, human, monkey), **149**, 1186
 induction of inositol 1,3,4,6-tetrakisphosphate formation in adrenal glomerulosa cells (bovine), **148**, 199
 monoclonal antibodies, secreting hybridomas, generation (mouse), **143**, 133
 release from isolated kidney perfused with angiotensinogen-free medium (rat), **149**, 475
- Angiotensin-converting enzyme, *see* Dipeptidyl carboxypeptidase I
- Angiotensinogen
 acute-phase response to lipopolysaccharide, role of leukocytes and glucocorticoids (rat), **145**, 1225
 analogs, synthesis and effects on renin (human), **143**, 44
- 2,6-Anhydro-3-deoxy-D-glycero-D-galacto-octonate
 effect on bacterial CTP:CMP-deoxyoctulosonate cytidyltransferase, **143**, 1063
- 2,6-Anhydro-3-deoxy-D-glycero-D-talo-octonate
 effect on bacterial CTP:CMP-deoxyoctulosonate cytidyltransferase, **143**, 1063
- Ankyrin
 and band 3 proteins, homologs in eye lens: evidence for all major erythrocyte membrane components in same nonerythroid cells (human), **149**, 266
- Anthracyclines
 inhibition of protein kinase C: implications for drug resistance in tumor cells, **148**, 718
- Antibodies, *see also* Antiserum
 and anti-idiotypic antibodies, to extra signal peptide of pre-mitochondrial aspartate aminotransferase, synthesis and characterization (porcine liver), **148**, 979
 anti-insulin IgG, enzyme immunoassay (guinea pig serum), **147**, 644
 autoimmune
 to RNA polymerase I, detection in sera from scleroderma and Sjögren's syndrome patients, **144**, 1296; *erratum*, **145**, 1404
 thyrotropin-stimulating, from Graves' patients, interaction with thyrotropin receptor on FRTL-5 thyroid cells (rat), **143**, 266
 to bovine mannose 6-phosphate receptor, interactions with human insulin-like growth factor II receptor, **149**, 600
 calmodulin conformation-recognizing, detection in serum from patient with chronic active hepatitis, **144**, 191
 to cardiac sarcolemmal proteins, identification of Na⁺/Ca²⁺ exchanger (bovine), **145**, 1059
 enkephalinase-specific, identification of λ GT11 fusion protein, **145**, 488
 estrogen receptor, increased incidence in patients with autoimmune disorders, **145**, 1342

Subject Index

- to fucosyl GM1, effect on cAMP production in FRTL5 thyroid cells (rat), **143**, 848
- G_{αi} protein 3-17 sequence, recognition of 40-kDa G-protein (bovine brain), **148**, 838
- to mammary-derived growth inhibitor, reactions with fibroblast growth inhibitor and heart fatty acid-binding protein (bovine), **148**, 1425
- monoclonal, *see* Monoclonal antibodies
- to nuclear thyroid hormone receptors, preparation (rat liver), **144**, 178
- to phosphodiester-linked α-N-acetylglucosamine-1-phosphate residues, isolation (*Dictyostelium discoideum*), **148**, 834
- polyclonal, *see* Polyclonal antibodies
- proapolipoprotein A-I, as probe of apolipoprotein A-I biosynthesis and processing, development (human), **149**, 289
- production by B cells, enhancement by 2,3,7,8-tetrachlorodibenzo-*p*-dioxin (murine spleen), **145**, 25
- to protein kinase C isozymes, in identification of isozymes as discrete gene products (rat brain), **149**, 946
- site-specific, reactivity with N-terminus of myosin heavy chain (rabbit muscle), **147**, 369
- to synthetic joining segment peptide, detection of conservation among vertebrate immunoglobulin chains, **145**, 699
- α₁-Antichymotrypsin
effect on DNA synthesis in stomach carcinoma cells (human), **144**, 409
- Antiestrogens
inhibition of mitogenic effect of growth factors on breast cancer cells in absence of estrogens (human), **146**, 1502
- Antigens
carcinoembryonic
amino acid sequence analysis: detection of immunoglobulin-like domains (human), **144**, 634
amino-terminal sequence, comparison with 105- and 165-kDa cross-reacting antigens (human meconium), **147**, 212
molecular cloning: identification of signal peptide and N-terminal domain sequences of nonspecific cross-reacting antigen (human), **146**, 464
primary structure, deduction from cDNA sequence (human), **142**, 511
determinant groups, *see* Epitopes
glycosphingolipid, gene transfer for expression in murine lymphoma cells by transfection with cosmid genomic library prepared from human Burkitt lymphoma cells, **143**, 716
induced increase of cytosolic Ca²⁺ in mast cells, inhibition, role of protein kinase C translocation, **143**, 252
large T, polyoma virus, biochemical properties associated with immortalizing domain, **144**, 973
Ly-6, phosphatidylinositol anchorage, detection by phospholipase C digestion and gel electrophoresis in octylglucoside, **148**, 1304
-α₂-macroglobulin conjugates, uptake by macrophages, stimulation of T-cell proliferation (mouse), **146**, 26
porcine myelin basic protein, induction of T-cell proliferation, inhibition by H-7 (mouse), **145**, 666
PSL, cellular levels, effect of retinoic acid-induced differentiation (HL-60 cells), **147**, 993
S-, from retina, cDNA cloning and sequence analysis (bovine), **142**, 904
surface
hepatitis B virus, DNA site-directed mutagenesis at codon 160 from arginine to lysine for conversion of subtypic determinant from r to w, **148**, 500
temperature-specific, membrane anchor, identification as glycosylinositol phospholipid (*Paramecium primaurelia*), **147**, 1219
von Willebrand II, sequence relationship with von Willebrand factor (human), **144**, 657
- Antimycin, *see* Citrinin
- Antipain
reversible conversion of tyrosine 3-hydroxylase to inactive form (rat striatum), **146**, 1375
- Antiserum, *see also* Antibodies
to basic fibroblast growth factor, cross-reactivity with pituitary-derived growth factor (human), **144**, 1128
to bovine brain protein kinase C regulatory subunit, cross-reaction with plant protein kinase, **145**, 1043
to tyrosine aminotransferase C-terminal segment, preparation and application in analysis of segment integrity, **144**, 801
- Antithrombin III
mRNA, hepatic and renal levels during development (rat), **142**, 417
- α₁-Antitrypsin
mRNA, hormonal regulation (rat liver, serum), **147**, 936
- Aorta
atrial natriuretic factor analog-induced vasorelaxation, comparison with smooth muscle cell cGMP response (rabbit), **144**, 422
fetal, derived cell line, detection of 1,25-dihydroxyvitamin D receptor (rat), **146**, 1
phorbol ester-induced contraction, effect of extracellular Ca²⁺ (rat), **145**, 494
vasodilation, induction by human atrial natriuretic prohormone peptides 1-30, 31-67, and 79-98 (swine), **148**, 1540
wall, distribution of angiotensin II-generating enzymes (dog, human, monkey), **149**, 1186
- Apolipoprotein A-I
and A-I/A-II-containing liposomes, effect on cholesterol efflux from cultured adipose cells (mouse), **142**, 63
biosynthesis and processing, analysis with antibody to human proapolipoprotein A-I (human), **149**, 289
cDNA sequence, tissue expression, and evolution (chicken), **148**, 485
- Apolipoprotein A-IV
synthesis *in vitro* from hepatic and intestinal mRNAs, analysis (lean, obese Zucker rats), **142**, 78
- Apolipoprotein B
morphology, electron microscopy, **144**, 210
mRNA
cloning and regulation (rat), **142**, 92

Subject Index

- in-frame translational stop codon, identification (human intestine), **148**, 279
- Apolipoprotein B-100
gene, structural analysis (human), **144**, 1332
- Apolipoprotein C
synthesis *in vitro* from hepatic and intestinal mRNAs, analysis (lean, obese Zucker rats), **142**, 78
- Apolipoprotein C-II
gene expression defect in patient with familial apolipoprotein C-II deficiency, **148**, 320
- Apoptosis
induction by cold shock *in vitro*, role of cell growth phase (V79 fibroblasts), **145**, 876
- Apurinic sites
in DNA, assay by time-dependent fluorescence (bovine thymus), **143**, 768
- Arachidonate
A23187-induced glomerular release, role of protein kinase C (rat), **149**, 658
activation of NADPH-oxidase in cell-free system, inhibition by W-7 and trifluoperazine (guinea pig macrophages), **148**, 112
effect on
free radical generation in tumor cells *in vitro* (human), **145**, 15
platelets stimulated by other agonists, role of Ca^{2+} movement (human), **149**, 1193
- Arachidonate 5-lipoxygenase
purified from leukocytes, synthesis of lipoxin (swine), **144**, 996
- Arachidonate 12-lipoxygenase
purified from leukocytes, synthesis of lipoxin (swine), **149**, 1063
- Arachidonic acid
derivation of lipoxin B, effect of phospholipase A₂ isozyme (porcine leukocytes), **144**, 123
incorporation into phospholipids, analysis in stimulated T-cell clones (mouse), **144**, 1303
induction of
hepoxilin A3 formation *in vivo* (rat), **147**, 881
insulin release after extracellular Ca^{2+} depletion (rat pancreatic islets), **142**, 251
inhibition of phosphate transport in cultured renal epithelial cells (mouse), **143**, 991
lipoxygenation, relationship to accumulation of platelet-activating factor in injured cornea (rabbit), **149**, 915
metabolism, inhibitors, reduction of tumor necrosis factor-induced cytotoxicity (murine L929 cells), **149**, 735
metabolite binding to prostaglandin H synthase, analysis (pig), **148**, 539
regulation of neutrophil activation by monocyte-derived activating factor (human), **148**, 636
release
and 1,2-diacylglycerol formation, by saponin-permeabilized platelets, differential sensitivity to pertussis toxin, GTP γ S and NaF (human), **148**, 971
neomycin-induced, in platelets (human), **146**, 820
from permeabilized peritoneal mast cells, stimulation by guanosine 5'-(γ -thio)triphosphate (rat), **145**, 1267
from synovial cells, stimulation by recombinant interleukin 1 and tumor necrosis factor (human), **142**, 235
thrombin-induced transfer in platelets, effect of trifluoperazine (human), **144**, 821
- Arginine
active-site, at position 171 of lactate dehydrogenase, role in substrate binding (*Bacillus stearothermophilus*), **146**, 346
-carboxylate ion pair strength, comparison with lysine-carboxylate ion pairs, implications for design of enzymes and drugs, **149**, 927
effect on glucagon secretion by pancreatic α_2 cells, role of cytoplasmic Ca^{2+} (guinea pig), **147**, 309
in K^+ -ATPase, modification with 2,3-butanedione, effect on enzyme activity (*Streptococcus faecalis*), **142**, 107
methylation, role in myelin basic protein interaction with myelin membrane (bovine brain), **145**, 1112
modified, in structural assignment of heme potentials of cytochrome *c*₃ (*Desulfovibrio desulfuricans*), **147**, 818
substitution of active-site lysyl residue on aspartate aminotransferase (*Escherichia coli*), **146**, 416
- Arginine methyl ester
inhibition of ADP-ribosylation by type C1 and D botulinum neurotoxins (murine brain), **142**, 1032
- Arginine vasopressin
effect on testosterone production by perfused Leydig cells (mouse), **146**, 216
induction of inositol phosphate formation in smooth muscle cells, regulation by pertussis/cholera toxin-sensitive G-protein (rat aorta), **146**, 898
-like diuretic hormone, identification (*Locusta migratoria*), **149**, 180
plasma levels, effect of
cyclophosphamide (rabbit), **143**, 140
mild hypoxia (human), **148**, 906
stimulation of adenylate cyclase, desensitization by vasopressor and antidiuretic antagonist (rat kidney), **144**, 770
- Argiotoxins
from orb weaving spider venom, structure and biological activity (*Argiope aurantia*), **148**, 678
- Aromatase
active site, androgen binding requirements (human placenta), **147**, 1259
in placental microsomes, relationship to 7-ethoxycoumarin O-deethylase (human), **145**, 1012
- Arteries
mesenteric, phorbol ester reactivity, effect of spontaneous hypertension (rat), **145**, 1105
renal, parathyroid hormone-like vasorelaxation effects of synthetic tumor-derived hypercalcemic factor (rabbit), **149**, 227
- Aryl hydrocarbon hydroxylase, *see* Unspecific monooxygenase
- Arylsulfatase A, *see* Cerebroside-sulfatase
- Ascorbic acid
-copper(II)-O₂ system, induction of oxytocin denaturation and disulfide interchange reaction, **145**, 596
reaction with vitamin E radical in solution, stopped-flow study, **146**, 134

Subject Index

- Asparaginase
chemical modification with activated magnetic modifier, **145**, 908
- Aspartate
and L-serine, differential racemization in myelin basic protein (human), **146**, 1342
aspartate aminotransferase
active-site lysyl residue, substitution with arginyl residue (*Escherichia coli*), **146**, 416
mitochondrial
molecular cloning and *in vivo* expression of precursor (rat liver), **149**, 859
precursor extra signal peptide, antibody and anti-idiotypic antibody to, synthesis and characterization (porcine liver), **148**, 979
- Aspartate carbamoyltransferase
catalytic mechanism: molecular modeling study (*Escherichia coli*), **142**, 893
- Aspartic acid
-containing protein, characterization (aged murine lens), **146**, 1432
- Aspartic proteinase
erythrocyte membrane, and cathepsin E, biochemical and immunochemical comparisons (human), **148**, 267
- Astrocytes
soluble nerve growth factor receptors, binding constants (rat), **147**, 422
- Astroglial cells
nerve growth factor synthesis and secretion
regulation by catecholamines (mouse), **147**, 1048
relationship to cell growth (murine brain), **142**, 395
- Ataxia-telangiectasia
lymphoblastoid cells derived from homozygotes, demonstration of defect in DNA topoisomerase II, **149**, 233
- Atherogenesis
suppression by cholesterol hydroperoxides (rabbit), **146**, 1166
- ATP (adenosine 5'-triphosphate)
binding site on Na^+ , K^+ -ATPase, immunochemical analysis (ovine kidney), **148**, 246
dependent Ca^{2+} uptake by synaptosomes, stimulation by *N*-ethylmaleimide (rat brain), **144**, 1273
effect on higher order structure of DNA (bovine thymus), **143**, 617
-2e⁻ stoichiometry of 1 1/2, thermodynamic feasibility for site 3 of oxidative phosphorylation, **142**, 176
- extracellular
elevation of intracellular free calcium in parotid acinar cells (rat), **149**, 523
and Sendai virus, induced permeabilization of 3T6 cells, comparative analysis, **148**, 560
- hydrolysis
coupled with *N*-methylhydantoin amidohydrolysis, characterization (*Pseudomonas putida* 77), **142**, 1006
subsequent release of inorganic phosphate from F-actin filaments, measurement by linked enzyme assay, **143**, 1069
- Mg, reversal of long-chain acyl-CoA inhibition of protein kinase C (bovine neutrophils), **147**, 428
- modulation of K^+ channels in insulin-secreting cells, inhibition by glibenclamide (rat), **146**, 21
regeneration, association with P^1, P^4 -di(adenosine 5'-)tetraphosphate synthesis by leucyl-tRNA synthetase (*Bacillus stearothermophilus*), **146**, 173
stimulation of inositol phosphate metabolism and Ca^{2+} mobilization in aortic myocytes (rat), **143**, 454
- ATPase
-ATP synthase, soluble and membrane-bound forms with modified α subunits in yeast revertant: impaired nucleotide interactions (*Schizosaccharomyces pombe*), **148**, 1182
- Ca^{2+} -
intracellular, calcitriol effects (chicken cartilage), **144**, 713
membrane-associated, *in vitro* inhibition by mating pheromone (*Rhodospiridium toruloides*), **143**, 893
mono(ADP-ribosylation) in skeletal muscle sarcoplasmic reticulum, effect of poly L-lysine (sheep), **144**, 856
phosphorylation domain, amino acid sequence (human erythrocytes), **149**, 7
suppression by ADP-ribosylation *in vitro* (rabbit muscle), **148**, 989
transport in placental basal plasma membrane, detection with GTP (human), **148**, 126
- Ca^{2+} , Mg^{2+} -, role in histamine release from mast cells (rat), **144**, 951
- F_1 -
binding to fluorescent derivative of oligomycin sensitivity-conferring protein, analysis of resulting structural changes (bovine cardiac mitochondria), **142**, 31
biochemical and proton NMR characterization of β -subunit (spinach chloroplasts), **144**, 718
inactivation by *in vitro* mutagenesis of β subunit (*Escherichia coli*), **146**, 705
neurogenesis-associated changes in β -subunit (murine mitochondria), **145**, 443
- H^+ -, chromaffin granule, regulation, domination by internal anion-binding site and membrane potential (bovine adrenal gland), **149**, 140
- H^+ , K^+ -, enriched heavy gastric membranes, K^+ transport, effect of lysophosphatidylcholine (rat), **146**, 840
- K^+ -, inhibition by 2,3-butanedione-mediated arginine modification (*Streptococcus faecalis*), **142**, 107
- membrane-bound, purification and subunit structure (*Halobacterium saccharovororum*), **147**, 295
- Mg^{2+} -, regulation by Ca^{2+} /calmodulin (rabbit brain), **145**, 1217
- mitochondrial, proteolipid subunit 9, isolation of encoding cDNA clones (human liver), **144**, 1257
- Na^+ , K^+ -
erythrocyte membrane activity in diabetes mellitus (human), **146**, 179
fluorescein 5'-isothiocyanate-binding site, immunochemical analysis (ovine kidney), **148**, 246
ion pump activity, early inhibition during acetaminophen-induced hepatotoxicity (rat), **149**, 203
 α isoforms and β subunit mRNAs, tissue distribution (rat), **145**, 52

Subject Index

- α and $\alpha(+)$ isoforms, localization in distinct ciliary epithelial cells of eye (bovine), **145**, 460
- ATPase inhibitors
 endogenous, specific for Na^+, K^+ -ATPase, purification from bovine adrenal, **149**, 468
- ATP citrate lyase
 activity in isolated hepatocytes, dependence on cell density (rat), **149**, 118
- ATP synthase
 -ATPase, soluble and membrane-bound forms with modified α subunits in yeast revertant: impaired nucleotide interactions (*Schizosaccharomyces pombe*), **148**, 1182
- Atrial natriuretic factor
 analogs, comparative potencies in smooth muscle cell cGMP response and aorta vasorelaxation (rabbit), **144**, 422
 atrial and plasma levels, correlation with specific binding to renal glomeruli during hypertension (rat), **145**, 522
 binding to renal membranes of salt-sensitive and salt-resistant rats, correlation with cGMP production, **144**, 1076
 cardiac and plasma levels in spontaneously hypertensive, stroke-prone spontaneously hypertensive, and non-hypertensive rats, comparison, **143**, 316
 circulating molecular forms, characterization (human plasma), **142**, 461
 in coronary sinus plasma, amino acid sequence (human), **146**, 832
 deposition as atrial amyloid fibrils in aging heart (human), **148**, 1087
 detection in
 cerebrospinal fluid (human), **143**, 813
 pulmonary vein and vena cava (bovine, pig, rat), **146**, 1465
 distribution in spinal cord and autonomic ganglia (rat), **145**, 196
 down-regulation of atrial natriuretic factor receptors, relationship to cGMP stimulation in vascular smooth muscle cells (rat), **148**, 61
 effect on
 canine pancreatic exocrine secretion (human), **146**, 757
 cyclic nucleotide levels and phosphatidylinositol turnover in ventricular myocytes (rabbit), **148**, 962
 gene expression
 in Cos 7 cells, analysis (human), **143**, 288
 in dilated cardiomyopathy, analysis (human heart), **148**, 211
 regulation in L cells (mouse), **144**, 402
 human prepro factors 26-55, 56-92, and 104-123, enhancement of renal guanylate cyclase activity (dog, rabbit, rat), **143**, 186
 human prohormone peptides 1-30, 31-67, and 79-98, induction of porcine aortic vasodilation, **148**, 1540
 immunoreactive, differential effects of neuropeptide Y and polypeptide YY (rat), **145**, 680
 inhibition of protein kinase C and 240-kDa protein phosphorylation in adrenal cortical plasma membrane, role of cGMP (bovine), **148**, 589
 molecular forms released by perfused neonatal heart, characterization (rat), **146**, 547
 and mRNA levels in heart, simultaneous determination (spontaneously hypertensive rat), **148**, 239
 penetration of blood-brain barrier (rabbit), **147**, 1226
 plasma levels
 correlation with cardiac hypertrophy in non-spontaneous models of hypertension (rat), **145**, 532
 effect of
 clonidine (rat), **143**, 159
 cyclophosphamide (rabbit), **143**, 140
 mild hypoxia (human), **148**, 906
 as indicator of heart-lung allograft rejection (rat), **146**, 625
 precursors
 mRNA stimulation by thyroid hormone (rat), **146**, 1336
 processing-related peptidase, identification by fluorometric assay (rat heart), **143**, 587
 superactive analogs, synthesis, **143**, 499
 synthesis
 by adrenal chromaffin granules, analysis (bovine), **147**, 957
 by atrial myocytes, effects of steroid and thyroid hormones (rat), **145**, 336
 by neonatal atrial and ventricular myocytes, comparative effects of dexamethasone (rat), **148**, 1030
 and release during antihypertensive hypokinetic suspension (rat), **148**, 582
 type α
 formation from β -atrial natriuretic factor in plasma *in vitro* (human), **143**, 560; *erratum*, **145**, 989
 fragments 4-28 and 5-28, isolation from brain (swine), **149**, 1055
 type β , conversion into α -form in plasma *in vitro* (human), **143**, 560; *erratum*, **145**, 989
 ventricular, synthesis and detection (rat heart), **142**, 483
- Atrial natriuretic factor receptors
 association with guanylate cyclase in solubilized glomerular membranes (rat), **145**, 257
 down-regulation after exposure to atrial natriuretic factor, relationship to cGMP stimulation in vascular smooth muscle cells (rat), **148**, 61
 guanylate cyclase-linked and cyclase-free, purification and characterization (bovine adrenal cortex), **144**, 244
 identification in
 kidney (human), **147**, 135
 pheochromocytoma (human), **148**, 286
 reduced number in thymocytes and spleen cells of spontaneously hypertensive rat, **149**, 1132
 in spleen and thymus, localization and characterization (rat), **145**, 789
 subtype identification in canine kidney tubular epithelium and rat vascular smooth muscle cells, **147**, 1146
 in sympathetic ganglia, biochemical response and alterations in genetically hypertensive rat, **149**, 65
- Atriopeptin
 atrial and plasma levels, enzyme immunoassay: development, validation, and application (human, rat), **144**, 469
 type III, vasorelaxant effect on spontaneously hypertensive aortic smooth muscle (rat), **146**, 80

Subject Index

- ventricular and pulmonary levels, elevation during heart failure (hamster), **148**, 1158
- Auranofin**
inhibition of neutrophil collagenase (human), **144**, 101
- Aurin tricarboxylic acid**
stimulation of transcription and translation in mitochondrial lysates from Ehrlich ascites cells, **145**, 1149
- Autoimmune diseases**
estrogen receptor antibody levels, analysis (human), **145**, 1342
- Autophosphorylation**
insulin receptor tyrosine, inhibition by insulin-stimulating peptide derived from serum albumin (bovine), **144**, 11
plasma membrane-bound Ca^{2+} -activated calmodulin-dependent protein kinase, modification of catalytic activity (*Pisum sativum*), **143**, 691
- Auxins**
-deprived fruit, accumulation of glycine-rich proteins (*Fragaria ananassa*), **147**, 885
regulation of protein phosphorylation (pea epicotyls), **144**, 944
- Avermectin B_{1a}**
effect on GABA_A receptor complex in brain (mouse, rat), **146**, 692
- Avian erythroblastosis virus**
-transformed erythroid cells, secretion of autocrine factors promoting soft agar growth and blocking erythroleukemia cell differentiation (chicken), **143**, 775
- Azacytidine**
suppression of nuclear ADP-ribosyltransferase (Ehrlich ascites tumor cells), **142**, 468
- 5-Azacytosine**
suppression of nuclear ADP-ribosyltransferase (Ehrlich ascites tumor cells), **142**, 468
- 5-Aza-2'-deoxycytidine**
suppression of nuclear ADP-ribosyltransferase (Ehrlich ascites tumor cells), **142**, 468
- 3'-Azido-3'-deoxythymidine**
low-energy conformations, **145**, 1356
- 3'-Azido-2',3'-dideoxyguanosine**
selective inhibition of human immunodeficiency virus replication *in vitro*, **145**, 1080
- 8-Azidoguanosine-3'-5'-bisphosphate**
as photoprobe for guanosine-3'-diphosphate-5'-diphosphate-binding site on RNA polymerase (*Escherichia coli*), **142**, 964
- Azidophencyclidine**
binding site on nicotinic acetylcholine receptor α subunit, localization (*Torpedo* sp.), **145**, 810
- B**
- Bacillus anthracis**
plasmids pXO1 and pXO2, purification and physical analysis, **149**, 362
- Bacillus brevis**
membranous phosphoglyceride-linked biosynthesis of linear gramicidin A, **144**, 203
- Bacillus subtilis**
 α -amylase promotor activity, regulation by palindromic sequence upstream from encoding gene, **146**, 73
dnaB gene product, identification, **145**, 861
and *Saccharomyces cerevisiae*, secretion of human lysozyme, comparison, **145**, 712
strain SB 19, controlled lysis and protoplast formation by glycine enhancement of alanine racemase inhibitors, **149**, 576
- Bacteriophages**
fd, filamentous, interaction between gene 5 protein, gene 5 protein/single-stranded fd DNA complex, and gene 8 protein, **149**, 13
 λ
identification of pseudogene in genome, **145**, 330
transcription terminator, requirement for cloning of mammalian expression vector carrying human preprorenin gene in *Escherichia coli*, **143**, 593
 λ b221 c1857 Pam Oam, transposition of Tn5 to chromosome, effect of Lon-SulA regulatory function (*Escherichia coli*), **142**, 879
 λ gt11, expression library, isolation of cytochrome c_1 cDNA clone (human), **145**, 34
- Bacteriorhodopsin**
-lipid interactions, circular dichroism study (*Halobacterium halobium*), **144**, 836
photocycle, effect of crosslinking of carboxyl and lysine groups (*Halobacterium halobium*), **145**, 1164
- Barium**
effect on Ca^{2+} -dependent synthesis and secretion of peptides by neuroendocrine cells (bovine chromaffin cells, rat pituitary), **146**, 495
- Basophils**
phorbol ester- and DiC8-induced histamine release, inhibition by protein kinase C inhibitors H-7 and H-9 (human), **144**, 732
- Bay k 8644**
effect on steroidogenesis in granulosa cells (chicken), **146**, 314
induction of
 Ca^{2+} influx in coronary artery rings, augmentation by nitrendipine (pig), **148**, 1
cytoplasmic free Ca^{2+} increase and iodide discharge (porcine thyroid cells), **143**, 1107
- Benzo[a]anthracene**
induction of hepatic porphyria and inhibition of uroporphyrinogen decarboxylase (Fe-loaded mouse), **146**, 13
- Benzene**
magnetic lipase dispersed in, enzymatic activity, **142**, 291
solubility and activity of polyethylene glycol derivative-modified cholesterol oxidase (*Nocardia* sp.), **148**, 876
- Benzimidazol**
derivatives, and association state, effects on Ca^{2+} binding to cardiac troponin C (bovine), **145**, 1390
- 2-Benzimidazolyl urea**
identification as antimitotic compound based on cross-resistance studies with nocodazole-resistant CHO cells, **143**, 225

Subject Index

- Benzodiazepine**
 - γ -aminobutyric acid receptor complex
 reconstitution into vesicles, induction of $^{36}\text{Cl}^-$ influx (bovine brain), **146**, 1471
 types I and II, purification and two-dimensional electrophoresis (rat brain), **146**, 568
- Benzo[c]phenanthrene oxides**
 stereoselective formation by cytochrome P-450c in purified and reconstituted system (rat liver), **145**, 160
- Benzo[a]pyrene**
 induction of hepatic porphyria and inhibition of uroporphyrinogen decarboxylase (Fe-loaded mouse), **146**, 13
 metabolism and mutagenicity, *in vitro* inhibition by naphthazarin and other naphthol derivatives (*Salmonella typhimurium*), **142**, 939
- Benzo[a]pyrene-7,8-dihydrodiol**
 metabolism and mutagenicity, *in vitro* inhibition by naphthazarin and other naphthol derivatives (*Salmonella typhimurium*), **142**, 939
- Betamethasone**
 and triiodothyronine, effect of simultaneous administration on development of pulmonary maturation (fetal rabbit), **146**, 524
- Bicarbonate**
 dehydration rate in erythrocytes, measurement by ^{13}C NMR (human), **143**, 67
- Bile duct**
 ligation, effect on microsomal membrane protein and lipid composition (rat liver), **144**, 980
- Bile salts**
 -sodium cotransport system, photoaffinity labeling studies (rat kidney), **143**, 1018
- Biotin hydrazide**
 reaction with DNA, for preparation of nonradioactive hybridization probes (salmon sperm), **142**, 519
- Biotin receptors**
 isolation from hepatic plasma membranes (mouse), **143**, 913
- 2,7-Biscarboxyethyl-5(6)-carboxyfluorescein**
 fluorescence, in estimation of intramitochondrial pCa and pH (rat heart), **149**, 40
- 1,3-Bis(2-chloroethyl)-N-nitrosourea**, *see* Carmustine
- Bis(2-ethylhexyl) phthalate**
 modulation of protein kinase C *in vitro* (murine, rat brain), **142**, 567
- N¹,N⁸-Bis(ethyl)spermidine**
 and difluoromethylornithine, effects on topoisomerase II-mediated formation of 4'-(9-acridinylamino)methanesulfon-*m*-aniside-induced cleavable complex in lung carcinoma cells, comparison (human), **149**, 194
- 2,3-Bisphosphoglycerate**
 protection of mitochondrial and cytosolic proteins from proteolytic inactivation, **142**, 680
- Bis(triethylphosphine) gold chloride**
 inhibition of neutrophil collagenase (human), **144**, 101
- trans-2,5-Bis-(3,4,5-trimethoxyphenyl)-tetrahydrofuran**, *see* L-652,731
- Blastocladia emersonii**
 thermotolerance, acquisition during development, **144**, 491
- Bleomycin**
 cytotoxicity, temperature dependence (Chinese hamster V79 cells), **146**, 67
- Blood**, *see also* Plasma; Serum
 ascidian, vanadyl(IV) species in cells, electron paramagnetic resonance characterization, **149**, 411
 -cerebrospinal fluid barrier, detection of hepatitis B virus (human), **146**, 452
 hypophyseal portal, cosecretion of gonadotropin-releasing hormone and associated peptide (ovariectomized sheep), **143**, 665
- Blood-brain barrier**
 chimeric peptides as vehicles for delivery of peptide pharmaceuticals (bovine), **146**, 307
 penetration by atrial natriuretic factor (rabbit), **147**, 1226
- Blood flow**
 cerebral, effect of BN 52021 after ischemia-reperfusion-induced injury (gerbil), **149**, 580
- BN 52021**
 effect on
 free fatty acids, diacylglycerols, polyphosphoinositides, and blood flow in brain: inhibition of ischemia-reperfusion-induced cerebral injury (gerbil), **149**, 580
 platelet activating factor-induced inhibition of lymphocyte proliferation and interleukin 2 synthesis (human), **142**, 754
- Bombesin**
 binding and induction of amylase release in pancreatic acinar carcinoma cells (rat), **144**, 463
 induced mitogenesis, inhibition by pertussis toxin: dissociation from phospholipase C pathway (Swiss 3T3 cells), **146**, 456
 -like peptides, effects on cytosolic Ca^{2+} in small cell lung cancer cells, **147**, 189
- Bone marrow**
 citrullinogenesis, enzymatic pathway (mouse), **144**, 829
 pluripotent hemopoietic stem cells in G₀ phase, isolation (mouse), **147**, 687
 transplanted from immunodeficient mice homozygous for wasted mutation, adenosine deaminase activity in recipients, **145**, 581
- Bones**
 calvaria, resorption and prostaglandin production, inhibition by interferon γ (neonatal mouse), **143**, 38
 fossil, extraction of osteocalcin (bovine), **149**, 712
- Bradykinin**
 effect on inositol phosphate mass in renal papillary collecting tubule cells (rabbit), **145**, 1119
 inactivation by brain slices, role of soluble metallo-endopeptidase (rat), **146**, 154
 stimulation of inositol phosphate production by NG115-401L neuronal cells, effect of pertussis toxin, **148**, 412
- Brain**
 acidic and basic fibroblast growth factors, characterization (chicken embryo), **146**, 478

Subject Index

- affinity binding sites for [125 I]human calcitonin gene-related peptide, characterization (rat), **146**, 443
- α -atrial natrial factor (4-28) and (5-28), isolation and characterization (swine), **149**, 1055
- cerebellum
- muscarinic receptors, relationship to prostaglandin synthesis (guinea pig), **146**, 1256
 - stereospecific recognition sites for [3 H]inositol(1,4,5)-trisphosphate (rat), **146**, 1071
- ω -conotoxin and nitrendipine receptors, localization (rat), **149**, 982
- cortex, antioxidant factors and β -adrenoceptor density, effects of ischemia/recirculation and hypoxia/recovery (rat), **149**, 568
- ischemia-reperfusion-induced injury, effects of platelet-activating factor antagonist BN 52021 (gerbil), **149**, 580
- galanin receptors, identification and characterization (rat), **144**, 298
- homogenates, tryptamine degradation product, isolation and characterization (swine), **148**, 1045
- identification of 19-kDa protein related to phosphoprotein p19 from insulinoma cells (rat), **146**, 410
- immunochemical localization of α -inhibin-31 (mouse, rat), **145**, 81
- immunoreactive peptides for amino-terminus of cholecystokinin 33, distribution and characterization (rat), **149**, 902
- inositol 4-monophosphate metabolism, analysis (rat), **145**, 59
- lipid extracts, detection of platelet-activating factor homologs and analogs (bovine), **145**, 415
- normal and parkinsonian, identification of 1,2,3,4-tetrahydroisoquinoline and 2-methyl-tetrahydroquinoline (human), **144**, 1084
- opioid binding sites for dermorphin, radioreceptor assay (rat), **148**, 1432
- primary cultures from neonatal mice with lysosomal cholesterol storage disorder, impaired cholesterol esterification, **143**, 233
- protein kinase C isoforms, isolation and comparison with single isoform from bovine adrenocortical tissue (rat), **147**, 382; *erratum*, **148**, 1550
- traumatic injury, induced reduction in total and free magnesium concentration (rat), **149**, 594
- tumor cell phosphorus metabolism, analysis by 31 P NMR spectroscopy (mouse), **144**, 53
- 29-kDa GTP-binding protein, detection (mouse), **149**, 686
- Bromohydrins
- thymidine, repair by sunlight or heat: model for damage and repair of nucleic acids, **148**, 995
- (*E*)-5-(2-Bromovinyl)-2'-deoxyuridine 5'-triphosphate carbocyclic analog, incorporation into synthetic DNA, **147**, 1105
- Bryostatins
- and polymyxin B and phorbol ester, comparative effects on HL-60 cells, **146**, 208
 - type 1, induction of myotonia by lowering chloride conductance in muscle (mouse), **148**, 1383
- Bundle sheath cells
- energy storage, photosynthetic action spectra (*Zea mays*), **144**, 198
- β -Bungarotoxin
- effect on synaptosome binding of *Clostridium botulinum* neurotoxin (rat brain), **143**, 928
- 2,3-Butanedione, *see* Diacetyl
- L-Buthionine sulfoximine
- treated L-1210 cells, reduced thiol levels, effect on DNA crosslinking by melphalan, **144**, 47
- Butylated hydroxyanisole
- inhibition of Ca^{2+} uptake and neurotransmitter release from synaptosomes (guinea pig brain), **146**, 603
- Butylated hydroxytoluene
- inhibition of Ca^{2+} uptake and neurotransmitter release from synaptosomes (guinea pig brain), **146**, 603
- 2,3-*tert*-Butyl-4-methoxyphenol, *see* Butylated hydroxyanisole
- Butyric acid
- analogs, augmentation of γ -globin gene expression in neonatal erythroid progenitors (human), **148**, 694

C

Cadaverine

- embryonal, fetal, and maternal tissue levels, effects of maternal ethanol consumption (rat), **142**, 843

Cadmium

- induced functional α_2 -macroglobulin half-molecules, properties (human plasma), **149**, 488

Caerulein, *see* Ceruletide

Calcification

- periosteum-derived osteoblasts *in vitro*, analysis (human), **145**, 651

Calcimedin

- 67-kDa, in cultured macrophages and smooth muscle cells, effect of nifedipine (mouse), **145**, 726

Calcitonin

- gene-related peptide
 - 125 I-labeled, characterization of affinity binding sites in rat brain and heart (human), **146**, 443
 - inhibition of gastric acid secretion by guinea pig parietal cells (human), **146**, 430
 - low-molecular weight forms, *in vitro* production and characterization (rat thyroid), **144**, 883
 - and gene-related peptide, mRNA levels in cultured thyroid C cells, effects of 1,25-dihydroxyvitamin D_3 (human), **149**, 239
 - immunoreactive high-molecular-weight peptide, partial characterization and amino acid composition (*Nephrops norvegicus*), **148**, 463
 - induction of plasminogen activator, inhibition by dexamethasone (porcine renal cells), **143**, 329
 - secretion by pituitary cells in reverse hemolytic plaque assay (rat), **146**, 1350

Subject Index

- stimulation of phosphate transport in LLC-PK₁ cells, role of inositol phosphates and calmodulin, **144**, 741
- Calcitriol, *see* 1,25-Dihydroxyvitamin D₃
- Calcium
- activation of tyrosine 3-hydroxylase in digitonin-permeabilized adrenal medullary cells (bovine), **146**, 530
 - assay in cardiomyocytes by fluorescence microscopy: calibration of fura-2 ratios (rat), **147**, 120
 - Bay k 8644-induced influx in coronary artery rings, augmentation by nitrendipine (pig), **148**, 1
 - binding to
 - Ca²⁺-transporting microsomes derived from sarcoplasmic reticulum, analysis (bovine uterus), **147**, 13
 - dephosphorylated and untreated neurofilaments, analysis (pig), **145**, 1006
 - troponin C, effects of association and positive inotropic drugs (bovine heart), **145**, 1390
 - and calmodulin, regulation of ATPase activity and endogenous phosphorylation of actomyosin (rabbit brain), **145**, 1217
 - cytoplasmic free
 - in epidermal growth factor-treated fibroblasts, augmentation by insulin-like growth factor II (mouse), **142**, 275
 - in platelets, effect of thapsigargin: mechanism for tumor promotion (human blood), **142**, 654
 - rapid increase, induction by extracellular Ca²⁺ (obese hyperglycemic mouse), **149**, 152
 - regulation of hydrogen peroxide production by thyroid cells (swine), **148**, 1527
 - role in modulation of glucagon secretion by arginine and glucose (guinea pig pancreas), **147**, 309
 - cytosolic free
 - antigen-induced increase in mast cells, inhibition, role of protein kinase C translocation, **143**, 252
 - Bay k 8644-induced increase in thyroid cells (pig), **143**, 1107
 - 1,25-dihydroxyvitamin D₃-induced increase in osteoblastic cells (mouse), **145**, 956
 - 5-hydroxyeicosatetraenoic acid-stimulated increase in neutrophils (human), **148**, 575
 - regulation in interferon- γ -treated U937 cells, potential mechanisms, **145**, 1295
 - regulation by intracellular cAMP produced with photoactivatable derivative (human platelets), **146**, 321
 - regulation in isolated gastric chief cells (guinea pig), **142**, 865
 - role in formyl-methionyl-leucyl-phenylalanine-induced neutrophil degranulation (human), **145**, 976
 - serotonin-induced transient increase in vascular smooth muscle cells (rat), **143**, 532
 - in small cell lung cancer cells, effects of bombesin-like peptides, **147**, 189
 - stimulation by prostaglandins *in vitro* (rat mesangial cells), **142**, 579
 - transient increase induced by activation of epidermal growth factor receptors, protein kinase C-mediated feedback inhibition (A431 cells), **149**, 145
 - dependence of L1210 cell proliferation in culture, **145**, 556
 - and diacylglycerol, synergistic regulation of phospholipase A₂ activation in chemotactic peptide-stimulated HL-60 cells, mechanism, **144**, 683
 - dietary, and 1,25-dihydroxyvitamin D₃, regulatory roles in 25-hydroxyvitamin D₃ serum levels (rat), **144**, 1055
 - extracellular
 - depletion, unmasking of arachidonate-induced insulin release (rat pancreatic islets), **142**, 251
 - effect on phorbol ester-induced vascular contraction (rat aorta), **145**, 494
 - induced closure of outward K⁺ currents in isolated atrial myocyte sarcolemma, inhibition by acetylcholine (dog), **142**, 1039
 - inositol triphosphate-induced release
 - from permeabilized liver cells, inhibition by heparin (rat), **149**, 897
 - from smooth muscle sarcoplasmic reticulum, GTP requirement (rabbit), **144**, 1313
 - intramitochondrial concentration, estimation by fura-2 and 2,7-biscarboxyethyl-5(6)-carboxyfluorescein fluorescence (rat heart), **149**, 40
 - ionized, effect on ⁴⁵Ca uptake by primary cultures of aortic myocytes (normotensive, spontaneously hypertensive rats), **146**, 1330
 - ionophoretic activity of prostaglandin B₁ oligomers in isolated hepatocytes (rat), **143**, 1024
 - levels in
 - offspring primary myocardial cells, effects of ethanol and exercise during pregnancy (rat), **142**, 496
 - parotid acinar cells, comparative effects of carbachol and substance P (rat), **148**, 1017
 - and Mg²⁺, relative binding affinities for prothrombin and fragment 1 (bovine, human), **144**, 520
 - mobilization
 - agonist-induced, and platelet activation, effect of stelazine (human), **148**, 768
 - in aortic myocytes, effects of ATP (rat), **143**, 454
 - chemotactic factor-induced, relationship to respiratory burst activation (rabbit neutrophils), **144**, 794
 - differential effects of monosodium urate and calcium pyrophosphate (human neutrophils), **149**, 649
 - by muscarinic receptors in astrocytoma cells, measurement with quin-2 fluorescence (human), **147**, 182
 - Na⁺ exchanger in cardiac sarcolemma, identification with specific antibodies (bovine), **145**, 1059
 - in parotid acinar cells, elevation by extracellular ATP (rat), **149**, 523
 - regulation of phospholipase C activity in DMSO-differentiated HL-60 cells, **145**, 825
 - release from
 - mitochondria, stimulation by hydroperoxyeicosatetraenoic acids (rat liver), **143**, 609
 - neutrophils, relationship to degranulation (human), **146**, 1386
 - pancreatic islets, maitotoxin effects (rat), **144**, 172
 - platelets, induction by diacylglycerol and inositol 1,4,5-trisphosphate, comparison (human), **142**, 7
 - sarcoplasmic reticulum, induction by ryanodine (amphibian skeletal muscle), **142**, 674

Subject Index

- skinned fiber bundles of taenia caeci, induction by calcium and inositol 1,4,5-trisphosphate (guinea pig), **142**, 47
- role in
- induction and release of interleukin-1 (human monocytes), **147**, 1027
 - platelet response to arachidonate upon stimulation with other agonists (human), **149**, 1193
 - signal transduction in plants (*Zea mays*), **149**, 334
- sensors in parathyroid cells, inhibition by monoclonal anti-parathyroid antibodies (human), **143**, 570
- transients in platelets, effects of protein kinase C activation and inhibition, monitoring with aequorin, fura-2, and quin-2 (human), **145**, 66
- uptake
- by aortic smooth muscle cells, enhancement by vasopressin (rat), **148**, 273
 - ATP-dependent, by synaptosomes, stimulation by *N*-ethylmaleimide (rat brain), **144**, 1273
 - glucagon- and vasopressin-induced, mechanism (rat liver), **142**, 745
 - by hippocampus, and antagonist binding, concomitant regulation by substance P (rat), **144**, 1135
 - and neurotransmitter release from synaptosomes, inhibition by phenolic antioxidants (guinea pig brain), **146**, 603
 - by peritoneal mast cells, effect on prostaglandin D₂ production and histamine release (rat), **143**, 467
 - by subcellular membranes, inhibition by impurities in commercial xanthine oxidase preparations (porcine heart), **143**, 575
 - by vascular smooth muscle cells, stimulation by vasopressor peptides and depolarization, comparison (rat aorta), **148**, 225
- Calcium channels
- associated receptor, binding of [³H]nimodipine, inhibition by kappa agonist U50-488H (rat brain), **149**, 1042
 - cardiac membrane, 1,4-dihydropyridine receptors, photoaffinity labeling (cardiomyopathic hamster), **148**, 926
 - dihydropyridine- and phenylalkylamine-sensitive, photoaffinity labeling and phosphorylation of 165-kDa peptide (rabbit muscle), **147**, 1137
 - distinct voltage-gated currents, detection in adrenal glomerulosa cells (bovine), **149**, 1049
 - endoplasmic reticulum, activation by Ca²⁺-mobilizing hormones (rat pancreatic acinar cells), **149**, 213
 - presynaptic, in synaptosomes, species differences in sensitivity to ω -conotoxin (chicken, frog, rat brain), **145**, 1283
- Calcium pyrophosphate
- and monosodium urate, differential activation of excitation-response coupling sequence (human neutrophils), **149**, 649
- Calcium salts
- insoluble, precipitation, effect of γ -carboxyglutamic acid-containing proteins, **142**, 113
- Caldesmon
- inhibition of tropomyosin-enhanced actomyosin system in platelets (porcine blood), **143**, 475
 - regulation of actin-binding protein-induced three-dimensional contraction (chicken smooth muscle), **144**, 936
 - role in auxin-regulated changes in protein phosphorylation (pea epicotyls), **144**, 944
- Calmodulin
- and Ca²⁺, regulation of ATPase activity and endogenous phosphorylation of actomyosin (rabbit brain), **145**, 1217
 - conformation-recognizing antibody, detection in serum from patient with chronic active hepatitis, **144**, 191
 - degradation by cytoplasmic proteases, effect of blocked amino groups, **146**, 1249
 - inhibition by cholesterol hydroperoxides (rabbit), **146**, 1166
 - and protein kinase C, role in activation of neutrophil respiratory burst, comparison (human), **142**, 53
 - role in calcitonin-induced stimulation of phosphate transport in LLC-PK₁ cells, **144**, 741
 - tryptic fragments, effect on ciliary guanylate cyclase (*Paramecium tetraurelia*), **142**, 857
- Calpain
- activation by isovalerylcarnitine (human neutrophils), **148**, 1189
 - activation of platelet factor XIII (human), **144**, 484
 - degradation of proteins with blocked amino groups (rat muscle), **146**, 1249
 - immunohistochemical localization in epithelial tissues (rabbit), **148**, 567
 - regulation of Ca²⁺/calmodulin-dependent activity of smooth muscle myosin light-chain kinase (chicken), **145**, 1321
- Calpain inhibitor
- activity in kidney, decrease in Milan hypertensive rat, **145**, 1287
- Calpastatin
- repetitive region, identification as functional unit for inhibitory activity (porcine heart), **143**, 300
- Campesterol
- synthesis in plant cells, inhibition by paclobutrazol (*Apium graveolens*), **146**, 510
- Campylobacter pyloridis*
- effect on mucin and gastric mucosa, **144**, 307
- Candida albicans*
- cytochrome *P*-450-deficient mutant, characterization, **147**, 794
- Cantharidin
- toxic action, association with specific binding site in liver (mouse), **149**, 79
- Capsaicin
- induction of catecholamine secretion (rat adrenal medulla), **142**, 259
 - inhibition of Ca²⁺- and calmodulin-dependent phosphodiesterase (rat), **148**, 292
- Carbachol
- effect on cellular distribution of protein kinase C (rat pancreatic acinar cells), **144**, 551
 - induction of
 - chloride efflux from parotid acinar cells, association with fluid secretion (rat), **145**, 754

Subject Index

- polyamine and DNA synthesis in parotid gland (mouse), **144**, 1161
- regulation of free cytosolic Ca^{2+} in isolated gastric chief cells (guinea pig), **142**, 865
- stimulation of parotid gland, induction of inositol 1,2-cyclic 4,5-trisphosphate formation (rat), **149**, 1208
- and substance P, comparative effects on inositol trisphosphate and Ca^{2+} levels in parotid acinar cells (rat), **148**, 1017
- Carbamoylcholine
- stimulatory and inhibitory effects on gastric D cells, mechanism (dog), **147**, 140
- Carbamoyl-phosphate synthase II
- mRNA levels, increase in hepatoma cells (rat), **147**, 494
- Carbohydrates
- high amounts in diet, effect on cardiac α_1 - and β -adrenoceptors (rat), **144**, 238
- role in gastric mucin viscosity and permeability to hydrogen ion (canine stomach), **142**, 783
- specificity of conglutinin, characterization (bovine serum), **143**, 645
- Carbon dioxide
- hydration rate in erythrocytes, measurement by ^{13}C NMR (human), **143**, 67
- Carbon monoxide
- dissociation from α and β subunits of carbonmonoxy hemoglobin (human), **148**, 1196
- generation from tin- and zinc-protoporphyrin by tissue homogenates (rat), **148**, 417
- γ -Carboxyglutamic acid
- containing proteins, effect on precipitation of insoluble salts, **142**, 113
- Carboxylase
- and oxygenase, vitamin K-dependent, differential inactivation by sulphydryl reagents, **148**, 184
- Carboxylate
- arginine and -lysine ion pair strengths, comparison, implications for design of enzymes and drugs, **149**, 927
- Carboxylation
- ribulose 1,5-bisphosphate, intermediate pathway during photosynthesis, **142**, 732
- Carboxyl groups
- crosslinking with lysine groups, effect on bacteriorhodopsin photocycle (*Halobacterium halobium*), **145**, 1164
- Carboxypeptidase
- proenkephalin-processing, purification and activation by cAMP-dependent protein kinase (bovine, rat striatum), **142**, 595
- Cardiomyopathy
- associated increase in cardiac Ca^{2+} channel receptors, analysis (hamster), **148**, 926
- associated sarcolemmal phospholipid N-methylation, analysis (hamster), **143**, 31
- Cardiotoxin
- phospholipid mixed monomolecular films, analysis by surface fluorescence spectroscopy (*Naja mossambica mossambica*), **143**, 506
- Carmustine
- effect on diquat-induced oxidant stress and hepatotoxicity (rat), **144**, 415
- treated DNA, reaction with O^6 -alkylguanine-DNA alkyltransferase, **142**, 341
- L-Carnitine
- inhibition of sodium benzoate-potentiated ammonia toxicity (mouse), **145**, 817
- Carnitine palmitoyltransferase
- activity and sensitivity to malonyl-CoA, effects of ethanol feeding (rat liver), **149**, 443
- Carrageenan
- entry into cells, promotion by viruses, **146**, 1303
- Casein
- synthesis by mammary tissue *in vitro*, inhibition by epidermal growth factor in presence of insulin (mouse), **146**, 121
- type β , cDNA, cloning and sequence analysis (bovine mammary gland), **142**, 617
- Castanospermine
- antiretroviral activity, analysis with Moloney murine leukemia virus, **148**, 206
- Catalase
- cerebral cortex and erythrocyte hemolysate levels, effects of ischemia/recirculation and hypoxia/recovery (rat), **149**, 568
- protection of cultured hepatocytes from acetaminophen cytotoxicity (rat), **149**, 889
- role in
- guanylate cyclase activation by hydrogen peroxide (bovine arterial smooth muscle), **143**, 20
- protection against hydrogen peroxide in *Escherichia coli*, **143**, 638
- Cataracts
- development, associated changes in major intrinsic polypeptide internal sequence (human lens membrane), **142**, 761
- diabetes-associated, development in intact lens, ^2H NMR spectroscopy (rabbit), **142**, 359
- Catecholamines
- fibroblast sensitivity, reduction in Werner's syndrome (human), **145**, 183
- nicotine-induced secretion from chromaffin cells, inhibition by amidorphin C-terminal sequence (bovine adrenal medulla), **143**, 545
- regulation of nerve growth factor synthesis and secretion by astroglial cells (mouse), **147**, 1048
- secretagogue-induced release from adrenal chromaffin cells, facilitation by pertussis toxin (bovine), **144**, 907
- Catechol estrogens
- synthesis by hepatic microsomes, prolonged inhibitory effects of cobalt-protoporphyrin (rat), **145**, 376
- Cathepsin B
- deficiency in neuronal ceroid lipofuscinosis, role of peroxide inhibition (human fibroblasts), **147**, 267
- lysosomal, intracellular transport and processing (rat liver), **148**, 254
- Cathepsin D
- lysosomal, detection of sulfated oligosaccharides (human fibroblasts), **143**, 178
- precursor form, detection and characterization *in vitro* (rat microsomal lumen), **148**, 335

Subject Index

- Cathepsin E**
 and erythrocyte membrane aspartic proteinase, biochemical and immunochemical comparisons (human), **148**, 267
 neutrophil, and gastric mucosa non-pepsin acid proteinase, immunochemical comparison (rat), **144**, 1251
- Cathepsin H**
 lysosomal
 biosynthesis *in vitro* (rat liver), **146**, 159
 intracellular transport and processing (rat liver), **148**, 329
- CD-349**
 effect on Ca^{2+} /calmodulin-dependent cyclic nucleotide phosphodiesterases from aorta and brain, comparison (rabbit), **148**, 1468
- Celiptium**, *see* Elliptinium acetate
- Cell cultures**
 confluent populations of diploid fibroblast-like cells of different *in vitro* ages, histone variant synthesis patterns (human), **149**, 791
 hepatocytes, ATP citrate lyase activity, dependence on cell density (rat), **149**, 118
- Cell cycle**
 role in 3-aminobenzamide potentiation of X-ray-induced chromosomal aberrations (human lymphocytes), **143**, 372
- Cell lines**, *see also* Tumor cells
 A7R5, derived from fetal aorta, detection of 1,25-dihydroxyvitamin D receptor (rat), **146**, 1
 CHO (Chinese hamster ovary)
 formation and stability of hypusine-containing proteins, **145**, 1335
 nocodazole-resistant, 2-benzimidazolyl urea as antimetabolic compound, identification based on cross-resistance studies, **143**, 225
 production of human thyrotropin, **149**, 1149
 Cos 7, expression of human atrial natriuretic factor gene, **143**, 288
 DA-1, interleukin-3-dependent, expression of functional erythropoietin receptors, **146**, 7
- Cellulose**
 metabolism by shipworm bacteria, role of extracellular endoglucanase, **144**, 143
- Ceramide-glycanase**
 detection and preparation (*Lumbricus terrestris*), **149**, 167
- Cerebroside-sulfatase**
 lysosomal, detection of sulfated oligosaccharides (human fibroblasts), **143**, 178
- Cerebrospinal fluid**
 -blood barrier, detection of hepatitis B virus (human), **146**, 452
 detection of atrial natriuretic peptide (human), **143**, 813
 high-molecular-weight Alzheimer's disease amyloid peptide, identification as IgG (human), **145**, 241
- Ceruletide**
 effect on cellular distribution of protein kinase C (rat pancreatic acinar cells), **144**, 551
 induced acute pancreatitis, effect on pancreatic xanthine oxidase (mouse), **149**, 841
- CGP-28392**
 effect on steroidogenesis in granulosa cells (chicken), **146**, 314
- Chargerin II**
 role in mitochondrial energy transduction, immunochemical analysis (rat liver), **146**, 953
- Chemotactic factors**
 for neutrophils, *see* Neutrophil chemotactic factor
- Chemotaxis**
 normodense eosinophils, effects of platelet-activating factor (human), **142**, 638
- Chief cells**
 isolated gastric, regulation of free cytosolic Ca^{2+} levels (guinea pig), **142**, 865
- Chitin**
 oligosaccharides, stimulation of chitinase (melon), **143**, 885
- Chitinase**
 stimulation by chitin oligosaccharides (melon), **143**, 885
- Chloramphenicol acetyltransferase**
 gene, expression regulation by P450IA1, effect of Ha-MSV enhancer and comparison of transient with stable transformation assays (human), **148**, 857
 -lactate dehydrogenase-A promoter fusion gene, induction by cAMP (CHO cells), **147**, 501
- Chloride**
 γ -aminobutyric acid-induced influx into reconstituted vesicles, analysis (bovine brain), **146**, 1471
 carbachol-induced efflux from parotid acinar cells, association with fluid secretion (rat), **145**, 754
 intravesicular binding sites, effects on chromaffin granule ATPase regulation of proton pumping (bovine adrenal gland), **149**, 140
 role in volume reduction in macrocytic reticulocytes (sheep), **144**, 849
- Chloride channels**
 detection in Friend erythroleukemia cell plasma membranes (mouse), **146**, 1450
- β -D-Chloroalanine**
 and glycine, in controlled cell lysis and protoplast formation (*Bacillus subtilis*), **149**, 576
- N*-(2-Chloroethyl)-*N'*-(4-amino-2-methyl-pyrimidin-5-yl)-methyl-*N*-nitrosourea
 cytotoxicity, temperature dependence (Chinese hamster V79 cells), **146**, 67
- O*⁶-(2-Chloroethyl)guanine
 synthesis and characterization, **148**, 1124
- Chloroform**
 activation of protein kinase C (murine brain, rabbit platelets), **142**, 738
 stimulation of myelin basic protein phosphorylation (murine brain), **146**, 1084
 (\pm)2-Chloro-4-(1-hydroxyoctadecyl)benzoic acid
 inhibition of neutrophil elastase (human), **147**, 666
 (5*S*)-3-Chlorolactaldehyde
 inhibition of triose-phosphate isomerase (porcine sperm), **145**, 1054
- Chloroperoxidase**
 nonheme, isolation and characterization (*Curvularia inaequalis*), **142**, 329

Subject Index

- para*-Chlorophenylalanine
effect on recombinant human phenylalanine hydroxylase production by NIH3T3 cells or *Escherichia coli*, **142**, 302
- Chlorophyll *a*
constant and variable fluorescence, separation method (*Dunaliella tertiolecta*), **149**, 385
- Chloroplasts
mesophyll, identification of phosphate translocator (maize), **143**, 164
ribosome L12 protein, C-terminal domain model, molecular dynamics study, **148**, 954
- Chloroquine
delivery to *Plasmodium berghei*-infected erythrocytes with antibody-bearing liposomes (mouse), **148**, 357
- Chloro(triethylphosphine) gold
inhibition of neutrophil collagenase (human), **144**, 101
- Cholecystokinin
C-terminal octapeptide, *see* Sincalide
- Cholecystokinin 33
N-terminus, immunoreactive peptides, distribution and characterization in brain (rat), **149**, 902
- Cholecystokinin receptors
affinity labeling reagent, development, **147**, 346
pancreatic, heterogeneity analysis by affinity labeling (rat), **143**, 761
- Cholera toxin
ADP-ribosylation in *Dictyostelium discoideum* membranes, **149**, 975
effect on adenylate cyclase activation in v-Ki-ras-transformed fibroblasts (mouse), **146**, 47
induction of cAMP production by cultured adrenal cells, potentiation by phorbol ester, role of Gi protein α subunit (bovine), **146**, 517
modulation of tumor necrosis factor- α cytotoxicity (L929 cells), **149**, 815
and pertussis toxin-sensitive G-protein, regulation of vasopressin-induced inositol phosphate formation in smooth muscle cells (rat aorta), **146**, 898
stimulation of adenylate cyclase, enhancement by viral K-ras protein in NRK cells, **147**, 596
- 5 α -Cholest-8(14)-en-3 β -ol-15-one
as competitive substrate for acyl CoA:cholesterol acyl transferase in microsomes (rat jejunum, liver), **148**, 934
conversion to cholesterol after oral administration (baboon), **146**, 1027
dietary
effect on acyl CoA:cholesterol acyl transferase of jejunal microsomes (rat), **148**, 920
inhibition of cholesterol intestinal absorption in lymph-cannulated rat, **146**, 1003
- Cholesterol
cerebral levels, effect of substance P (rat), **144**, 232
efflux from cultured adipose cells, effect of apolipoprotein A-I- and A-I/A-II-containing liposomes (mouse), **142**, 63
esterification
impairment in primary neuroglial cultures from neonatal mice with lysosomal cholesterol storage disorder, **143**, 233
inhibition, effect on low-density lipoprotein receptor levels in fibroblasts (human), **145**, 350
in J 774 monocyte-like cells, inhibition by dibutyryl cAMP (mouse), **142**, 120
formation from 5 α -cholest-8(14)-en-3 β -ol-15-one *in vivo* after oral administration (baboon), **146**, 1027
induction of aminophospholipid rearrangement in bilayers from platelet plasma membranes and platelet liposomes (sheep), **145**, 1362; *erratum*, **147**, 1302
intestinal absorption, inhibition by dietary 5 α -cholest-8(14)-en-3 β -ol-15-one in lymph-cannulated rat, **146**, 1003
microsomal membrane, effect of bile duct ligation (rat liver), **144**, 980
reverse transport, promotion in murine adipose cells, relationship to presence of high-density lipoprotein receptor sites, **149**, 545
role in phorbol ester-induced adhesion of monocyte-like cells (human), **144**, 1167
- Cholesterol ester hydrolase
microsomal, topological studies (rat liver), **146**, 1212
- Cholesterol hydroperoxides
inhibition of calmodulin and suppression of atherogenesis (rabbit), **146**, 1166
- Cholesterol oxidase
polyethylene glycol derivative-modified, solubility and activity in benzene (*Nocardia* sp.), **148**, 876
- Chondrocyte growth factor
pituitary-derived, purification, heparin-binding activity, and cross-reactivity with antiserum to basic fibroblast growth factor (human), **144**, 1128
- Chondrocytes
protease release, interleukin 1-mediated, enhancement by fibroblast growth factor (rabbit), **142**, 448
- Chondroitin sulfate
synthesis inhibition, relationship to inhibition of molting by selenate (*Rhodnius prolixus*), **146**, 652
- Choristoneura fumiferana*
detection of forskolin-resistant adenylate cyclase, **145**, 1192
- Chromaffin cells
adrenal, detection of M₂ muscarinoceptor-associated ionophore (cat), **144**, 965
secretagogue-induced catecholamine release, facilitation by pertussis toxin (bovine adrenal gland), **144**, 907
secretion of catecholamines and opioid peptides, inhibition by amorphin C-terminal sequence (bovine adrenal medulla), **143**, 545
- Chromaffin granules
and plasma membranes, cell-free interactions, letter to editor, **148**, 896
synthesis of atrial natriuretic factor (bovine adrenal), **147**, 957
- Chromatin
associated with genes displaying different transcriptional activity, differential stability of higher order structure (rat liver), **146**, 270
- Chromogranin A
gene, localization on chromosome 14 (human), **142**, 141

Subject Index

- Chromophores**
 flavin, identification in yellow fluorescent protein of *Vibrio fischeri*, **146**, 101
- Chromosomes**
 aberrations, X-ray-induced, cell cycle-dependent potentiation by 3-aminobenzamide (human lymphocytes), **143**, 372
 bacterial, Tn5 transposition from λ b221 c1857 Pam Oam, effect of Lon-SulA regulatory function (*Escherichia coli*), **142**, 879
 14, localization of chromogranin A gene (human), **142**, 141
 1, localization of hepatic pyruvate kinase gene (human), **143**, 431
 21, amyloid β protein gene, homolog localization on murine chromosome 16 (human), **144**, 1069
- Chymostatin**
 inhibition of protein methylesterase (rat kidney), **142**, 603
- CI-922**
 inhibition of neutrophil activation, mechanism (human), **148**, 1110
- Circular dichroism**
 in analysis of bacteriorhodopsin-lipid interactions (*Halo-bacterium halobium*), **144**, 836
 in cryogenic solvents, resolution of conformational equilibria in linear peptides, **143**, 1005
 magnetic, cytochromes P-450-LM₂ and P-420-LM₂, comparison with photolysed CO complexes, **146**, 165
- Cisapride**
 effect on concentrations of β -endorphin- and substance P-like immunoreactivities in gastrointestinal tract (rat), **147**, 1162
- Cisplatin**
 induction of selective crosslinks between DNA and high-mobility-group proteins 1, 2, and E (chicken erythrocytes), **142**, 826
- Citrinin**
 inhibition of triiodothyronine nuclear binding in cultured fibroblasts (human), **147**, 1241
- L-Citrulline**
 formation from N^G, N^G -dimethyl-L-arginine, catalyzing enzyme, isolation and characterization (rat), **148**, 671
 synthesis in hemopoietic cells, enzymatic pathway (mouse), **144**, 829
- Clonidine**
 effect on plasma atrial natriuretic factor levels (rat), **143**, 159
- Cloning**
 androgen-repressed mRNA (rat prostate), **147**, 196
 apolipoprotein B mRNA (rat), **142**, 92
 cAMP-dependent protein kinase type I regulatory subunit cDNA (human testis, rat brain), **146**, 878; **149**, 939
 carcinoembryonic antigen gene: identification of signal peptide and N-terminal domain sequences of nonspecific cross-reacting antigen (human), **146**, 464
 β -casein cDNA (bovine mammary gland), **142**, 617
 cDNA encoding peptide C-terminal α -amidating enzyme (*Xenopus laevis*), **148**, 546
 cDNAs encoding interleukins 1 α and 1 β from mRNA (human U937 cells), **143**, 345
- DNA encoding T4 lysozyme N-terminal domain in *Escherichia coli*, **145**, 190
 DNA fragments containing repetitive regions potentially coding for histidine-rich proteins (*Plasmodium falciparum*), **146**, 368
 enkephalinase genes (rat), **144**, 59
 full-length cDNA for adrenodoxin oxidoreductase mRNA (bovine adrenal cortex), **145**, 1239
 globin cDNA (rat), **146**, 618
 glyoxalase I gene in *Escherichia coli* (*Pseudomonas putida*), **147**, 831
 lipote acetyltransferase cDNA (rat liver), **142**, 953
 mammalian expression vector carrying preprorenin gene in *Escherichia coli*, requirement for bacteriophage transcription terminator (human), **143**, 593
 mitochondrial aspartate aminotransferase precursor cDNA (rat), **149**, 859
 poly(ADP-ribose) polymerase cDNA (human), **146**, 403; *erratum*, **148**, 1549
 poly-ubiquitin cDNA (human ovarian granulosa cells), **147**, 581
 reovirus serotype 1 Lang strain s2 mRNA encoding core polypeptide σ_2 (human), **147**, 1153
 S-antigen cDNA from retina (bovine), **142**, 904
 tyrosine 3-hydroxylase cDNA (human), **146**, 971
 vinculin cDNA (chicken), **147**, 637
- Coal tar**
 induction of epidermal NAD(P)H:quinone reductase, role in detoxification (mouse, rat), **146**, 126
- Cobalt**
 catalysis of δ -aminolevulinate synthesis, **143**, 439
- Cobalt-protoporphyrin**
 induction of prolonged inhibition of catechol estrogen synthesis by hepatic microsomes (rat), **145**, 376
- Coenzyme M**
 and 7-mercaptoheptanoylthreonine phosphate, heterodisulfide, production by methylreductase reaction (*Methanobacterium thermoautotrophicum*), **149**, 455
- Coenzyme Q**
 protective effect on lipid peroxidation and respiratory chain inactivation induced by adriamycin-iron complex (bovine heart), **147**, 572
- Colchicine**
 cellular resistance, associated membrane glycoproteins, analysis with polyclonal antibodies, **143**, 732
- Cold shock**
 induction of apoptosis *in vitro*, role of cell growth phase (V79 fibroblasts), **145**, 876
- Collagen**
 biosynthesis in diploid fibroblasts, regulation by serum (human), **145**, 639
 derived octapeptide, effect on phosphoinositide turnover and 43-kDa protein phosphorylation in collagen-activated platelets, **146**, 277
 films, type I, degradation by osteoblasts, effects of 1,25-dihydroxyvitamin D₃ and recombinant tissue inhibitor of metalloproteinases (mouse), **148**, 596
 and platelet-activating factor, cooperativity in platelet aggregation (bovine endothelial cells), **145**, 915

Subject Index

- type IV, synthesis in multiple fibromatosis with multiple articular dysplasia (human), **147**, 275
- type VI, clones corresponding to M_r 150,000 subunit, isolation (chicken), **149**, 347
- type IX, synthesis, effect of β -xylosides (rabbit chondrocytes), **146**, 1040
- types I, II, and III, encoding genes, differential expression during callus formation (rat), **142**, 536
- Collagenase**
- neutrophil, inhibition by gold(I) salts (human), **144**, 101
 - synthesis by granulation tissue, stimulation by tumor necrosis factor (rat), **142**, 791
- Collagenase inhibitors**
- insulin-stimulated secretion by chondrosarcoma chondrocytes (rat), **147**, 550
- Colony-stimulating factor**
- granulocyte, induction of neutrophilic granulocytosis in mice (human), **142**, 454
 - macrophage-specific, partial primary structure (human, mouse), **144**, 74
 - recombinant granulocytic, enhancement of chemotactic peptide-stimulated superoxide release (human), **144**, 1143
 - regulation of proto-oncogene expression, **148**, 1001
- Colorimetry**
- detection of viral DNA and oncogenes, **143**, 323
- Complement**
- C1, subunit interactions, analysis (human plasma), **149**, 378
- C5a**
- induction of
 - Ca^{2+} mobilization in polymorphonuclear leukocytes, correlation with respiratory burst activation (rabbit), **144**, 794
 - oscillatory behavior in neutrophils (human), **147**, 361
 - photoreactive analog, synthesis for identification of C5a receptor ligand-binding component (human granulocytes), **148**, 1330
- C8 γ**
- homology with α_1 -microglobulin (human), **149**, 282
 - and plasma protein HC, structural homology: identity of cysteine bond pattern (human), **149**, 750
- Complement receptors**
- C5a, ligand-binding component, identification with synthetic photoreactive C5a analog (human granulocytes), **148**, 1330
- Compound 48/80**
- activation of mast cells, association with subcellular redistribution of protein kinase C (rat), **142**, 645
- Computer applications**
- predictions of signal peptidase processing sites, **146**, 870
- Concanavalin A**
- inhibition of phorbol-mediated redistribution of protein kinase C and β -adrenergic receptors in glioma cells (rat), **144**, 1265
 - stimulation of
 - mast cells, association with subcellular redistribution of protein kinase C (rat), **142**, 645
 - splenocytes, associated production of prolactin-like molecule (mouse), **145**, 692
- T-cell clones, effect on phospholipid metabolism (mouse), **144**, 1303
- Congenital adrenal hyperplasia**
- salt-losing, prevalence of polymorphic 21-hydroxylase gene mutations (human), **142**, 798
- Conglutinin**
- carbohydrate specificity and homology to proteins in hepatic lectin group (bovine serum), **143**, 645
- ω -Conotoxin**
- sensitivity of presynaptic Ca^{2+} channels in synaptosomes, species differences (chicken, frog, rat brain), **145**, 1283
- ω -Conotoxin receptors**
- and nitrendipine receptors, localization in brain (rat), **149**, 982
- Contact activation**
- promotion in plasma by sulfatide bilayers (human), **149**, 1002
- Copper**
- ascorbic acid- O_2 system, induction of oxytocin denaturation and disulfide interchange reaction, **145**, 596
 - containing nitrate reductase, kinetics and interaction with blue copper protein (*Achromobacter cycloclastes*), **145**, 563
 - in cytochrome-c oxidase, relationship to polypeptide subunits III, VII, a, and b (bovine heart), **148**, 1520
 - role in estradiol receptor action (rat uterus), **144**, 505
- Corticosterone**
- effect on serum and hepatic α_1 -antitrypsin mRNA levels (rat), **147**, 936
 - formation by adrenocortical cells, role of microfilaments (*Rana ridibunda*), **148**, 1354
- Corticotropin-releasing hormone**
- gene expression in placenta (human), **148**, 1208
 - high-affinity binding protein, detection in plasma (human), **143**, 411
- Cortisol, see Hydrocortisone**
- Creatine kinase**
- B subunit cDNA clones, isolation and sequence analysis: development of subunit-specific probes and determination of gene copy number (human), **144**, 1116
- α -Crystallin**
- B₂ chain, phosphorylation sites (bovine lens), **144**, 1340
- α A-Crystallin**
- cDNA, nucleotide sequence (bovine lens), **148**, 31
- γ -Crystallin**
- cDNA clones, isolation and characterization (bovine lens), **146**, 332
- CTP (cytidine 5'-triphosphate)**
- N^4 -substituted, synthesis by CTP synthetase (Ehrlich ascites tumor cells), **145**, 569
- CTP:CMP-deoxyoctulosonate cytidyltransferase**
- effect of 2-deoxy analog of 3-deoxy-D-manno-2-octulosonic acid (*Escherichia coli*, *Salmonella typhimurium* mutant), **143**, 1063
- CTP synthetase**
- synthesis of N^4 -substituted CTP (Ehrlich ascites tumor cells), **145**, 569
- Cyanine dye**
- inhibition of ADP transport into mitochondria (rat liver), **148**, 1081

Subject Index

- Cyanogen bromide
cleavage of lens fiber junction protein MP26, analysis (bovine, chicken, human eye), **147**, 1013
- Cyclic AMP
ACTH-induced production by cultured adrenal cells, potentiation by phorbol ester, role of Gi protein α subunit (bovine), **146**, 517
adenosine receptor-mediated accumulation in Jurkat cells, effects of lectin and phorbol esters (human), **145**, 344
analogs, activation of interleukin-2 receptor genes (human YT cells), **143**, 753
binding protein
degradation, inhibition by c-Ha-ras gene product (human), **146**, 731
type R₁, induction in neurite-minus neuroblastoma cells (mouse), **148**, 350
cellular levels, regulation by β -adrenergic agonists and prostaglandin (Ewing's sarcoma cells), **146**, 685
in cultured anterior pituitary cells, augmentation by relaxin (rat), **148**, 1246
effects on DNA replication and proliferation of primary adrenocortical cells in synthetic medium (rabbit), **148**, 1295
effects of D-glucose anomers (yeast), **143**, 212
induced phosphorylation of 23-kDa protein in platelet membrane vesicles, stimulation by inositol 1,4,5-trisphosphate (human), **145**, 139
induction of lactate dehydrogenase-A promoter-CAT fusion gene (CHO cells), **147**, 501
inhibition of phosphatidylinositol kinase, role of cAMP-dependent protein kinase (murine liver), **146**, 561
intracellular, produced with photoactivatable derivative, regulation of cytosolic free Ca^{2+} (human platelets), **146**, 321
pineal, dual receptor stimulation by porcine vasoactive intestinal peptide and phenylephrine, effect of ethanol (rat), **147**, 145
production
in FRTL5 thyroid cells, effect of anti-fucosyl GM1 antibodies (rat), **143**, 848
in insulinoma cells, effect of glucose-stimulated insulin release (human), **145**, 263
regulatory role in 1-methyladenine synthesis by follicle cells (starfish), **147**, 8
stimulation of α -melanocyte-stimulating hormone secretion from permeabilized cells of pituitary intermediate lobe (rat), **143**, 1076
vasoactive intestinal peptide-stimulated increase in prostatic epithelial cells, interference by tumor-promoting phorbol esters (rat), **149**, 221
- Cyclic GMP
concurrent regulation by vasoactive intestinal peptide and α_1 -adrenergic receptor (rat pinealocytes), **146**, 1478
inhibition of protein kinase C and 240-kDa protein phosphorylation in adrenal cortical plasma membrane (bovine), **148**, 589
pineal, dual receptor stimulation by porcine vasoactive intestinal peptide and phenylephrine, effect of ethanol (rat), **147**, 145
production in salt-sensitive and salt-resistant rats, correlation with atrial natriuretic factor binding, **144**, 1076
role in platelet adhesion to vascular endothelium (human), **148**, 1482
smooth muscle cell levels, effects of atrial natriuretic factor analogs, comparison with aortic vasorelaxation (rabbit), **144**, 422
stimulated production in vascular smooth muscle cells, relationship to down-regulation of atrial natriuretic factor receptors (rat), **148**, 61
in ventricular myocytes, effect of atrial natriuretic factor (rabbit), **148**, 962
- Cyclic-nucleotide phosphodiesterase
 Ca^{2+} /calmodulin-dependent, from aorta and brain, comparative sensitivity to dihydropyridine Ca^{2+} channel blockers (rabbit), **148**, 1468
2':3'-Cyclic-nucleotide 3'-phosphodiesterase
inhibition by heparin and polyribonucleotides, evidence for associated 5'-polyribonucleotide kinase activity (bovine, human brain), **145**, 686
- Cyclofenil
inhibition of neutrophil collagenase (human), **144**, 101
- Cycloheximide
differential effects on cytochrome P-450 gene transcription in whole animal and hepatoma cell culture (rat), **148**, 1118
effect on lipoprotein lipase secretion by peritoneal macrophages (mouse), **142**, 1
- Cyclooxygenase
endogenous metabolites, regulatory role in endothelial cell proliferation (bovine aorta), **144**, 345
platelet, role in tumor cell-induced platelet aggregation (rat), **145**, 384
- Cyclophosphamide
effect on arginine vasopressin and atrial natriuretic factor levels in plasma (rabbit), **143**, 140
- D-Cycloserine
and glycine, in controlled cell lysis and protoplast formation (*Bacillus subtilis*), **149**, 576
- Cyclosporin A
inhibition of
prostaglandin E₂ release from vascular smooth muscle cells (rat aorta), **147**, 542
protein kinase C-independent activation of Na^+/H^+ exchanger by platelet-derived growth factor and vanadate (Swiss 3T3 fibroblasts), **145**, 111
- β -Cystathionase, *see* Cystathionine β -lyase
- Cystathionine β -lyase
and cystathionine γ -synthase, pyridoxal 5'-phosphate-binding sites, sequence comparison (*Escherichia coli*), **147**, 565
- Cystathionine γ -synthase, *see* O-Succinylhomoserine (thiol)-lyase
- Cystatin
long form, identification by rapid microbore HPLC mapping (human saliva), **145**, 1248
- Cysteine
bond pattern identity: structural homology of complement component C8 γ and plasma protein HC (human), **149**, 750

Subject Index

- and glutathione thiol radicals, reaction with oxygen, formation of sulfinyl radicals, **144**, 1037
- rich domain in von Willebrand factor, comparison with procollagen and thrombospondin, **144**, 876
- Cysteine protease inhibitors
- synthesis in hepatoma cells, regulation by hepatocyte-stimulating factor and interferon β_2 (rat), **146**, 1218
- Cysteine proteinases
- lysosomal, autodegradation (rat liver), **144**, 749
- L-Cystinyl-bis-L-phenylalanine
- interchange reaction, induction by copper(II)/ascorbic acid/ O_2 system, **145**, 596
- L-Cystinyl-bis-L-tyrosine
- interchange reaction, induction by copper(II)/ascorbic acid/ O_2 system, **145**, 596
- Cytochrome b_{558}
- purification and properties (bovine neutrophils), **149**, 46
- Cytochrome b_{559}
- effect on superoxide generation by NADPH-cytochrome-c reductase (porcine neutrophils), **147**, 71
- Cytochrome c
- binding affinity for cytochrome-c oxidase, effect of ADP (bovine heart), **147**, 1268
- cytosolic precursor, inhibition of pre-ornithine carbamoyl-transferase uptake by hepatic mitochondria (rat), **146**, 1318
- interaction with
- corresponding specific reductase, 1H NMR study (*Hansenula anomala*), **145**, 1098
- rhodamine 110, 123, and peptidic side-chain derivatives, **146**, 107
- reduction, in detection of superoxide radical photogeneration from aqueous solutions of tetracycline antibiotics, **146**, 1191
- Cytochrome c'
- and CO complex, spectral properties (*Rhodopseudomonas capsulata* B100), **144**, 224
- nitric oxide complex, spectral properties (*Rhodopseudomonas capsulata* B100), **145**, 868
- Cytochrome c_1
- cDNA clone, isolation from λ gt11 expression library (human), **145**, 34
- Cytochrome c_3
- heme potentials, structural assignment with modified arginine (*Desulfovibrio desulfuricans*), **147**, 818
- and hydrogenase, electron exchange, electrochemical study (*Desulfovibrio desulfuricans*), **147**, 1289
- Cytochrome c_{553}
- direct electron transfer reactions at indium oxide electrodes (*Desulfovibrio vulgaris*), **145**, 619
- Cytochrome-c oxidase
- matrix side, interaction with ADP, effect on cytochrome c affinity (bovine heart), **147**, 1268
- metal content and activity, relationship to polypeptide subunits III, VII, a, and b (bovine heart), **148**, 1520
- partial purification and immunological and spectral characterization (*Synechocystis* 6714), **149**, 102
- zinc displacement by fluorescein mercuric acetate (bovine heart), **143**, 1030
- Cytochrome P-420
- low- and ultralow-temperature magnetic circular dichroism, comparison with photolysed CO complexes, **146**, 165
- Cytochrome P-448
- isozymes, induction in primary cultured hepatocytes by drugs inducing different isozymes *in vivo* (rat), **148**, 947
- Cytochrome P-450
- alkaline-inducible, encoding gene, isolation and characterization (*Candida tropicalis*), **144**, 251
- associated 15β -hydroxylase, hepatic expression, regulation by somatotropin at pretranslational level (rat), **143**, 782
- associated lanosterol 14α -demethylase, gene isolation and expression in *Saccharomyces cerevisiae* (*Candida tropicalis*), **146**, 1311
- constitutive type RLM5, hepatic microsomal levels, effect of diabetes (rat), **142**, 623
- deficient mutant, characterization (*Candida albicans*), **147**, 794
- dependent bioactivating systems, conversion of estradiol- 17β to reactive embryotoxic intermediates (rat), **145**, 402
- ethanol-oxidizing, purification and characterization (human liver), **148**, 232
- gene transcription in whole animal and hepatoma cell culture, differential effects of cycloheximide (rat), **148**, 1118
- hepatic levels, effect of phorone (rat), **145**, 502
- isozyme c, stereoselective formation of benzo[c]phenanthrene oxides in purified and reconstituted system (rat liver), **145**, 160
- isozyme e, gene variant, isolation and characterization of 5' flanking sequences (rat liver), **144**, 258
- isozyme j, induction by fasting (rat), **142**, 1077
- isozymes
- catalyzing debrisoquine 4-hydroxylation, competitive inhibition by *N*-methyl-4-phenyl-1,2,3,6-tetrahydropyridine (human, rat), **148**, 1144
- specific phosphorylation by protein kinases, **142**, 885
- toxifying species, assay with hair root 7-ethoxyresorufin-*O*-deethylase (human), **148**, 755
- linked monooxygenase systems, inhibition by naphthoquinones (human placenta, rabbit liver), **146**, 487
- low- and ultralow-temperature magnetic circular dichroism, comparison with photolysed CO complexes (rabbit hepatic microsomes), **146**, 165
- mediation of drug metabolism in hepatoma cells, analysis (human), **143**, 52
- mitochondrial and microsomal, roles in vitamin D₃ 25-hydroxylation (rat liver), **142**, 999
- mRNAs, identification by conserved consensus oligomer (rabbit, rat), **149**, 326
- oxidative dehalogenation of 1,1,2,2-tetrachloroethane, inter- and intramolecular deuterium isotope effects (rat liver), **149**, 319
- partial purification and estradiol hydroxylation (rat brain), **147**, 1245

Subject Index

- in reconstituted system containing monomeric carriers, reduction and catalytic properties (rabbit hepatic microsomes), **147**, 1295
- regulation of uroporphyrinogen oxidation by hepatic extracts from 3-methylcholanthrene-treated embryo (chicken), **146**, 1324
- role in metabolism of testosterone (rat skin), **145**, 749
- Cytochrome P_1 -450
- role in aflatoxin B_1 cytotoxicity mechanism (murine hepatoma cells), **145**, 854
- Cytochrome P_3 -450
- hepatic, relationship to aflatoxin B_1 -4-hydroxylase (C57BL/6 mouse), **142**, 872
- Cytochrome P -450IIC4
- cDNA, characterization and induction by phenobarbital of related hepatic mRNA levels (rabbit), **146**, 224
- Cytokines
- tumor-derived, chemotactic response of mammary adenocarcinoma cell clones (rat), **146**, 996
- Cytokinin
- metabolism in green tomato pericarp, effect of metyrapone, **144**, 109
- Cytolysis
- lymphocyte granule-mediated, requirement of serine protease (rat), **149**, 882
- Cytosine
- directing moiety at carbon 5, size, relationship to DNA (cytosine-5)-methyltransferase activity (human placenta), **145**, 146
- hydrogen bonding to threonine or serine peptides, implications for evolution of genetic code, **148**, 456
- Cytosynalin
- and microtubule-associated proteins, induced microtubule formation, comparison (bovine brain), **146**, 711
- Cytotoxicity
- acetaminophen, protective effects of superoxide dismutase and catalase (rat hepatocytes), **149**, 889
- aflatoxin B_1 , mechanism, role of cytochrome P_1 -450 (murine hepatoma cells), **145**, 854
- lipid-like product from *Serratia marcescens*, analysis, **149**, 1033
- neutrophil, role of protein kinase C (human), **148**, 1290
- tumor necrosis factor
- enhancement by increase in basicity of N-terminal region, **148**, 629
- modulation by bacterial toxins, hydrocortisone, and arachidonic acid metabolism inhibitors (L929 cells), **149**, 815
- reduction by inhibitors of arachidonic acid metabolism (murine L929 cells), **149**, 735
- D**
- Dactinomycin
- effects on DNA replication and *c-myc* expression during liver regeneration (rat), **144**, 1049
- Daunomycin, *see* Daunorubicin
- Daunorubicin
- inhibition of NADH nonenzymatic oxidation, **143**, 1037
- Deamination
- 2',3'-dideoxyadenosine, inhibition by 2',3'-dideoxyriboside of 2,6-diaminopurine and 2',3'-didehydro derivative, **145**, 277
- 3-Deazaadenosine
- effect on interferon induction of indoleamine 2,3-dioxygenase in peripheral blood monocytes (human), **144**, 1147
- Decarbazine
- cytotoxicity, potentiation by poly(ADP-ribose) synthetase inhibition (human melanoma cells), **142**, 1089
- Degranulation
- neutrophils, relationship to Ca^{2+} release (human), **146**, 1386
- Dendrotoxin I receptors
- and mast cell-degranulating peptide receptors, allosteric interaction (rat brain), **143**, 383
- Deoxyadenosine
- induced cell death, mechanism: induction of deoxyribonucleoside-triphosphate imbalance and DNA double strand breaks in mammary tumor cells (mouse), **146**, 258
- Deoxycorticosterone
- and deoxycorticosterone-salt-induced hypertension, effect on specific binding of atrial natriuretic factor to renal glomeruli (rat), **145**, 522
- Deoxycytidine
- methylation levels in DNA (human), **145**, 888
- Deoxycytidine kinase
- phosphorylation of 2',3'-dideoxynucleosides: activation of potential drugs for AIDS therapy (human thymus), **148**, 1252
- Deoxynojirimycin
- antiretroviral activity, analysis with Moloney murine leukemia virus, **148**, 206
- 3-Deoxy-D-manno-2-octulosonic acid
- bacterial endotoxins reportedly deficient in, analysis, **143**, 845
- Deoxyribonucleoside triphosphate
- deoxyadenosine-induced imbalance in mammary tumor cells, mechanism of cell death (mouse), **146**, 258
- Deoxythymidine
- incorporation into hepatic dTTP and nuclear matrix DNA: evidence for nucleoside channeling *in vivo* (rat), **149**, 27
- Dephosphorylation
- erythrocyte membrane band 3 protein, role of membrane-bound phosphotyrosyl-protein phosphatase (human), **142**, 587
- Depolarization
- and vasopressor peptide, stimulation of Ca^{2+} uptake by vascular smooth muscle cells, comparison (rat aorta), **148**, 225
- Depurination
- yeast 26 S ribosomal RNA by recombinant ricin A chain, **149**, 588
- Dermorphin receptors
- detection in brain by radioreceptor assay (rat), **148**, 1432

Subject Index

- 11-Desoxycorticosterone
formation by adrenocortical cells, role of microfilaments (*Rana ridibunda*), **148**, 1354
- Desulfovibrio* sp.
hydrogenases
characterization by CO, NO, and NO₂⁻ inhibition studies, **146**, 147
identification of three classes, **149**, 369
- Deuterium
inter- and intramolecular isotope effects on cytochrome P-450-catalyzed oxidative dehalogenation of 1,1,2,2-tetrachloroethane (rat liver), **149**, 319
- Development
associated antithrombin III mRNA levels, analysis (rat liver), **142**, 417
postnatal, stain-specific changes in protein kinase C activity and tissue levels (mouse), **145**, 733
- Dexamethasone
effect on
atrial natriuretic factor synthesis by atrial and ventricular myocytes, comparison (neonatal rat), **148**, 1030
interferon induction of indoleamine 2,3-dioxygenase in peripheral blood monocytes (human), **144**, 1147
somatostatin receptors in acinar carcinoma cells (rat pancreas), **147**, 942
inhibition of plasminogen activator gene expression and enzymatic activity (porcine kidney), **143**, 329
prevention of imipramine-induced β -hexosaminidase depletion in fibroblasts: implications for treating psychotic hexosaminidase-A deficient patients, **148**, 1098
stimulation of atrial natriuretic factor synthesis and secretion by atrial myocytes (rat), **145**, 336
- Diabetes mellitus
associated cataractogenesis in intact lens, ²H NMR spectroscopy (rabbit), **142**, 359
effect on hepatic microsomal constitutive cytochrome P-450 levels (rat), **142**, 623
erythrocyte membranes in, Na⁺,K⁺-ATPase activity (human), **146**, 179
- Diacetyl
arginine modification in K⁺-ATPase, effect on enzyme activity (*Streptococcus faecalis*), **142**, 107
- 4,4'-Diacetyldiphenylurea bis(guanyldiazotone)
antileukemic and reverse transcriptase stimulatory activities, antagonism by spermine, **142**, 422
- Diacylglycerol
activation and binding of protein kinase C, structural requirements, **148**, 776
in brain, effect of BN 52021 after ischemia-reperfusion-induced injury (gerbil), **149**, 580
and Ca²⁺, synergistic regulation of phospholipase A₂ activation in chemotactic peptide-stimulated HL-60 cells, mechanism, **144**, 683
effect on
ecto- and basal-protein kinases in fibroblasts (human), **143**, 600
inositol phosphate formation in C62B glioma cells, **148**, 701
and inositol 1,4,5-trisphosphate, induction of Ca²⁺ release from platelets, comparison (human), **142**, 7
levels in spontaneously hypertensive rat, effects of phospholipase C and diacylglycerol kinase, **146**, 1419
specificity for protein kinase C activation (rat brain), **144**, 598
- 1,2-Diacylglycerol
formation, and arachidonic acid release, by saponin-permeabilized platelets, differential sensitivity to pertussis toxin, GDP β S and NaF (human), **148**, 971
- Diacylglycerol kinase
effect on diacylglycerol levels in spontaneously hypertensive rat, **146**, 1419
translocation in neutrophils after stimulation with chemotactic peptide and phorbol ester (guinea pig), **144**, 1025
- Diacylglycerol kinase inhibitors
R 59022
effect on superoxide generation from neutrophils stimulated with formyl-methionyl-leucyl-phenylalanine, IgG, and C3b (human), **143**, 630
potentiation of formyl-methionyl-leucyl-phenylalanine-induced superoxide radical production, effects of leupeptin and H-7 (rabbit neutrophils), **148**, 38
- Diadenosine 5',5'''-P¹,P⁴-tetraphosphate
base stacking, effects of polyamine and divalent metal ions, ¹H magnetic resonance study, **144**, 922
effect on higher order structure of DNA (bovine thymus), **143**, 617
synthesis from ATP by leucyl-tRNA synthetase (*Bacillus stearothermophilus*), **146**, 173
- 4'-6-Diamidine-2-phenylindole
-pUC8 complex, preparation and application in analysis of biological effects of nucleic acid-drug interactions, **145**, 40
- Diamine oxidase, *see* Amine oxidase
- 1,3-Diaminopropane
effect on ornithine decarboxylase activity and mRNA levels (murine kidney), **143**, 424
- 2,6-Diaminopurine
2',3'-dideoxyriboside, inhibition of
2',3'-dideoxyadenosine deamination, **145**, 277
human immunodeficiency virus replication *in vitro*, **145**, 269
- cis*-Diamminedichloroplatinum(II), *see* Cisplatin
- 1,2-Diarachidonoylglycerophosphocholine
stimulated production and natural occurrence in neutrophils (human), **145**, 1126
- 1,2:5,6-Dibenzanthracene
induction of hepatic porphyria and inhibition of uroporphyrinogen decarboxylase (Fe-loaded mouse), **146**, 13
- Dibenz[*a,h*]anthracene, *see* 1,2:5,6-Dibenzanthracene
- 1,2-Dibromoethane, *see* Ethylene dibromide
- 2,6-Di-*tert*-butyl-4-methylphenol, *see* Butylated hydroxytoluene
- Dibutyl cAMP
inhibition of cholesterol esterification in J 774 monocyte-like cells (mouse), **142**, 120
interaction with phosphoinositide system in isolated parietal cells (rat), **147**, 758

Subject Index

- phosphorylation of progesterone receptors (human breast carcinoma cells), **146**, 1357
- DiC8, *see* sn-1,2-Dioctanoylglycerol
- α,ω -Dicarboxymethylpoly(oxyethylene)-magnetite chemical modification of enzymes, **145**, 908
- 2,4-Dichlorophenoxyacetic acid
effect on
plasma membrane structure, infrared spectroscopy study (soybean), **147**, 506
membrane permeability and ion channels, **143**, 1085
- Dictyostelium discoideum*
membranes, cholera and pertussis toxin ADP-ribosylation, **149**, 975
- N,N'*-Dicyclohexylcarbodiimide
inhibition of Na^+ -dependent transport system in renal brush border membranes (rat), **147**, 375
- 2',3'-Dideoxyadenosine
deamination, inhibition by 2',3'-dideoxyriboside of 2,6-diaminopurine and 2',3'-didehydro derivative, **145**, 277
- 2',3'-Dideoxynucleoside
phosphorylation by deoxycytidine kinase from thymus extracts: activation of potential drugs for AIDS therapy (human), **148**, 1252
- 2',3'-Dideoxyriboside
2,6-diaminopurine derivative
and 2',3'-didehydro derivative, inhibition of 2',3'-dideoxyadenosine deamination, **145**, 277
selective inhibition of human immunodeficiency virus replication *in vitro*, **145**, 269
- 2',3'-Dideoxythymidine
and 2',3'-unsaturated derivative, inhibition of human immunodeficiency virus replication *in vitro*, **142**, 128
- Diet
effect on plasma membrane phosphocholinetransferase activity (rat brain), **145**, 309
fasting, induction of cytochrome P-450j (rat), **142**, 1077
food restriction, anti-lipoperoxidation action (rat), **145**, 1185
- 17 β -*N,N*-Diethylcarbamoyl-4-methyl-4-aza-5 α -androstan-3-one
inhibition of 3 β -hydroxysteroid dehydrogenase (porcine granulosa cells), **144**, 166
triacylglycerol-supplemented, stimulation of intestinal membranous and secreted alkaline phosphatase mRNA (rat), **145**, 363
- Di-(2-ethylhexyl)-phthalate, *see* Bis(2-ethylhexyl) phthalate
- Diethylnitrosamine, *see* *N*-Nitrosodiethylamine
- Differentiation
adipocyte precursors in primary cultures, inhibition by epidermal growth factor (rat), **146**, 194
HL-60 cells
comparative effects of polymyxin B, phorbol ester, and bryostatin, **146**, 208
retinoic acid-induced, effect on PSL antigen levels, **147**, 993
- Differentiation-inducing factor
interleukin 1-dependent, for myeloid leukemic cells, tumor necrosis factor function as (mouse), **143**, 390
- Diffusion
surface, serum lipoproteins, analysis (human), **146**, 1139
- Difluoromethylornithine
and antiestrogens, additive growth inhibitory effects on MCF-7 breast cancer cells, **148**, 1338
and *N*¹,*N*⁶-bis(ethyl)spermidine, effects on topoisomerase II-mediated formation of 4'-(9-acridinylamino)methanesulfon-*m*-anisidide-induced cleavable complex in lung carcinoma cells, comparison (human), **149**, 194
-resistant myeloma cells, development and characterization (human), **144**, 132
- Digitonin
permeabilized adrenal medullary cells, tyrosine 3-hydroxylase activation by Ca^{2+} (bovine), **146**, 530
- Digoxin
-like immunoreactive substance, endogenous, isolation from plasma ultrafiltrate and characterization (human), **148**, 623
- Dihydrodiol dehydrogenase
dimeric, purification and partial characterization (simian kidney), **145**, 1260
- Dihydrofolate reductase
gene, stable transfer into deficient cell line using human adenovirus vector (mouse), **147**, 964
- Dihydrolipoamide acetyltransferase
cDNA
isolation (human liver), **145**, 903
molecular cloning (rat liver), **142**, 953
- Dihydropteridine reductase
peptide fragments, primary structure (rat liver), **143**, 582
- Dihydropyridine
binding by hippocampus, and Ca^{2+} uptake, concomitant regulation by substance P (rat), **144**, 1135
- Dihydropyridine receptors
in cardiac membrane Ca^{2+} channels, photoaffinity labeling (cardiomyopathic hamster), **148**, 926
in muscular Ca^{2+} channels, photoaffinity labeling and phosphorylation of associated 165-kDa peptide (rabbit), **147**, 1137
- Dihydrotestosterone
effect on serum and hepatic α_1 -antitrypsin mRNA levels (rat), **147**, 936
- 2,3-Dihydroxybenzoic acid decarboxylase
purification and spectroscopic properties (*Aspergillus niger*), **145**, 586
- 5,6-Dihydroxy-7,9,11,14-eicosatetraenoic acid
enzymatic formation from leukotriene A₄ in kidney (rat), **143**, 697
- 1,25-Dihydroxyvitamin D₃
and dietary Ca^{2+} , role in regulation of 25-hydroxyvitamin D₃ serum levels (rat), **144**, 1055
effect on
 Ca^{2+} -ATPase (chicken cartilage), **144**, 713
calcitonin and calcitonin gene-related peptide mRNA levels in cultured thyroid C cells (human), **149**, 239
⁴⁵Ca uptake by primary cultures of aortic myocytes (normotensive, spontaneously hypertensive rats), **146**, 1330
induction of cytosolic Ca^{2+} levels in osteoblastic cells (mouse), **145**, 956
regulation of tubulin expression in intestine (chicken), **148**, 1270

Subject Index

- stimulation of type I collagen film degradation by osteoblasts (mouse), **148**, 596
- 1,25-Dihydroxyvitamin D₃ receptors
- C-terminal proteolysis (chicken intestine), **147**, 479
- detection in vascular smooth muscle cells derived from fetal aorta (rat), **146**, 1
- Diisopropyl fluorophosphate, *see* Isofluorophate
- Diisopropylidene acetone, *see* Phorone
- N^G,N^G-Dimethyl-L-arginine
- conversion to L-citrulline, catalyzing enzyme, isolation and characterization (rat), **148**, 671
- 5,5-Dimethyl-1-pyrroline-N-oxide
- spin trapping of superoxide radicals photogenerated from aqueous solutions of tetracycline antibiotics, **146**, 1191
- Dimethyl sulfoxide
- alkaline aqueous solutions, detection of spin trapping artifacts, **143**, 941
- effect on natural DNA conformation, role in transcription enhancement (*Escherichia coli*), **146**, 1458
- HL-60 cells differentiated in presence of, membrane-associated phospholipase C activity, stimulation by guanidine nucleotides, **145**, 825
- Dinitrophenyl phosphatidylethanolamine
- bilayers, immobilization by UV irradiation, **146**, 1116
- sn-1,2-Dioctanoylglycerol
- induced histamine release from basophils, inhibition by protein kinase C inhibitors H-7 and H-9 (human), **144**, 732
- Dipeptide amides
- 3-amino-1,2-propanediol, renin inhibitory activity: studies *in vitro* and in conscious monkey (human, pig), **146**, 959
- Dipeptidyl carboxypeptidase I
- distribution in aortic wall (dog, human, monkey), **149**, 1186
- inactivation by sodium nitroprusside, **145**, 1048
- induction by fibroblast growth factor in vascular endothelial cells *in vitro* (porcine aorta), **145**, 1211
- regional distribution in kidney (rat), **144**, 915
- regulation in cultured vascular endothelial cells (human), **149**, 1179
- 1,6-Diphenyl-1,3,5-hexatriene
- fluorescence lifetime distribution, in analysis of erythrocyte membrane structure (human), **147**, 460
- Diquat
- induced oxidant stress and hepatotoxicity, effect of 1,3-bis(2-chloroethyl)-N-nitrosourea pretreatment (rat), **144**, 415
- Dismutation
- superoxide anion, water-induced, generation of singlet molecular oxygen, **145**, 842
- Disulfides
- insulin-glutathione, nonenzymatic formation, plasma desorption mass spectrometry, **146**, 815
- Dithiol
- vicinal, role in catalysis and proton pumping in mitochondrial nicotinamide-nucleotide transhydrogenase (bovine heart), **142**, 573
- Dithiopeptides
- mean geometry of thiopeptide unit and conformational features, **145**, 834; *erratum*, **146**, 1531
- Dithiothreitol
- differential inactivation of vitamin K-dependent carboxylase and oxygenase, **148**, 184
- induced oxidative damage to thymine and DNA in solution, **144**, 432
- Diuretic hormones
- arginine vasopressin-like, identification (*Locusta migratoria*), **149**, 180
- DMSO, *see* Dimethyl sulfoxide
- DNA
- adduct formation after reaction with 7-hydroxymethyl- and 7-sulfooxymethyl-12-methylbenz[a]anthracene (murine, rat liver), **144**, 576
- adenovirus, sequence-specific binding factor, affinity purification and characterization, **147**, 65
- apurinic sites, assay by time-dependent fluorescence (bovine thymus), **143**, 768
- bacteriophage λ , identification of pseudogene in genome, **145**, 330
- binding domain of RNA polymerase II, identification in 180-kDa polypeptide (chicken leukemia cells), **145**, 73
- 1,3-bis(2-chloroethyl)-1-nitrosourea-induced precursors of interstrand crosslinks, covalent binding by O⁶-alkyl-guanine-DNA alkyltransferase (bovine), **142**, 341
- B-to-Z transition in alkali and tetraalkylammonium salts, correlation with cation effects on solvent structure, **148**, 609
- Ca²⁺-dependent binding of serum amyloid P component (human), **148**, 308
- from cervical cancer cells, detection of E6 and E7 regions of human papillomavirus types 16 and 18, **143**, 837
- coding for T4 lysozyme, detection of inverted repeat sequence at 3'-end (*Escherichia coli*), **149**, 340
- complementary
- for adenylate cyclase H_s subunit, isolation and characterization (human liver), **145**, 474
- for adrenodoxin oxidoreductase mRNA, cloning and sequence analysis (bovine adrenal cortex), **145**, 1239
- apolipoprotein A-I, nucleotide sequence (chicken), **148**, 485
- apolipoprotein B, sequence analysis (rat), **142**, 92
- basic fibroblast growth factor-encoding, expression in *Escherichia coli* (human), **146**, 470
- β -casein, cloning and sequence analysis (bovine mammary gland), **142**, 617
- cloned, to progesterone receptor, in deduction of receptor amino acid sequence (human), **143**, 740
- clones corresponding to M_r 150,000 subunit of type VI collagen, isolation (chicken), **149**, 347
- to creatine kinase B subunit, isolation and sequence analysis: development of subunit-specific probes and determination of gene copy number (human), **144**, 1116
- α A-crystallin, nucleotide sequence (bovine lens), **148**, 31

Subject Index

- γ -crystallin, isolation and characterization (bovine lens), **146**, 332
 cytochrome c_1 , clone isolation from λ gt11 expression library (human), **145**, 34
 cytochrome P -450IIC4, characterization and induction by phenobarbital of related hepatic mRNA (rabbit), **146**, 224
 derived from forebrain mRNA, in identification of muscarinic receptor subtype M4 by homology screening (rat), **149**, 125
 for dihydrolipoamide acetyltransferase component of pyruvate dehydrogenase, isolation (human liver), **145**, 903
 enkephalinase-encoding, isolation and sequence analysis (rat), **144**, 59
 fibroblast poly(ADP-ribose)polymerase, full-length nucleotide sequence (human), **148**, 617
 globin, cloning and sequence analysis (rat), **146**, 618
 for glutamate dehydrogenase from brain and liver, comparison (human), **149**, 405
 hepatic pyruvate kinase gene, cloning (human), **143**, 431
hst clone with transforming activity, isolation from patient with acute leukemia, **142**, 1019
 insulin-like growth factor I, sequence analysis: identification of 5'-untranslated regions (rat), **146**, 1154
 interleukins 1 α and 1 β , cloning (human), **143**, 345
 for lecithin-cholesterol acyltransferase, isolation, characterization, and diagnostic applications (human), **148**, 161
 ligandin, isolation and sequence analysis (human, rat liver), **142**, 986
 lipoate acetyltransferase, cloning (rat liver), **142**, 953
 for murine homolog of human amyloid β -protein precursor, isolation, **149**, 665
 myelin DM-20 clone, identification of proteolipid protein deletion (human), **146**, 666
 nucleotide sequence, in determination of carcinoembryonic antigen primary structure (human), **142**, 511
 peptide C-terminal α -amidating enzyme, cloning and sequence analysis (*Xenopus laevis*), **148**, 546
 phosphofructokinase, clone construction (human liver), **147**, 1182
 6-phosphofructo-2-kinase/fructose 2,6-bisphosphatase, isolation (rat liver), **143**, 1092; *erratum*, **145**, 637
 poly(ADP-ribose) polymerase, cloning and expression in HL-60 cells during differentiation (human), **146**, 403; *erratum*, **148**, 1549
 poly-ubiquitin-encoding, in granulosa cells, cloning and sequence analysis (human ovary), **147**, 581
 to proteolipid subunit 9 of mitochondrial ATPase, isolation (human liver), **144**, 1257
 pulmonary surfactant-associated protein A, clone isolation and sequence analysis (rat), **144**, 367
 regulatory subunit of type I cAMP-dependent protein kinase, structural analysis (human testis, rat brain), **146**, 878; **149**, 939
 reovirus serotype 1 Lang strain s2 mRNA encoding virion core polypeptide σ_2 , cloning and nucleotide sequence (human), **147**, 1153
 S-antigen, cloning and sequence analysis (bovine retina), **142**, 904
 sperm-specific lactate dehydrogenase-X gene, isolation and sequence determination (mouse), **146**, 964
 for steroid sulfatase, in analysis of genetic heterogeneity of enzyme deficiency (human), **144**, 1010
 terminal deoxynucleotidyltransferase, expressible in mammalian cells, isolation and sequence analysis (human), **144**, 185
 tyrosine 3-hydroxylase, cloning and sequence analysis (human), **146**, 971
 vinculin, mRNA cloning (chicken), **147**, 637
 von Willebrand factor, sequence polymorphisms, repeated domains, and relationship to von Willebrand antigen II (human), **144**, 657
 -containing particles, association with glucocorticoid receptors *in vivo* (HeLa S₃ cells), **147**, 1188
 damage, induction by 1,2-dibromoethane at low doses (rat liver), **141**, 723; *erratum*, **142**, 1121
 degradation, regulation by gossypol (rat), **146**, 1515
 deoxyadenosine-induced double strand breaks in mammary tumor cells, role in cell death (mouse), **146**, 258
 deoxycytidines, methylation levels (human), **145**, 888
cis-diamminedichloroplatinum(II)-induced selective cross-links with high-mobility-group proteins 1, 2, and E (chicken erythrocytes), **142**, 826
 in dilute solutions, carrier RNA-enhanced recovery, **144**, 271
 dithiothreitol-induced oxidative damage in solution (*Escherichia coli*), **144**, 432
 double-stranded, A • T-rich sequences, binding of murine high-mobility-group protein I, **143**, 260
 dT • dG mispair, effect on DNA(cytosine-5)-methyltransferase methylation (human), **146**, 596
 exogenous, and 4'-(9-acridinylamino) methanesulfon-m-anisidide or 4-(4,6-*O*-ethylidene- β -D-glucopyranoside), interactions with leukemia cell topoisomerase II, implications for cellular drug sensitivity (human), **144**, 787
 extracted from formalin-fixed paraffin-embedded tissues, analysis by enzymatic amplification and hybridization with sequence-specific oligonucleotides (human), **142**, 710
 fragments containing repetitive regions potentially coding for histidine-rich proteins, cloning and sequencing: identification of overlapping reading frames (*Plasmodium falciparum*), **146**, 368
 genomic, sequences homologous to human epidermal growth factor receptor cDNA, application in characterization of rodent EGF receptor transcripts (mouse), **141**, 1109; *erratum*, **142**, 1120
 hepatitis B surface antigen, site-directed mutagenesis at codon 160 from arginine to lysine for conversion of subtypic determinant from r to w, **148**, 500
 high-affinity binding to large T protein from polyoma virus (mouse), **148**, 1053
 higher order structure, effects of ATP and diadenosine 5',5'''-P¹,P¹-tetraphosphate (bovine thymus), **143**, 617

Subject Index

- interactions with
 drugs, analysis with 4'-6-diamidine-2-phenylindole-pUC8 complex, **145**, 40
 poly(ADP-ribose) polymerase, loop formation (bovine thymus), **148**, 913
 melphalan-induced crosslinking in L-1210 cells, effect of L-buthionine sulfoximine treatment, **144**, 47
 methylation
 by Hha I methylase, effects on cleavage reactions by Hae II, Aha II, and Ban I endonucleases, **145**, 482
 in isogenic hepatoma cell lines, relationship to α -feto-protein gene expression (rat), **143**, 447
 by placental DNA (cytosine-5)-methyltransferase, relationship to size of directing moiety at carbon 5 of cytosine (human), **145**, 146
N-methyl-*N'*-nitro-*N*-nitrosoguanidine-induced damage in Alzheimer's disease fibroblasts, normal repair as determined by alkaline elution, **149**, 355
 mitochondrial, replication *in vitro*, role of DNA polymerase γ (human), **146**, 1146
 natural conformation, effects of dimethyl sulfoxide, role in transcription enhancement (*Escherichia coli*), **146**, 1458
 nuclear matrix
 deoxythymidine incorporation: evidence for nucleoside channeling *in vivo* (rat liver), **149**, 27
 in synchronized HeLa cells, enrichment of autonomously replicating sequences, **144**, 1018
 plasmid
 adsorption to pH-sensitive liposomes, transformation of target cells, **147**, 980
 light-induced modifications by gilvocarcin V and aglyclone analog, **143**, 808
 pBR322, identification of glucocorticoid regulatory element consensus sequences, **144**, 1
 pGKL1, secretion signal for encoded killer toxin, use in yeast secretion system for foreign proteins (*Saccharomyces cerevisiae*), **144**, 613
 -polypeptide complexes
 in isolated bulk DNA and residual nuclear matrix DNA, radiolabeling by nick-translation, **147**, 340
 sub-set characteristics of DNA sequences and homology to nuclear matrix DNA, **147**, 335
 reaction with biotin hydrazide, for preparation of non-radioactive hybridization probes (salmon sperm), **142**, 519
 release from nucleosomal core particles after ADP-ribosylation *in vitro* (rat liver), **143**, 1049
 repair systems, role in protection against hydrogen peroxide in *Escherichia coli*, **143**, 638
 replication
 during liver regeneration, effect of actinomycin D (rat), **144**, 1049
 in primary adrenocortical cells in synthetic medium, effects of adrenocorticotropin, cAMP, and 12-*O*-tetradecanoylphorbol 13-acetate (rabbit), **148**, 1295
 Rts 1, fragment responsible for temperature-sensitive growth of host cell, identification (*Escherichia coli*), **142**, 1084; *erratum*, **143**, 797
 sequences capable of directing gene transcription in *Escherichia coli* and *Saccharomyces cerevisiae*, isolation method, **149**, 846
 single-stranded, fd filamentous phage, complex with gene 5 protein, and gene 5 protein and gene 8 protein, interaction, **149**, 13
 structurally perturbed sites, mapping by replication arrest and run-off replication, **146**, 1523
 synthetic
 encoding T4 lysozyme N-terminal domain, expression in *Escherichia coli*, **145**, 190
 incorporation of carbocyclic analog of (*E*)-5-(2-bromovinyl)-2'-deoxyuridine 5'-triphosphate, **147**, 1105
 treated with 4-hydroxyaminoquinoline 1-oxide and related compounds in presence of seryl-AMP, formation of 8-hydroxyguanine residues (bovine thymus), **149**, 1141
 tumor cell, transfected NIH3T3 cells, expression of transformed phenotype, inhibition by swainsonine (human), **142**, 348
 undermethylated sequences, clustering in 5' region of *H-ras*-1 oncogene (human leukemia cells), **145**, 96
 viral, colorimetric detection, **143**, 323
 DNA (cytosine-5)-methyltransferase
 methylation activity
 effect of dT • dG mispair (human), **146**, 596
 relationship to size of directing moiety at carbon 5 of cytosine (human placenta), **145**, 146
 DNA-directed DNA polymerase
 cellular, and HIV-associated reverse transcriptase, effect of sugar-modified derivatives of thymidine 5'-triphosphate, comparison, **148**, 78
 proofreading of *N*⁴-aminodeoxycytidylic acid (*Escherichia coli*), **143**, 104
 role in replication of mitochondrial DNA *in vitro* (human), **146**, 1146
 selective inhibition by polysaccharide purified from *Physarum polycephalum*, **146**, 61
 DNA glycolase
 thymine glycol-releasing, with AP endonuclease activity, identification in human CEM-C1 lymphoblasts: analog of *Escherichia coli* endonuclease III, **149**, 93
 DNA polymerase
 DNA-directed, *see* DNA-directed DNA polymerase
 RNA-directed, *see* RNA-directed DNA polymerase
 DNA synthesis
 in hepatocytes
 from normal and regenerating liver, inhibition by transforming growth factor β (rat), **145**, 436
 stimulation by sodium butyrate (rat), **147**, 78
 inhibition by interferon, role of protein kinase C activation (Swiss 3T3 cells), **145**, 1026
 in lymphocytes, effects of *c-fos* and *c-myc* induction by phorbol ester and Ca²⁺ ionophore (human), **148**, 435
 in parotid gland, effects of sialagogues (mouse), **144**, 1161
 role of single replicative complex from diverse nuclear replicons (*Saccharomyces cerevisiae*), **142**, 1053
 stimulation by wild type and mutant bovine papillomavirus type 1 DNA (murine C127 cells), **148**, 86
 in stomach carcinoma cells, effect of α -1-antichymotrypsin (human), **144**, 409

Subject Index

- DNA topoisomerase (ATP-hydrolyzing)
 defect in ataxia-telangiectasia cells, demonstration, **149**, 233
 mediated formation of 4'-(9-acridinylamino)methanesulfon-*m*-anisidide-induced cleavable complex in lung carcinoma cells, effects of *N*¹,*N*⁶-bis(ethyl)spermidine and difluoromethylornithine, comparison (human), **149**, 194
 nuclear, in leukemia cells, interactions with exogenous DNA and 4'-(9-acridinylamino) methanesulfon-*m*-anisidide or 4-(4,6-*O*-ethylidene- β -D-glucopyranoside), implications for cellular drug sensitivity (human), **144**, 787
- Dodecylsulfate
 effect on resynthesis of insulin from A and B chains (bovine), **146**, 437
- Dopa
 oxidation to melanin, role of reactive oxygen species, **142**, 265
- L-Dopa
 phosphorylated isomers, stimulation of MSH binding capacity and responsiveness to MSH in melanoma cells (mouse), **145**, 719
- Dopamine
 binding to myometrial α -adrenoceptors (pregnant rabbit), **142**, 947
 secretion by pheochromocytoma cells, effect of myosin light-chain kinase inhibitor (rat), **143**, 1045
- Dopamine receptors
 D₂, alkylation: inconsistency with predictions of ternary complex model (bovine anterior pituitary), **147**, 1070
- Doxorubicin
 induction of interphase death in promyelocytic leukemia cells, prevention with 3-aminobenzamide and nicotinamide (human), **144**, 1031
 -iron complex, induction of lipid peroxidation and respiratory chain inactivation, protective effect of coenzyme Q (bovine heart), **147**, 572
 resistance to, demonstration in P-glycoprotein-deficient HL-60 cells, **145**, 1171
- Duchenne muscular dystrophy
 associated abnormalities in protein metabolism in skin fibroblasts *in vitro* (human), **145**, 1
- Duodenal ulcer disease
 identification of amino-terminal peptides of gastrin-17 and progastrin-17 in serum (human), **146**, 884
- Dynein
 19S, polymerization of brain tubulin into microtubules (bovine sperm), **148**, 218
- Dysplasia
 multiple articular, in multiple fibromatosis, synthesis of type IV collagen (human), **147**, 275
- E**
- Ear
 cochlear auditory sensory cells, fast motility (guinea pig), **149**, 304
- α -Ecdysone
 effect on α -ecdysone 20-monooxygenase (*Musca domestica*), **148**, 1075
- α -Ecdysone 20-monooxygenase
 microsomal and mitochondrial, effects of α -ecdysone and phenobarbital (*Musca domestica*), **148**, 1075
- Eclosion hormone
 isolation and primary structure (*Manduca sexta*), **146**, 746
- Edema
 spinal cord, effect of impact trauma (rat), **147**, 1170
- Edetic acid
 -Fe(III) complexes, effect of chemical structure on lipid peroxidation in cerebral microsomes (rat), **145**, 211
- EDTA, *see* Edetic acid
- Eggs
 inositol(1,3,4,5)tetrakisphosphate-induced activation, inositol trisphosphate requirement (sea urchin), **146**, 284
 meiotic maturation, role of protein kinase C (*Spisula solidissima*), **142**, 1072
 plasma membranes, Ca²⁺-dependent phosphorylation, induction of meiotic divisions (*Rana pipiens*), **147**, 863
 unfertilized, putative nuclease-sensitive control element, analysis (*Lytechinus pictus*), **145**, 921
- Eicosapentaenoate
 effect on free radical generation in tumor cells *in vitro* (human), **145**, 15
- Eicosatetraenoic acid
 effect on tumor necrosis factor- α cytotoxicity (L929 cells), **149**, 815
- Elastase
 leukocyte, *see* Leukocyte elastase
- Electron spin resonance
 skeletal protein interactions in membranes from polyanion-exposed and inositol hexaphosphate-incorporated erythrocytes (human), **144**, 779
- Electron transfer
 direct reactions of cytochrome *c*₅₅₃ at indium oxide electrodes (*Desulfovibrio vulgaris*), **145**, 619
 light-induced, in submitochondrial particles with incorporated reaction centers from *Rhodospirillum rubrum*, **148**, 170
- Elliptinium acetate
 uptake and cytotoxicity in wild-type and resistant bacterial mutants, relationship (*Streptococcus pneumoniae*), **145**, 927
- Elongation factors
 chloroplast EF-Ts and chloroplast and *Escherichia coli* EF-Tu, interactions, effects of GDP, **148**, 1490
- Embryotoxins
 formation from estradiol-17 β by cytochrome P-450-dependent bioactivating systems (rat), **145**, 402
- Endoglucanase
 extracellular, from shipworm bacteria, role in cellulose metabolism, **144**, 143
- Endonuclease
 apurinic/aprimidinic, associated with thymine glycol-DNA glycosylase, identification in human CEM-C1 lymphoblasts: analog of *Escherichia coli* endonuclease III, **149**, 93

Subject Index

- Hae II, Aha II, and Ban I, cleavage reactions, effects of DNA methylation by Hha I methylase, **145**, 482
- Endoplasmic reticulum
pancreatic acinar, Ca^{2+} pump, activation by Ca^{2+} -mobilizing hormones (rat), **149**, 213
rough, detection of cytoplasmically exposed high-affinity GTP-binding sites (rat liver), **148**, 478
- Endoprotease
ocytocin and pro-ocytocin processing-related, identification and characterization (bovine corpus luteum), **143**, 789; *erratum*, **144**, 1349
- β -Endorphin
 Ca^{2+} -dependent synthesis and secretion by neuroendocrine cells, effects of barium and potassium (rat pituitary), **146**, 495
-like immunoreactivity, effect of cisapride (rat gastrointestinal tract), **147**, 1162
regulation of FSH-stimulated inhibin production by testis (rat), **148**, 1513
- Endosomes
proteolytic processing of epidermal growth factor (mouse), **143**, 710
- Endothelial cells
aortic
actin polymerization, *in vitro* induction by serotonin (bovine), **143**, 152
cytoskeletal elements, *in vitro* association with serotonin (bovine), **143**, 152
endotoxin-induced secretion of active plasminogen activator inhibitor (bovine), **148**, 1346
mitogenic and chemoattractant effects of fibroblast-derived growth factor (bovine fetus), **144**, 705
proliferation, regulatory role of endogenous lipooxygenase metabolites (bovine), **144**, 345
prostacyclin synthesis, stimulation by 13-hydroxyoctadecadienoic acid (bovine fetus), **146**, 502
thrombin-stimulated, mitogenic activity and inositolide metabolism (swine), **145**, 1302
capillary, proliferation
effect of tumor necrosis factor (bovine adrenal cortex, brain), **143**, 997
synergistic effects of basic fibroblast growth factor and endothelial cell-stimulating angiogenesis factor, **143**, 947
cultured, synthesis of N-glycansulfated fibronectin, **147**, 920
cytoadherence of *Plasmodium falciparum*-invaded erythrocytes, role of parasite-produced glycosidase (human), **143**, 461; *erratum*, **147**, 1301
pulmonary arterial, endotoxin-induced secretion of active plasminogen activator inhibitor (bovine), **148**, 1346
umbilical vein
histamine-induced phosphoinositide metabolism, association with thromboxane and prostacyclin release (human), **144**, 438
inositol phosphate accumulation, stimulation by histamine, role of H_1 receptor (human), **148**, 47
vascular
growth inhibitory effects of recombinant interleukin 1α and 1β (human), **145**, 969
and microvascular, production of extracellular matrix containing fibroblast growth factors *in vitro*: implications for binding to heparin-related glycosaminoglycans (bovine), **142**, 428
production of insulin-like growth factor-binding proteins (bovine, human, rodent), **148**, 734
- Endothelium
-dependent relaxation, induction by xanthine oxidase, analysis (rat aorta), **147**, 682
vascular, platelet adhesion, role of nitric oxide and cGMP (human), **148**, 1482
- Endotoxins
bacterial, reportedly deficient in 3-deoxy-D-manno-2-oxulosonic acid, analysis, **143**, 845
induced secretion of active plasminogen activator inhibitor from pulmonary arterial and aortic endothelial cells (bovine), **148**, 1346
receptor binding assay in urine (human), **142**, 1013
- Enkephalinase, *see* Membrane metallo-endoropeptidase
- Enkephalins
 Ca^{2+} -dependent synthesis and secretion by neuroendocrine cells, effects of barium and potassium (bovine chromaffin cells), **146**, 495
inactive fragments, dimeric analogs, interaction with μ -opioid receptors, **146**, 1109
- Enolase
conformation, analysis using dynamic fluorescence and steady-state quenching measurements (yeast), **147**, 329
- Enterocytes
synthesis of apolipoproteins A-IV and C *in vitro*, analysis (lean, obese Zucker rats), **142**, 78
- Enterotoxins
Clostridium perfringens type A, induction of noradrenaline release from PC12 cells, **144**, 217
- Enzyme-linked immunosorbent assay
competitive, design using human proinsulin-alkaline phosphatase conjugates prepared by gene fusion, **149**, 607
- Eosinophils
localization of vasoactive intestinal peptide and substance P (human), **148**, 1440
normodense, chemotaxis, effects of platelet-activating factor (human), **142**, 638
- Epicotyls
etioloated, GTP-binding proteins, isolation and characterization (*Pisum sativum*), **148**, 133
- Epidermal growth factor
competition with growth stimulating-/cholecystokinin-releasing-peptide for binding to 3T3 fibroblasts (rat), **145**, 646
effect on
chronotropic response in cultured cardiac cells (chicken heart), **146**, 889
prostaglandin synthesis and thymidine incorporation in cultured thyroid cells (swine), **143**, 880
high-molecular-weight, purification and characterization (human urine), **145**, 126
induction of
c-myc proto-oncogene expression in breast cancer cells, inhibition by transforming growth factor β (human), **144**, 1197

Subject Index

- glucocorticoid receptor tyrosine phosphorylation in epithelial cells (human), **144**, 512
- inositol trisphosphate formation in A-431 cells, **142**, 688
- serine and tyrosine phosphorylation in 59-kDa protein in purified plasma membranes (rat liver), **145**, 982
- inhibition of
- adipocyte precursor differentiation in primary cultures (rat), **146**, 194
 - mammary casein synthesis in presence of insulin (mouse), **146**, 121
- like activity, concentration in follicular fluid during follicular enlargement (pig), **147**, 242
- like immunoreactive factor, production by gastric cancer cells, effect of differentiation state (human), **145**, 1019
- mitogenic effect on breast cancer cells, inhibition by antiestrogens in absence of estrogens (human), **146**, 1502
- partial reversal of antiestrogen inhibitory effects on T47D breast cancer cell growth (human), **146**, 739
- phosphorylation of progesterone receptors (human breast carcinoma cells), **146**, 1357
- proteolytic processing in endosomes (mouse), **143**, 710
- treated fibroblasts, cytoplasmic Ca^{2+} levels, augmentation by insulin-like growth factor II (mouse), **142**, 275
- Epidermal growth factor receptors**
- Ca^{2+} response at, protein kinase C-mediated feedback inhibition (A431 epidermoid carcinoma cells), **149**, 145
 - effect of modified ganglioside, role in modification of transmembrane signaling mechanism (human A431 cells), **147**, 127
 - maintenance on cultured TEA3A1 endocrine thymic epithelial cells (rat), **148**, 603
 - mRNA transcripts
 - effects of hepatocarcinogens (rat liver), **146**, 87
 - in rodents, characterization with murine genomic probe, **141**, 1109; *erratum*, **142**, 1120
- Epididymis**
- membranes, binding of β -galactosidase from epididymal fluid, analysis (rat), **143**, 799
- Epinephrine**
- effect on glycogenolysis emergence during post-maturation aging (rat hepatocytes), **147**, 724
 - secretion by adrenal medulla, induction by capsaicin (rat), **142**, 259
- Epithelial cells**
- airway, and smooth muscle cells, β -adrenergic receptors, comparison (bovine), **148**, 178
 - ciliary, localization of α and $\alpha(+)$ isoforms of Na^+ , K^+ -ATPase (bovine eye), **145**, 460
 - cultured TEA3A1 endocrine thymic, maintenance of epidermal growth factor receptors (rat), **148**, 603
 - hepatic
 - permeabilized, inositol trisphosphate-induced Ca^{2+} release, inhibition by heparin (rat), **149**, 897
 - proliferation *in vitro*, inhibition at specific cell cycle stages by transforming growth factor β (rat), **143**, 26
 - IEC-6, proliferation and differentiation, effects of transforming growth factor β (rat), **142**, 775
 - lens, fibroblast growth factor-induced early and late mitogenic events, role of phosphoinositide hydrolysis (bovine), **146**, 32
 - pigment, synthesis of basic fibroblast growth factor *in vitro* (bovine retina), **143**, 934
 - renal
 - identification of atrial natriuretic factor receptor subtypes (dog), **147**, 1146
 - phosphate transport *in vitro*, inhibition by arachidonic acid (mouse), **143**, 991
 - production of chemotactic factor for polymorphonuclear leukocytes (rat), **149**, 989
 - thyroid, expressing viral *ras* genes, effect on adenylate cyclase activity (rat), **142**, 527
 - from various organs, immunohistochemical localization of Ca^{2+} -activated neutral protease (rabbit), **148**, 567
- Epitopes**
- endotoxin lipid A, analysis with synthetic models and monoclonal antibodies (*Bordetella pertussis*), **143**, 723
 - HNK-1, occurrence in PC12 pheochromocytoma cells, chromaffin granule membranes, and chondroitin sulfate proteoglycans (goldfish, rat brain), **145**, 1142
 - phosphorylated, on neurofilaments, conservation during chordate evolution, **149**, 807
- Epoxyeicosatrienoic acids**
- identification in pool of inositol and ethanolamine phospholipids (rat liver), **146**, 638
- Erythroblasts**
- neonatal, γ -globin gene expression, augmentation by butyric acid analogs (human), **148**, 694
- Erythrocytes**
- antioxidant factors and β -adrenoceptor density, effects of ischemia/recirculation and hypoxia/recovery (rat), **149**, 568
 - carbon dioxide hydration and bicarbonate dehydration rates, measurement by ^{13}C NMR (human), **143**, 67
 - detection of uroporphyrinogen decarboxylase isoenzymes (human), **146**, 1196
 - free Mg^{2+} levels in spontaneously hypertensive and nonhypertensive rats, comparison, **143**, 1012
 - insulin binding, effects of gluconeogenic hormones (human), **147**, 158
 - invasion by *Plasmodium falciparum*, role of parasite-produced glycosidase (human), **143**, 461; *erratum*, **147**, 1301
 - membranes
 - bound phosphotyrosyl-protein phosphatase, dephosphorylation of membrane band 3 protein (human), **142**, 587
 - detection of crosslinked polymers in Hb-Köln disease (human), **147**, 602
 - Na^+ , K^+ -ATPase activity in diabetes mellitus (human), **146**, 179
 - phosphorylation, increase in hypertensive patients, **145**, 1329
 - skeletal protein interactions, effects of polyanion exposure and inositol hexaphosphate incorporation, ESR studies (human), **144**, 779
 - structure, analysis using 1,6-diphenyl-1,3,5-hexatriene fluorescence lifetime distribution (human), **147**, 460

Subject Index

- normal and sickle cell, binding activity of membrane-associated phorbol-12,13-dibutyrate receptors, **147**, 56
- Plasmodium berghei*-infected, liposome binding, application of functional drug targeting *in vivo* (mouse), **148**, 357
- Plasmodium yoelii*-infected, nucleoside permeation (mouse), **145**, 1134
- ubiquitin-protein ligase system component, alterations during maturation (rabbit), **145**, 658
- Erythroid cells
- fetal liver, identification of erythropoietin receptors (mouse), **148**, 443
- Erythroid differentiation factor
- purification and characterization (human leukemia cells), **142**, 1095; *erratum*, **144**, 1349
- stimulation of
- follicle-stimulating hormone release from pituitary cells (rat), **146**, 1382
- polyphosphoinositide hydrolysis in Friend erythroleukemia cells (mouse), **146**, 187
- Erythropoietin
- stimulation of erythroid progenitor cells, regulation by lipoxygenase metabolites (murine liver), **147**, 392
- Erythropoietin receptors
- functional, expression on interleukin-3-dependent cell line, **146**, 7
- identification on fetal liver erythroid cells (mouse), **148**, 443
- Erythrotropin
- like factor of Cohn Fraction V, N-terminal amino acid sequence, comparison with insulin-like growth factor II (bovine), **149**, 1026
- Escherichia coli*
- adaptive response, induction by methyl iodide without appreciable mutagenicity, **144**, 447
- chromosomes, Tn5 transposition from λ b221 cl857 *Pam Oam*, effect of Lon-SulA regulatory function, **142**, 879
- cloning of *Pseudomonas putida* glyoxalase I gene, **147**, 831
- expression of
- cDNA encoding human basic fibroblast growth factor, **146**, 470
- proinsulin gene, high-pressure infrared spectroscopy, **146**, 232
- induction of protein kinase C translocation in human polymorphonuclear leukocytes, **147**, 787
- lyophilized cells, desorbed polar lipids, mass spectral analysis, **142**, 194
- radiation-killing and thymine release from thymidine, role of superoxide radicals, **147**, 778
- recombinant human phenylalanine hydroxylase production, effect of *para*-chlorophenylalanine, **142**, 302
- and *Saccharomyces cerevisiae*, DNA sequences capable of directing gene transcription in both organisms, isolation method, **149**, 846
- temperature-sensitive growth, responsible Rts 1 DNA fragment, identification, **142**, 1084; *erratum*, **143**, 797
- transformation, effect of polymyxin B nonapeptide, **143**, 923
- Esterification
- cholesterol
- impairment in primary neuroglial cultures from neonatal mice with lysosomal cholesterol storage disorder, **143**, 233
- inhibition, effect on low-density lipoprotein receptor levels in fibroblasts (human), **145**, 350
- in J 774 monocyte-like cells, inhibition by dibutyl cAMP (mouse), **142**, 120
- Estradiol
- hydroxylation by cytochrome P-450 (rat brain), **147**, 1245
- induced lipolytic defect in adipocytes, effect on adenylate cyclase stimulatory regulatory protein (hamster), **145**, 369
- stimulation of progesterone receptor synthesis, effect of phenol red (MCF-7 cells), **142**, 724
- type 17 β , conversion to reactive embryotoxic intermediates by cytochrome P-450-dependent bioactivating systems (rat), **145**, 402
- Estradiol 17 β -dehydrogenase
- inhibition by periodate-oxidized NADP⁺ (human placenta), **146**, 645
- Estradiol receptors
- molybdate-stabilized, 85–90K nonhormone binding component, N-terminal sequence (bovine uterus), **143**, 218
- role of copper (rat uterus), **144**, 505
- Estrogen
- mediation of lipid metabolism in aortic smooth muscle (human), **144**, 284
- Estrogen receptors
- affinity-purified, reactivation by bovine histone H2B-derived peptides (rabbit uterus), **149**, 823
- antibodies, increased incidence in patients with autoimmune disorders, **145**, 1342
- Ethanol
- chronic consumption during pregnancy, effect on polyamine and diamine oxidase levels in embryonal, fetal, and maternal tissues (rat), **142**, 843
- dietary, effects on hepatic carnitine palmitoyltransferase activity and sensitivity to malonyl-CoA (rat), **149**, 443
- and exercise, effects on cellular Ca²⁺ levels in primary myocardial cells from offspring (pregnant rat), **142**, 496
- induction of Met⁵-enkephalinamide conformational changes in aqueous solution, ¹H NMR, **143**, 126
- inhibition of dual receptor stimulation of pineal cAMP and cGMP by porcine vasoactive intestinal peptide and phenylephrine (rat), **147**, 145
- nonoxidative metabolism in leukocytes, assay (human), **142**, 979
- 7-Ethoxycoumarin O-deethylase
- constitutive activity of placental microsomes, relationship to aromatase (human), **145**, 1012
- 7-Ethoxyresorufin O-deethylase
- in hair roots: potential marker for toxifying species of cytochrome P-450 isozymes (human), **148**, 755
- Ethylene dibromide
- induction of DNA damage at low doses (rat liver), **141**, 723; *erratum*, **142**, 1121

Subject Index

mono-Ethylhexyl phthalate

modulation of protein kinase C *in vitro* (murine, rat brain), **142**, 567

4-(4,6-*O*-Ethylidene- β -D-glucopyranoside)

and exogenous DNA, interactions with leukemia cell topoisomerase II, implications for cellular drug sensitivity (human), **144**, 787

N-Ethylmaleimide

differential inactivation of vitamin K-dependent carboxylase and oxygenase, **148**, 184

isolation of lamin A higher-molecular-weight form in presence of, analysis (rat liver), **149**, 417

stimulation of synaptosomal ATP-dependent Ca^{2+} uptake (rat brain), **144**, 1273

24-Ethylsterol

effects on paclobutrazol-inhibited sterol synthesis (*Apium graveolens*), **146**, 510

Exercise

swim-training, and ethanol, effects on cellular Ca^{2+} levels in primary myocardial cells from offspring (pregnant rat), **142**, 496

Eye

cornea, platelet-activating factor accumulation after injury, relationship to synthesis of lipoxygenase products (rabbit), **149**, 915

lens

band 3 and ankyrin homologs: evidence for all major erythrocyte membrane components in same nonerythroid cells (human), **149**, 266

diabetic cataractogenesis, ^2H NMR spectroscopy (rabbit), **142**, 359

fiber cell plasma membranes, limited proteolysis of gap junction protein (bovine), **147**, 846

fiber junction protein MP26, structural analysis by cyanogen bromide cleavage (bovine, chicken, human), **147**, 1013

near infra-red sensitivity (*Mysis relicta*), **147**, 747

retina, *see* Retina

rod outer segment, inositol 1,4,5-trisphosphate levels, light-stimulated rapid and transient increase (toad), **146**, 1392

F

Fabry's disease

fibroblasts, internalization and fate of α_2 -macroglobulin- α -galactosidase conjugate (human), **142**, 100; **143**, 954

Factor VIII

terminal domains coexpressed with recombinant vaccinia viruses, procoagulant activity (human), **145**, 234

Factor XIII

activation by calpain (human platelets), **144**, 484

binding to $\text{A}\alpha$ - and $\text{B}\beta$ -chains in D-domain of fibrinogen, immunoblotting analysis (human), **147**, 608

Fast atom bombardment mass spectrometry

with microbore HPLC, analysis of peptide mixtures using continuous flow interface, **146**, 291

Fat

dietary, stimulation of intestinal membranous and secreted alkaline phosphatase mRNA (rat), **145**, 363

Fatty acid ethyl ester synthase

detection in leukocytes (human), **142**, 979

Fatty acids

acyl dihydroxyacetone phosphate exchange reaction, mechanism, **145**, 1177

binding proteins

from myocardium and adipose tissue, isolation and partial characterization, relationship to analogous proteins in liver and gut (rat), **148**, 1370; *erratum*, **149**, 1222

role in transport and storage of retinoids, **147**, 899

free, in brain, effect of BN 52021 after ischemia-reperfusion-induced injury (gerbil), **149**, 580

membrane, composition in heart (obese rat), **146**, 589

in microemulsions, interesterification by *Candida cylindracea* lipase, **146**, 361

omega-6, inhibition of retinoic acid interaction with binding protein, **147**, 25

polyunsaturated, effect on free radical generation in tumor cells *in vitro* (human), **145**, 15

saturated and *trans*-unsaturated, induction of superoxide generation in intact and cell-free preparations (human, porcine neutrophils), **144**, 606

unsaturated

activation of Ca^{2+} -regulated protein kinases, **147**, 1041

differential response of protein kinase C distinct forms (rat brain), **145**, 797

uptake by cultured fibroblasts and adipocytes, stimulation by serum protein (human), **144**, 94

Ferritin

molecular dimers, purification and characterization (rabbit liver), **148**, 1363

role in acetaldehyde-mediated lipid peroxidation (rat liver), **143**, 984

 α -Fetoprotein

encoding gene

binding protein, detection in α -fetoprotein-producing hepatomas (rat), **143**, 110

expression in isogenic hepatoma cell lines, relationship to DNA methylation (rat), **143**, 447

Fibrinogen

binding to platelets, inhibition by ajoene (human), **141**, 145; *erratum*, **144**, 1348

D-domain $\text{A}\alpha$ - and $\text{B}\beta$ -chains, factor XIII binding, immunoblotting analysis (human), **147**, 608

Fibrinolysis

by magnetic urokinase, demonstration (human urine), **148**, 392

Fibroblast growth factor

acidic

in brain, retina, and vitreous humor, characterization (chicken embryo), **146**, 478

and human angiogenin, induction of angiogenesis in chicken chorioallantoic membrane (bovine), **146**, 1122

basic

amino acid sequence (human placenta), **144**, 543

Subject Index

- angiogenic effects, *in vivo* model (rat kidney), **147**, 876
 antiserum to, cross-reactivity with pituitary-derived growth factor (human), **144**, 1128
 from benign prostatic hyperplastic tissue, amino-terminal sequence (human), **142**, 702
 in brain, retina, and vitreous humor, characterization (chicken embryo), **146**, 478
 and endothelial cell-stimulating angiogenesis factor, synergistic effect on microvascular endothelial cell proliferation, **143**, 947
 expression of encoding cDNA in *Escherichia coli* (human), **146**, 470
 synthesis in cultured pigment epithelial cells (bovine retina), **143**, 934
 detection in extracellular matrix produced by endothelial cells *in vitro*: implications for binding to heparin-related glycosaminoglycans (bovine), **142**, 428
 enhancement of interleukin 1-mediated protease release by chondrocytes (rabbit), **142**, 448
 induction of
 angiotensin-converting enzyme in vascular endothelial cells *in vitro* (porcine aorta), **145**, 1211
 early and late mitogenic events in epithelial lens cells, role of phosphoinositide hydrolysis (bovine), **146**, 32
 radioiodinated, rapid enzymatic degradation *in vitro* by serum, role in radioimmunoassay (human), **145**, 775
- Fibroblast growth inhibitor
 reaction with antibodies to mammary-derived growth inhibitor (bovine), **148**, 1425
- Fibroblasts
 adhesion to plastic substrates, effects of crude and purified glycosaminoglycan lyases (mouse), **144**, 986
 from Alzheimer's disease patients, normal repair of *N*-methyl-*N'*-nitro-*N*-nitrosoguanidine-induced DNA damage as determined by alkaline elution, **149**, 355
- Balb/C 3T3
 epidermal growth factor-treated, cytoplasmic Ca²⁺ levels, augmentation by insulin-like growth factor II (mouse), **142**, 275
 monovalent cation transport, effect of heparin-binding growth factors (mouse), **144**, 115
 prostaglandin synthesis, phorbol ester-induced, relationship to ornithine decarboxylase induction (mouse), **139**, 186; *erratum*, **142**, 287
- cell growth phase, effect on cold shock-induced apoptosis (Chinese hamster), **145**, 876
- c-fos* mRNA, induction by
 reperfusion after oxygen deficiency stress (human skin), **149**, 1093
 12-*O*-tetradecanoylphorbol-13-acetate during cell cycle (human), **147**, 716
- collagen biosynthesis, regulation by serum (human), **145**, 639
- derived growth factor, mitogenic and chemoattractant effects on endothelial cells (bovine), **144**, 705
- derived urokinase inhibitor, comparison with protease nexin (human), **149**, 866
- from Fabry's disease patient, internalization and fate of α_2 -macroglobulin- α -galactosidase conjugate, **142**, 100; **143**, 954
- fatty acid uptake and triglyceride synthesis *in vitro*, stimulation by serum protein (human skin), **144**, 94
- fibronectin and types I and III procollagen mRNAs, effect of prostaglandin E₂ (human skin), **147**, 1282
- immortalization, associated post-translational changes in expression of mitogen-regulated protein (murine embryo), **147**, 467
- IMR-90, glycoprotein fucosylation increase during senescence *in vitro* (human), **142**, 767
- like cells, diploid, confluent populations of different *in vitro* ages, histone variant synthesis patterns (human), **149**, 791
- low-density lipoprotein receptor levels, effect of inhibition of cholesterol esterification (human), **145**, 350
- nerve growth factor gene expression, enhancement by retinoic acid (mouse), **149**, 510
- NIH-3T3
ras-transformed, platelet-derived growth factor-stimulated prostaglandin E₂ release, role of phospholipase C (mouse), **145**, 1254
 recombinant human phenylalanine hydroxylase production, effect of *para*-chlorophenylalanine (mouse), **142**, 302
 transfected with human tumor DNA, expression of transformed phenotype, inhibition by swainsonine (mouse), **142**, 348
- normal and *ras*-transformed, characterization of protein kinase C (mouse), **146**, 140
- nuclear binding of triiodothyronine, inhibition by antimycin (human), **147**, 1241
- quiescent 3T3, stimulation by phosphatidic acid-containing liposomes, **145**, 228
- sensitivity to catecholamines, reduction in Werner's syndrome (human), **145**, 183
- from skin of patients with Duchenne muscular dystrophy, abnormal protein metabolism *in vitro*, **145**, 1
- Swiss 3T3
 adsorption and metabolism of vitamin K (mouse), **147**, 731
 binding to growth stimulating-/cholecystokinin releasing-peptides, competition with epidermal growth factor (rat), **145**, 646
 ornithine decarboxylase mRNA, induction by 12-*O*-tetradecanoylphorbol-13-acetate (mouse), **147**, 219
- 3T6, permeabilization induced by Sendai virus and extracellular ATP, comparative analysis, **148**, 560
- transformed GTP-binding protein detection (mouse), **149**, 686
- uptake of proline: evidence for high-affinity system in addition to system A (human), **142**, 221
- virus-transformed
 adenylate cyclase activation, effects of NaF, cholera toxin, and forskolin (mouse), **146**, 47
 malignant progression by transfer of *v-fos* oncogene (rat), **149**, 173
 restoration of density-dependent growth arrest by antisense RNA to *c-fos* gene (mouse), **147**, 288
- Fibromatosis
 multiple, with multiple articular dysplasia, synthesis of type IV collagen (human), **147**, 275

Subject Index

Fibronectin

- mRNA, steady-state levels in normal dermal fibroblasts, effect of prostaglandin E₂ (human), **147**, 1282
- N-glycansulfated, synthesis by endothelial cells, **147**, 920
- storage in peripheral blood granulocytes (human), **146**, 1132
- synthesis by smooth muscle cells, effect of heparin (human), **148**, 1264

Films

- monomolecular, mixed phospholipid-cardiotoxin, analysis by surface fluorescence spectroscopy (*Naja mossambica mossambica*), **143**, 506

Fish eye disease

- and lecithin-cholesterol acyltransferase deficiency, genetic analysis in patients using cDNA clone for lecithin-cholesterol acyltransferase, **148**, 161

Flavin

- chromophore, identification in yellow fluorescent protein of *Vibrio fischeri*, **146**, 101

Flavocytochrome b₂

- interaction with cytochrome c, ¹H NMR study (*Hansenula anomala*), **145**, 1098

Flow cytometry

- in analysis of hepatocytes from different acinar zones (rat), **147**, 535

N-2-Fluorenylacetamide

- effect on mRNA transcripts of insulin and epidermal growth factor receptors (rat liver), **146**, 87

Fluorescein 5'-isothiocyanate

- labeling site on Na⁺,K⁺-ATPase, immunochemical analysis (ovine kidney), **148**, 246

Fluorescein mercuric acetate

- displacement of zinc from bovine cardiac cytochrome oxidase, **143**, 1030

Fluorescence

- in analysis of yeast enolase conformation, **147**, 329
- constant and variable, chlorophyll *a*, separation method (*Dunaliella tertiolecta*), **149**, 385
- decay kinetics of NADH, origin of heterogeneity, **144**, 387
- 1,6-diphenyl-1,3,5-hexatriene, lifetime distribution, in analysis of erythrocyte membrane structure (human), **147**, 460
- energy transfer, in enkephalinase assay with fluorescent substrates, **143**, 58
- fura-2 and 2,7-biscarboxyethyl-5(6)-carboxyfluorescein, in estimation of intramitochondrial pCa and pH (rat heart), **149**, 40
- time-dependent, in assay for apurinic sites in DNA (bovine thymus), **143**, 768

Fluorescence microscopy

- fura-2-loaded cardiomyocytes, in assay for intracellular Ca²⁺ (rat), **147**, 120

Fluoride

- effect on ³¹P NMR spectra of alveolar macrophages and lymphoid tumor cells (rabbit), **147**, 519

Fluoroaluminate

- stimulation of arachidonate release and inositol 1,4,5-triphosphate synthesis in platelets (human), **146**, 659

5-Fluorocytidine

- suppression of nuclear ADP-ribosyltransferase (Ehrlich ascites tumor cells), **142**, 468

Fluorometry

- in measurement of Ca²⁺ mobilization by muscarinic receptors in astrocytoma cells with quin 2 (human), **147**, 182

5'-p-Fluorosulfonylbenzoyladenosine

- reaction with catalytic and AMP allosteric sites of microsomal 3-hydroxy-3-methylglutaryl-CoA reductase kinase (rat liver), **148**, 1009

5-Fluoro-4-thio-2'-deoxyuridine 5'-phosphate

- interaction with thymidylate synthase, role of pyrimidine N(3)-H dissociation (mammalian tumor cells), **149**, 1200

Fodrin

- like protein, identification in hepatic basolateral membranes (rat), **145**, 1033

Follicles

- cellular 1-methyladenine synthesis, regulatory role of cAMP (starfish), **147**, 8
- enlargement, effect on concentration of epidermal growth factor-like activity in follicular fluid (pig), **147**, 242

Follicle-stimulating hormone

- induction of granulosa cell differentiation *in vitro*, inhibition by interleukin 1 (rat), **149**, 502
- regulation of renin gene expression (rat ovary), **146**, 989
- release

- by pituitary cells, stimulation by erythroid differentiation factor (rat), **146**, 1382

- in vitro*, specific inhibition by follistatin (rat pituitary cells), **149**, 133

- stimulation of inhibin production by testis, effect of β-endorphin (rat), **148**, 1513

- suppressing polypeptides structurally different from inhibin, isolation (bovine follicular fluid), **149**, 744

- time-dependent effects on progesterone metabolism by cultured granulosa cells (rat), **144**, 67

Follistatin

- 32- and 35-kDa forms, specific inhibition of follicle-stimulating hormone release *in vitro* (rat pituitary cells), **149**, 133

Polyglutamate

- analysis in *Leishmania major*, **146**, 1089

Formate dehydrogenase

- lactic dehydrogenase cycle, experimental evidence for zero-order ultrasensitivity (rabbit muscle, yeast), **149**, 615

- tungsten-containing, from *Clostridium thermoaceticum*, EPR analysis, **149**, 424

2-Formylaminofluorene

- formation from 2-nitrofluorene (rabbit, rat), **142**, 376

1-Formylaminopyrene

- formation from 1-nitropyrene (rabbit, rat), **142**, 376

Formyl-methionyl-leucyl-phenylalanine

- effect on cytoskeletal actin levels in neutrophils (rabbit), **145**, 934

induction of

- phospholipase A₂ in HL-60 cells, synergistic regulation by diacylglycerol and Ca²⁺ in protein kinase C-independent mechanism, **144**, 683

- superoxide production in granulocytes, enhancement by recombinant granulocyte colony-stimulating factor (human), **144**, 1143

Subject Index

- potentiation of phospholipase C membrane activity in DMSO-differentiated HL-60 cells, regulation by chemotactic peptide, Ca^{2+} , and guanidine nucleotides, **145**, 825
 stimulated neutrophils
 Ca^{2+} mobilization, correlation with respiratory burst activation (rabbit), **144**, 794
 degranulation, role of cytosolic free Ca^{2+} (human), **145**, 976
 diacylglycerol kinase translocation (guinea pig), **144**, 1025
 G-protein dissociation, GTP-GDP exchange, and GTPase activity, effects of phorbol ester treatment (rabbit), **143**, 489
 inositol bisphosphate isomers, identification (human), **144**, 264
 oscillatory behavior (human), **147**, 361
 superoxide production
 effect of R 59022 (human), **143**, 630
 potentiation by R 59022, effects of leupeptin and H-7 (rabbit), **148**, 38
- Forskolin
 activation of interleukin-2 receptor genes (human YT cells), **143**, 753
 effect on
 acetylcholine receptor channel properties in myotubes (rat), **147**, 1000
 adenylate cyclase activation in v-Ki-ras-transformed fibroblasts (mouse), **146**, 47
 glycogenolysis emergence during post-maturational aging (rat hepatocytes), **147**, 724
 induction of cAMP production by cultured adrenal cells, potentiation by phorbol ester, role of Gi protein α subunit (bovine), **146**, 517
 -resistant adenylate cyclase, identification in cultured cells of *Choristoneura fumiferana*, **145**, 1192
- Fourier transform infrared spectroscopy
 aqueous protein mixtures, use of attenuated total internal reflectance cell with infrared fibers, **142**, 1059
- Free radicals
 fragmentation of proteins in lipid environment, protective effects of vitamin E (rat liver), **148**, 1277
 generation in tumor cells *in vitro*, enhancement by polyunsaturated fatty acids (human), **145**, 15
- Fructose-1,6-bisphosphatase
 effects of D-glucose anomers (yeast), **143**, 212
- Fructose-2,6-bisphosphatase
 -6-phosphofructo-2-kinase, isolation of encoding cDNA (rat liver), **143**, 1092; *erratum*, **145**, 637
- Fructose 2,6-bisphosphate
 binding of Zn(II), **143**, 206
 glycolytic and gluconeogenic enzymes, effects of chronic uremia (rat liver), **144**, 352
- Fructose-bisphosphate aldolase
 effect on dissociation-induced inactivation of muscle phosphofructokinase (rabbit), **147**, 1121
 interaction with tubulin, demonstration by gel electrophoresis (rabbit muscle), **146**, 827
- FSH, *see* Follicle-stimulating hormone
 FT-IR, *see* Fourier transform infrared spectroscopy
- Fucosylation
 glycoproteins, increase in IMR-90 fibroblasts during senescence *in vitro* (human), **142**, 767
- Fura 2
 in assay for intracellular Ca^{2+} using fluorescence microscopy (rat cardiomyocytes), **147**, 120
 fluorescence, in estimation of intramitochondrial pCa and pH (rat heart), **149**, 40
 monitoring of Ca^{2+} transients in platelets, effects of protein kinase C activation and inhibition (human), **145**, 66
- G**
- GABA, *see* γ -Aminobutyric acid
- Galactosialidosis
 restoration of fibroblast enzyme activities by 46-kDa protein (human), **144**, 138
- α -Galactosidase
 - α_2 -macroglobulin conjugate, endocytotic internalization by cultured fibroblasts from Fabry's disease patient, **142**, 100; **143**, 954
- β -Galactosidase
 activity in fibroblasts from patients with galactosialidosis, effect of 46-kDa protein, **144**, 138
 from epididymal fluid, binding to epididymal membranes, analysis (rat), **143**, 799
- Galactosylsphingosine
 tissue levels, relationship to globoid cell leukodystrophy (mouse), **144**, 41
- Galanin receptors
 identification and characterization in brain (rat), **144**, 298
- Ganglia
 autonomic, atrial natriuretic factor levels (rat), **145**, 196
 sympathetic, reduction in nerve growth factor receptors in aged mice, **146**, 797
- Gangliosides
 fucosyl GM₁, antibodies to, effect on cAMP production in FRTL5 thyroid cells (rat), **143**, 848
 GM₃, modified, regulation of transmembrane signaling mechanism, role of epidermal growth factor receptors (human A431 cells), **147**, 127
- Garlic oil
 extract, hypolipidemic effect in high sucrose and alcohol diets, mechanism (rat), **142**, 1046
- Gastric acid
 secretion by parietal cells, inhibition by human calcitonin gene-related peptide (guinea pig), **146**, 430
- Gastric gland
 cytosolic protein kinase, identification and characterization (rabbit), **142**, 559
- Gastrins
 purification and amino acid sequencing (chinchilla), **143**, 7
 type 17, amino-terminal peptide, identification in duodenal ulcer disease (human), **146**, 884
- GDP (guanosine 5'-diphosphate)
 effect on interactions between chloroplast EF-Ts and chloroplast and *Escherichia coli* EF-Tu, **148**, 1490

Subject Index

- eIF-2 phosphorothioated complex, inhibition of protein synthesis in hemin-supplemented reticulocyte lysates (rabbit), **147**, 772
- GTP exchange in formyl-methionyl-leucyl-phenylalanine-stimulated neutrophils, effects of phorbol ester treatment (rabbit), **143**, 489
- Gelatinase
 - synthesis by granulation tissue, stimulation by tumor necrosis factor (rat), **142**, 791
- Gel electrophoresis
 - tubulin-glycolytic enzyme interactions (bovine brain, rabbit muscle), **146**, 827
- Gel permeation chromatography
 - in analysis of recombinant tumor necrosis factor- α dissociation, **147**, 740
- Genes
 - alkaline-inducible cytochrome *P*-450, isolation and characterization (*Candida tropicalis*), **144**, 251
 - α -amylase, promotor activity, regulation by palindromic sequence (*Bacillus subtilis*), **146**, 73
 - amyloid β protein, on human chromosome 21, homolog localization on murine chromosome 16, **144**, 1069
 - apolipoprotein B-100, structural analysis (human), **144**, 1332
 - apolipoprotein CII, expression defect in patient with familial apolipoprotein CII deficiency, **148**, 320
 - atrial natriuretic factor, expression in
 - Cos 7 cells, analysis (human), **143**, 288
 - dilated cardiomyopathy, analysis (human heart), **148**, 211
 - L cells, regulation (mouse), **144**, 402
 - calcitonin, related peptides
 - ¹²⁵I-labeled, characterization of affinity binding sites in rat brain and heart (human), **146**, 443
 - inhibition of gastric acid secretion by guinea pig parietal cells (human), **146**, 430
 - low-molecular-weight forms, *in vitro* production and characterization (rat thyroid), **144**, 883
 - mRNA levels in cultured thyroid C cells, effects of 1,25-dihydroxyvitamin D₃ (human), **149**, 239
 - carcinoembryonic antigen, molecular cloning: identification of signal peptide and N-terminal domain sequences of nonspecific cross-reacting antigen (human), **146**, 464
 - c-erbB-2*, encoded product, identification as glycoprotein phosphorylated on tyrosine residues in epidermal growth factor-stimulated KB cells (human), **144**, 699
 - c-fos*
 - antisense RNA, restoration of density-dependent growth arrest in transformed fibroblasts (mouse), **147**, 288
 - encoded protein, evaluation as protein phosphatase inhibitor, **143**, 194
 - expression
 - and DNA synthesis in lymphocytes, effects of phorbol ester and Ca²⁺ ionophore (human), **148**, 435
 - in human and murine cell lines, induction by herpes simplex virus type 2, **143**, 1055
 - induction by 12-*O*-tetradecanoylphorbol-13-acetate during cell cycle (human fibroblasts), **147**, 716
 - regulation by colony-stimulating factor, **148**, 1001
 - tissue-specific methylation (adult chicken), **149**, 313
 - c-Ha-ras*, encoded product, inhibition of cAMP-binding protein degradation (human), **146**, 731
 - chimeric, composed of Ig-derived V regions and T-cell receptor-derived C regions, construction, **149**, 960
 - chloramphenicol acetyltransferase, expression regulation by *P*-450IA1, effect of Ha-MSV enhancer and comparison of transient with stable transformation assays (human), **148**, 857
 - chromatin-associated, with different transcriptional activities, differential stability of higher order structure (rat liver), **146**, 270
 - chromogranin A, localization on chromosome 14 (human), **142**, 141
 - c-Ki-ras*, activated, identification in osteosarcoma cells (human), **146**, 395
 - c-myc*, expression
 - and DNA synthesis in lymphocytes, effects of phorbol ester and Ca²⁺ ionophore (human), **148**, 435
 - encoded protein, evaluation as protein phosphatase inhibitor, **143**, 194
 - epidermal growth factor-induced, in breast cancer cells, inhibition by transforming growth factor β (human), **144**, 1197
 - in gastrointestinal malignancies, analysis (human), **146**, 699
 - in heart, induction by hemodynamic load *in vivo* (rat), **147**, 627
 - in hepatoma cells, effects of teleocidin (human), **145**, 549
 - in liver, age effects (rat), **147**, 1
 - during liver regeneration, effect of actinomycin D (rat), **144**, 1049
 - regulation by colony-stimulating factor, **148**, 1001
 - corticotropin-releasing hormone, placental expression (human), **148**, 1208
 - creatine kinase, copy number determination (human), **144**, 1116
 - cytochrome *P*-450
 - encoding lanosterol 14 α -demethylase, isolation and expression in *Saccharomyces cerevisiae* (*Candida tropicalis*), **146**, 1311
 - transcription in whole animal and hepatoma cell culture, differential effects of cycloheximide (rat), **148**, 1118
 - cytochrome *P*-450e, variant isolation and characterization (rat liver), **144**, 258
 - dihydrofolate reductase, stable transfer into deficient cell line with human adenovirus vector (mouse), **147**, 964
 - dnab*, product identification (*Bacillus subtilis*), **145**, 861
 - E1A, adenovirus type 12, analysis of promoters in cell-free transcription system, **146**, 783
 - early competence, JE and KC, differential regulation in peritoneal macrophages in response to lipopolysaccharide (mouse), **149**, 969
 - enzymatic amplification, in analysis of DNA extracted from formalin-fixed paraffin-embedded tissues (human), **142**, 710
 - α -fetoprotein
 - binding protein, detection in α -fetoprotein-producing hepatomas (rat), **143**, 110

Subject Index

- expression in isogenic hepatoma cell lines, relationship to DNA methylation (rat), **143**, 447
- fibrillar collagen, differential expression during callus formation (rat), **142**, 536
- globin, promoters, role in hybrid gene expression in erythroid and nonerythroid cells (human), **143**, 1099
- α -globin, replicated, nucleosome segregation (mouse), **145**, 1064
- γ -globin, expression in neonatal erythroid progenitors, augmentation by butyric acid analogs (human), **148**, 694
- α_{2u} -globulin, glucocorticoid receptor binding, analysis, **149**, 1099
- glycosphingolipid antigen, transfer for expression in murine lymphoma cells by transfection with cosmid genomic library prepared from human Burkitt lymphoma cells, **143**, 716
- glyoxalase I, molecular cloning in *Escherichia coli* (*Pseudomonas putida*), **147**, 831
- Ha-ras, activation in *N*-methyl-*N'*-nitro-*N*-nitrosoguanidine-transformed C3H 10T1/2 cells, **147**, 1194
- Ha-ras-1, 5' region, clustering of undermethylated sequences (human leukemia cells), **145**, 96
- homeobox-containing
- embryonic transcription, analysis (*Brachydanio rerio*), **149**, 1165
 - modulated expression in differentiating intestinal cells (human), **146**, 751
- hst*, genomic clone with transforming activity, isolation from patient with acute leukemia, **142**, 1019
- 21-hydroxylase, polymorphic mutations, prevalence in salt-losing congenital adrenal hyperplasia (human), **142**, 798
- insulin-like growth factor II, identification of leader exon (rat), **148**, 344
- interleukin-2 receptor, activation by forskolin and cAMP analogs (human YT cells), **143**, 753
- lactate dehydrogenase-A promoter-CAT fusion, induction by cAMP (CHO cells), **147**, 501
- lactate dehydrogenase-X, cDNA isolation and sequence determination (mouse), **146**, 964
- lecithin-cholesterol acyltransferase, analysis in patients with enzyme deficiency and fish eye disease, **148**, 161
- liver-specific, expression in Morris hepatomas (rat), **143**, 624
- M2, loss of amplification, association with reversion in hydroxyurea resistance (CHO mutants), **145**, 1276
- α_2 -macroglobulin
- AT-cluster in first intron, interaction with nuclear factor (rat), **147**, 824
 - nuclear matrix association regions, identification (rat liver), **149**, 449
- nerve growth factor, expression enhancement by retinoic acid (murine L cells), **149**, 510
- N-ras
- activation mechanism in leukemia cells, detection by synthetic oligonucleotide probes (human), **147**, 870
 - point mutation at codon 13, detection in stomach cancer cells (human), **146**, 247
- oncogenic
- colorimetric detection, **143**, 323
 - expression in
 - developing liver and hepatomas, analysis (human), **142**, 932
 - Morris hepatomas, analysis (rat), **143**, 624
 - ornithine transcarbamylase, deficient mutants, analysis (mouse), **146**, 1064
 - pancreatic secretory trypsin inhibitor, primary structure (human), **149**, 635
 - P-450IA1, upstream regulatory sequences expressing chloramphenicol acetyltransferase gene, effect of Ha-MSV enhancer and comparison of transient with stable transformation assays (human), **148**, 857
 - plasminogen activator, expression in kidney, inhibition by dexamethasone (swine), **143**, 329
 - poly(ADP-ribose) polymerase, expression in HL-60 cells during differentiation (human), **146**, 403; *erratum*, **148**, 1549
 - preprorenin, in mammalian expression vector, cloning in *Escherichia coli*, requirement for bacteriophage transcription terminator (human), **143**, 593
 - proinsulin, expression in *Escherichia coli*, high-pressure infrared spectroscopy, **146**, 232
 - protein kinase C isozyme-encoding, identification as discrete units (rat brain), **149**, 946
 - PS1A1 and PS1A2, identification of photosystem I reaction center polypeptides as encoded products (spinach chloroplasts), **143**, 281
 - pseudo-, identification in bacteriophage λ genome, **145**, 330
 - pyruvate carboxylase, isolation (*Saccharomyces cerevisiae*), **145**, 390
 - pyruvate kinase, cDNA cloning and chromosomal assignment (human liver), **143**, 431
- ras
- expression in epithelial cells, effect on adenylate cyclase (rat thyroid), **142**, 527
 - product phosphorylation by protein kinase C, **145**, 782
 - transformed fibroblasts, characterization of protein kinase C (mouse), **146**, 140
- renin, ovarian expression, regulation by follicle-stimulating hormone (rat), **146**, 989
- transforming, detection in acute leukemia cells by transfection using *in vivo* selection assays (human), **147**, 108
- tRNA, clustered, transcriptional efficiency, effect of position within cluster (mouse), **149**, 1118
- tyrosine aminotransferase and gene 33, similarity in hormonal regulation, correlation with developmental regulation (rat liver), **144**, 1182
- U3 small nucleolar RNA, localization in nucleoplasm (HeLa cells), **143**, 658
- v-fos, transfer into transformed fibroblasts, effect on malignant progression (rat), **149**, 173
- v-Ki-ras, transformed fibroblasts, adenylate cyclase activation, effects of NaF, cholera toxin, and forskolin (mouse), **146**, 47
- zein
- adenine methylation (maize), **147**, 1082
 - cloned in yeast under inducible GAL promoter, translational regulation of expression, **146**, 809

Subject Index

- Gilvocarcin V
and aglyclone analog, light-induced modifications of plasmid DNA, **143**, 808
- Ginkgolide B
inhibition of [^3H]platelet-activating factor binding to neutrophil granulocytes (human), **148**, 1412
- Glibenclamid, *see* Glyburide
- α -Globin
replicated gene, nucleosome segregation (mouse), **145**, 1064
- γ -Globin
gene expression in neonatal erythroid progenitors, augmentation by butyric acid analogs (human), **148**, 694
- Globins
cDNA, cloning and sequence analysis (rat), **146**, 618
gene promoters, role in hybrid gene expression in erythroid and nonerythroid cells (human), **143**, 1099
- Globoid cell leukodystrophy
relationship to galactosylsphingosine tissue levels (mouse), **144**, 41
- Globulin
thyroxine-binding, related protein, levels in sera of adult and developing rats, **148**, 1165
- α_{2u} -Globulin
genes, glucocorticoid receptor binding, analysis, **149**, 1099
- Glomerulosa cells
detection of distinct voltage-gated Ca^{2+} channel currents (bovine adrenal cortex), **149**, 1049
formation of inositol 1,3,4,6-tetrakisphosphate, induction by angiotensin II (bovine adrenal), **148**, 199
- Glomerulus
microcirculatory dynamics, effect of lipoxin A (rat), **145**, 408; *erratum*, **147**, 1300
specific binding of atrial natriuretic factor, effect of induced hypertension (rat kidney), **145**, 522
- Glucagon
binding and action in isolated adipocytes from cortisol-treated rat, **145**, 90
effect on glycogenolysis emergence during post-maturational aging (rat hepatocytes), **147**, 724
-insulin ratio, endogenous, effects of acute alteration on mitochondrial function (rat liver), **142**, 315
and related peptide, biological activities (catfish), **143**, 87
secretion by pancreatic α_2 cells, modulation by arginine and glucose, role of cytoplasmic Ca^{2+} (guinea pig), **147**, 309
and vasopressin, synergistic action on hepatic Ca^{2+} uptake, mechanism (rat), **142**, 745
- Glucocorticoid receptors
activated, specific expression in heart and skeletal muscle (rat), **142**, 322
association with DNA- and RNA-containing particles *in vivo* (HeLa S_3 cells), **147**, 1188
binding to defined regions of α_{2u} -globulin genes, analysis, **149**, 1099
nuclear translocation, inhibition by 1-(5-isoquinolinesulfonyl)-2-methylpiperazine (rat hepatocytes), **144**, 152
tyrosine phosphorylation, stimulation by epidermal growth factor (human epithelial cells), **144**, 512
- Glucocorticoids
effect on atrial natriuretic factor gene expression in L cells (mouse), **144**, 402
enzyme induction, inhibition by 1-(5-isoquinolinesulfonyl)-2-methylpiperazine (rat hepatocytes), **144**, 152
induction of fetal adrenocortical cell maturation (sheep), **145**, 999
regulatory element DNA consensus sequences, identification in pBR322, **144**, 1
role in acute-phase response of angiotensinogen to lipopolysaccharide (rat), **145**, 1225
- Glucose
effect on glucagon secretion by pancreatic α_2 cells, role of cytoplasmic Ca^{2+} (guinea pig), **147**, 309
inositol glycan-stimulated utilization by adipocytes, comparison with insulin (rat), **149**, 1084
prior exposure effects on proinsulin conversion in pancreatic islets, **148**, 1418
stimulation of insulin release from insulinoma cells, effect on cAMP production and inositol phospholipid turnover (human), **145**, 263
utilization *in vivo*, enhancement by tumor necrosis factor in macrophage-rich tissues (rat), **149**, 1
- D-Glucose
anomers, effects on cAMP, fructose-1,6-bisphosphatase, and trehalase (yeast), **143**, 212
induction of increase in secondary structure of monosaccharide transport protein (human erythrocytes), **145**, 1087
- Glucose tolerance factor
stimulation of 3-O-methylglucose transport into isolated adipocytes (rat), **144**, 1237
- β -Glucuronidase
plasma clearance, effect of *in vivo* depletion of mannose receptor-bearing cells by ricin A chain (rat liver), **146**, 849
- Glutamate
 ^3H -labeled, binding sites, solubilization (rat adrenal), **142**, 609
release from synaptosomes, inhibition by phenolic antioxidants (guinea pig brain), **146**, 603
- Glutamate-ammonia ligase
active site, independent binding of Mg^{2+} and Mn^{2+} (*Bacillus cereus*), **142**, 475
- Glutamate dehydrogenase
proteolytic inactivation, protection by 2,3-bisphosphoglycerate (bovine liver), **142**, 680
- Glutamate dehydrogenase (NAD(P) $^+$)
cDNAs, comparison (human brain, liver), **149**, 405
- Glutamate receptors
antagonists from orb weaving spider venom, structure and biological activity (*Argiope aurantia*), **148**, 678
- Glutamic acid
ribulose-bisphosphate carboxylase/oxygenase functional role, analysis by site-directed mutagenesis (*Rhodospirillum rubrum*), **145**, 1158
- Glutamine synthetase, *see* Glutamate-ammonia ligase
- γ -Glutamyl hydrolase
in fibroblasts and lymphocytes, inhibition by 2-mercaptopethylglutamic acid (human), **144**, 292

Subject Index

Glutathione

- amino groups, labeling with ^{13}C -enriched phenylisothiocyanate for ^{13}C NMR, **142**, 1064
- cerebral cortex and erythrocyte hemolysate levels, effects of ischemia/recirculation and hypoxia/recovery (rat), **149**, 568
- and cysteine thiol radicals, reaction with oxygen, formation of sulfinyl radicals, **144**, 1037
- effect on mitochondrial nicotinamide-nucleotide transhydrogenase (bovine heart), **142**, 573
- insulin mixed disulfides, nonenzymatic formation, plasma desorption mass spectrometry, **146**, 815
- 1-methyl-4-phenyl-1,2,3,6-tetrahydropyridine-induced depletion in hepatocytes, mechanism (rat), **148**, 153
- oxidized, enhancement of intracellular glutathione levels (rat cardiac myocytes), **147**, 658
- transport in sinusoidal membrane vesicles, characterization (rat liver), **143**, 377

Glutathione disulfide

- effect on mitochondrial nicotinamide-nucleotide transhydrogenase (bovine heart), **142**, 573

Glutathione peroxidase

- detection and induction by oxidation (*Saccharomyces cerevisiae*), **147**, 1200

Glutathione transferase

- catalysis of prostaglandin H_2 transformation to prostaglandin $\text{F}_{2\alpha}$ (rat liver), **142**, 441
- catalytic activity, role of histidine residue (human liver), **143**, 965
- H_a subunit cDNA clone, isolation and characterization (human liver), **145**, 474
- placental, identification as cytosolic polypeptide of pre-neoplastic hepatocyte nodules (rat), **143**, 98

Gluten

- lectin detection by immunoblotting, **142**, 717

Glyburide

- inhibition of ATP-modulated K^+ channel in insulin-secreting cells (rat), **146**, 21

Glycans

- cross-reacting determinant from variant specific glycoprotein, mass spectroscopy and NMR analysis (*Trypanosoma brucei brucei* MITat 1.6), **146**, 1055
- sialylated, transient expression during glycoprotein processing by embryonal carcinomas (mouse), **142**, 489

Glyceraldehyde-3-phosphate dehydrogenase

- induction of phospholipid vesicle fusion, characterization (rabbit muscle), **143**, 403
- interaction with tubulin, demonstration by gel electrophoresis (rabbit muscle), **146**, 827
- proteolytic inactivation, protection by 2,3-bisphosphoglycerate (bovine liver), **142**, 680
- thiols, in lung carcinoma cells, reversible oxidation by hydrogen peroxide (human), **148**, 120

Glycerol esters

- synthesis in microemulsions, catalysis by *Candida cylindracea* lipase, **146**, 361

Glycerol kinase

- detection in extracts of various higher plants and characterization in cucumber radicles, **143**, 977

Glycerophosphate acyltransferase

- mitochondrial, in myopathic heart, effects of dietary selenium (hamster), **144**, 815

Glycerophosphoinositol

- histamine-induced increase in umbilical vein endothelial cells, association with thromboxane and prostacyclin release (human), **144**, 438

Glycerophospholipids

- alkyl-ether, synthesis in glomerular mesangial cells, evidence for alkylidihydroxyacetone phosphate synthase activity (rat), **144**, 666

Glycine

- enhancement of alanine racemase inhibitors, in controlled cell lysis and protoplast formation (*Bacillus subtilis*), **149**, 576
- extended substance P precursor, amidating enzyme, isolation and characterization (human), **148**, 24
- and protocatechualdehyde, enzymatic formation from L-threo-3,4-dihydroxyphenylserine (human brain), **143**, 482
- rich proteins, accumulation in auxin-deprived fruit (*Fragaria ananassa*), **147**, 885

Glycogen

- synthesis in fetal lung, role of lactate (rabbit), **145**, 397

Glycogenolysis

- β adrenergic-responsive, emergence during post-maturation aging (rat hepatocytes), **147**, 724

Glycogen phosphorylase

- effect of insulin-like phospho-oligosaccharide (rat hepatocytes), **147**, 765
- spin-label studies in microemulsion droplets, **148**, 1151

Glycolipids

- synthetic, cross-reactivity with endotoxin lipid A antigenic determinants, analysis with monoclonal antibodies (*Bordetella pertussis*), **143**, 723

Glycophospholipids

- insulin-sensitive, structural analysis (rat liver), **146**, 764

Glycoprotein P

- deficient HL-60 cells, demonstration of adriamycin resistance, **145**, 1171

Glycoproteins

- glycosylation, increase in IMR-90 fibroblasts during senescence *in vitro* (human), **142**, 767
- gp120, from human immunodeficiency virus, T-cell-binding octapeptide, homology with bovine ribonuclease A octapeptide, **143**, 248
- histidine-rich, synthetic peptide mimicking heme-binding site, interaction with heme, **149**, 1070
- membrane, associated with drug-resistant cells, analysis with antibody probes, **143**, 732
- phosphorylated on tyrosine residues in epidermal growth factor-stimulated KB cells, identification as product of *C-erbB-2* gene (human), **144**, 699
- platelet Ib, α and β chains, isolation and characterization (human), **147**, 526
- processing by embryonal carcinomas, associated transient expression of sialylated glycans (mouse), **142**, 489
- variant specific, cross-reacting determinant glycan, mass spectroscopy and NMR analysis (*Trypanosoma brucei* MITat 1.6), **146**, 1055

Subject Index

- variant surface, from *Trypanosoma brucei*, HPLC, **144**, 1222
- Glycosaminoglycans
- cell surface-associated, digestion by crude and purified *Flavobacter heparinum* enzymes, effects on cell adhesion, **144**, 986
 - heparin-related, binding to fibroblast growth factor in extracellular matrix (bovine), **142**, 428
- Glycosidase
- Plasmodium falciparum*-produced, role in parasite invasion of human erythrocytes and cytoadherence to endothelial cells, **143**, 461; *erratum*, **147**, 1301
- Glycosides
- cardiac, stimulation of phospholipase C (rat pinealocytes), **142**, 819
- Glycosphingolipids
- antigens, gene transfer for expression in murine lymphoma cells by transfection with cosmid genomic library prepared from human Burkitt lymphoma cells, **143**, 716
 - metabolic ³H-labeling, effect of retinoic acid (human fibroblasts), **143**, 525
 - from thyrocytes and whole thyroid, comparative phyto-sphingosine content (human), **143**, 827
- Glycosylation
- N-linked, plasma proteins, effects of hydroxyorgano-boranes (human hepatoma cells), **148**, 493
 - sites on O-specific polysaccharide, assay using ¹H/¹³C inversely correlated NMR spectroscopy (*Hafnia alvei* 1187), **146**, 1283
- Glycosylinositol phospholipids
- identification as membrane anchor of *Paramecium* temperature-specific surface antigen, **147**, 1219
- Glyoxalase I, *see* Lactoylglutathione lyase
- Gold
- Au(III), inhibition of activated adenylate cyclase, mechanism (human osteosarcoma), **144**, 1109
- Gold sodium thiosulfate
- inhibition of neutrophil collagenase (human), **144**, 101
- Gonadotropin
- human chorionic, *see* Human chorionic gonadotropin
- Gonadotropin-releasing hormone
- agonists containing L-amino acid derivatives in six position, synthesis, **144**, 1214
 - and associated peptide, cosecretion into hypophyseal portal blood (ovariectomized sheep), **143**, 665
 - precursor, segment 14–26 analogs, luteinizing hormone-releasing activity and receptor binding, analysis (human), **143**, 872
 - stimulated pituitary gonadotrophs, stimulus–secretion coupling mechanisms, effect of phorbol ester (rat), **148**, 1312
- Gonadotropin-releasing hormone receptors
- binding of human gonadotropin-releasing hormone precursor (14–26) analogs, analysis, **143**, 872
- Gossypol
- regulation of DNA degradation (rat), **146**, 1515
- Gramicidin A
- linear, membranous phosphoglyceride-linked biosynthesis by *Bacillus brevis* ATCC 8185, **144**, 203
- Granulocytosis
- neutrophilic, induction by human granulocyte colony-stimulating factor (mouse), **142**, 454
- Granulocytes
- chemotactic peptide-stimulated superoxide release, enhancement by recombinant granulocyte colony-stimulating factor (human), **144**, 1143
 - functional responses to lipoxins A and B (human), **145**, 168
 - neutrophilic, binding of [³H]platelet-activating factor, inhibition by ginkgolide B (human), **148**, 1412
 - peripheral blood, fibronectin storage (human), **146**, 1132
- Granulosa cells
- differentiation, effects of bovine inhibin, porcine transforming growth factor β , and bovine activin A (rat), **146**, 1405
 - follicle-stimulating hormone-induced differentiation *in vitro*, inhibition by interleukin 1 (rat), **149**, 502
 - luteinizing hormone-releasing hormone-stimulated progesterone production, role of protein kinase C (rat), **146**, 939
 - polyphosphatidylinositol hydrolysis and membrane translocation of protein kinase C, induction by prostaglandin F_{2 α} (swine), **149**, 112
 - steroidogenesis, effects of Bay k 8644 and CGP-28392 (chicken), **146**, 314
- Graves' disease
- thyrotropin-stimulating autoantibody from patients, interaction with thyrotropin receptor on rat FRTL-5 thyroid cells, **143**, 266
- Growth factors, *see also* specific growth factors
- brain-derived, neuron localization and neuroblastoma cell expression (bovine), **144**, 81
 - fibroblast-derived, mitogenic and chemoattractant effects on endothelial cells (bovine), **144**, 705
 - heparin-binding
 - acidic, transient activation of adenylate cyclase in arterial smooth muscle cells (human), **146**, 771
 - effect on monovalent cation transport in 3T3 cells (mouse), **144**, 115
- Growth hormone, *see* Somatotropin
- Growth hormone-releasing factor
- analogs substituted with single D-amino acid, synthesis and *in vitro* bioactivity (human), **149**, 531
- Growth inhibitory factor
- secretion by ZR-75-1 breast cancer cells (human), **149**, 642
- GTP (guanosine 5'-triphosphate)
- binding proteins
 - amino-terminal attachment to brain and neutrophil plasma membranes (bovine, human), **148**, 1398
 - detection in green plant (*Lemna paucicostata*), **143**, 908
 - dual role in control of endothelial prostacyclin (bovine), **147**, 1113
 - in etiolated epicotyls, isolation and characterization (*Pisum sativum*), **148**, 133
 - in *Neurospora crassa*, characterization, **146**, 1178
 - stimulation of partially purified phospholipase C from platelet membranes (human), **146**, 861
 - 29-kDa, expressed in brain, kidney, lung, spleen, and transformed NIH3T3 cells, detection (mouse), **149**, 686

Subject Index

- detection of Ca^{2+} -transporting ATPase in placental basal plasma membrane (human), **148**, 126
- GDP exchange in formyl-methionyl-leucyl-phenylalanine-stimulated neutrophils, effects of phorbol ester treatment (rabbit), **143**, 489
- high-affinity binding sites, cytoplasmically exposed, detection on rough endoplasmic reticulum membrane (rat liver), **148**, 478
- hydrolysis, relationship to microtubule assembly, **147**, 588
- photoaffinity probe 8N_3 -[γ - ^{32}P]GTP, decreased incorporation in 45-kDa protein in lung tumors (mouse), **144**, 591
- role in inositol-triphosphate-induced Ca^{2+} release from smooth muscle sarcoplasmic reticulum (rabbit), **144**, 1313
- GTPase**
- in formyl-methionyl-leucyl-phenylalanine-stimulated neutrophils, effects of phorbol ester treatment (rabbit), **143**, 489
- retinal rod turnover rate, effect of photoreceptor membrane levels (bovine eye), **146**, 379
- GTP cyclohydrolase I**
- localization in peripheral blood smears by monoclonal antibody and immune-alkaline phosphatase labeling technique (human), **148**, 1232
- Guanidine**
- effect on resynthesis of insulin from A and B chains (bovine), **146**, 437
- Guanidine hydrochloride**
- inhibition of ADP-ribosylation by type C1 and D botulinum neurotoxins (murine brain), **142**, 1032
- Guanidine nucleotides**
- regulation of phospholipase C in DMSO-differentiated HL-60 cells, **145**, 825
- Guanine**
- metabolism in Duchenne muscular dystrophy, effect of chronic allopurinol therapy (human), **147**, 152
- Guanine nucleotides**
- activation of exogenous phosphatidylinositol 4,5-bisphosphate hydrolysis in plasma membranes (rat liver), **147**, 1088
- binding proteins
- dissociation in formyl-methionyl-leucyl-phenylalanine-stimulated neutrophils, effects of phorbol ester treatment (rabbit), **143**, 489
- enzyme-associated, physiological correlation with nucleoside-diphosphate kinase (Ehrlich ascites tumor cells), **143**, 552
- G_α , identification of hydroxylamine-stable covalent linkage of myristic acid (bovine brain), **146**, 1234
- role in cell-surface receptor coupling to breakdown of inositol-containing lipids during T-lymphocyte mitogenesis (human), **148**, 1223
- regulation of membrane-associated protein kinase C (rabbit peritoneal neutrophils), **142**, 242
- stimulation of ADP-ribosylation by type C1 and D botulinum neurotoxins (murine brain), **142**, 1032
- Guanosine**
- metabolism in Duchenne muscular dystrophy, effect of chronic allopurinol therapy (human), **147**, 152
- Guanosine-3'-diphosphate-5'-diphosphate**
- binding site on RNA polymerase, characterization (*Escherichia coli*), **142**, 964
- Guanosine 5'-O-(2-thiodiphosphate)**
- effects on arachidonic acid release and 1,2-diacylglycerol formation by saponin-permeabilized platelets (human), **148**, 971
- enhancement of thrombin-induced phospholipase C activation in platelets, evidence for inhibitory GTP-binding protein role (human), **144**, 1188
- Guanosine 5'-(γ -thio)triphosphate**
- stimulation of arachidonic acid release from permeabilized peritoneal mast cells (rat), **145**, 1267
- Guanylate cyclase**
- activation by hydrogen peroxide, mechanism (bovine arterial smooth muscle), **143**, 20
- association with atrial natriuretic factor receptor in solubilized glomerular membranes (rat), **145**, 257
- ciliary, effect of tryptic calmodulin fragments (*Paramecium tetraurelia*), **142**, 857
- linked and -free atrial natriuretic factor receptors, purification and characterization (bovine adrenal cortex), **144**, 244
- renal, enhancement by human prepro atrial natriuretic factors 26-55, 56-92, and 104-123 (dog, rabbit, rat), **143**, 186

H

- H-7**, see 1-(5-Isoquinolinesulfonyl)-2-methylpiperazine dihydrochloride
- Hair**
- roots, 7-ethoxyresorufin-O-deethylase activity: potential marker for toxifying species of cytochrome P-450 isozymes (human), **148**, 755
- Haloxypop**
- inhibition of acetyl-CoA carboxylase (*Zea mays*), **148**, 1039
- Harderian gland**
- N-acetyltransferase and hydroxyindole-O-methyltransferase activities, and melatonin levels, effects of light-dark cycle and 6-parachlorophenylalanine administration (female hamster), **145**, 1231
- Harvey murine sarcoma virus**
- core enhancer, effect on P-450IA1 upstream regulatory sequences expressing chloramphenicol acetyltransferase gene (human), **148**, 857
- ras genes, expression in epithelial cells, effect on adenylate cyclase (rat thyroid), **142**, 527
- Hb-Koln disease**
- detection of crosslinked polymers in erythrocyte membranes (human), **147**, 602
- Heart**
- affinity binding sites for [^{125}I]human calcitonin gene-related peptide, characterization (rat), **146**, 443
- atrial natriuretic factor
- correlation with specific binding to renal glomeruli during hypertension (rat), **145**, 522
- deposition as atrial amyloid fibrils (human), **148**, 1087

Subject Index

- encoding gene, expression in dilated cardiomyopathy (human), **148**, 211
- and mRNA levels, simultaneous determination (spontaneously hypertensive rat), **148**, 239
- in spontaneously hypertensive, stroke-prone spontaneously hypertensive, and nonhypertensive rats, comparison, **143**, 316
- chronotropic response, effect of epidermal growth factor (chicken), **146**, 889
- c-myc oncogene expression, induction by hemodynamic load *in vivo* (rat), **147**, 627
- ¹H magnetic resonance imaging and depth-selected EKG-gated ³¹P magnetic resonance spectroscopy combined study *in vivo* (rat), **144**, 841
- hypertrophy, correlation with plasma levels of atrial natriuretic factor in non-spontaneous models of hypertension (rat), **145**, 532
- inositol 4-monophosphate metabolism, analysis (rat), **145**, 59
- myopathic, effects of dietary selenium on lipid peroxidation, mitochondrial function, and protein profiles (hamster), **144**, 815
- neonatal, perfused, characterization of released atrial natriuretic factor (rat), **146**, 547
- norepinephrine-perfused, effect on inositol-(1,4,5)trisphosphate kinase (rat), **148**, 68
- prostaglandin synthesis and membrane fatty acid composition (obese rat), **146**, 589
- reperfusion injury, prevention by allopurinol and oxypurinol, mechanism (pig), **148**, 314; *erratum*, **148**, 1550
- ventricles, synthesis and detection of atrial natriuretic factor (rat), **142**, 483
- Heart failure**
- associated elevation of atriopeptin ventricular and pulmonary levels, analysis (hamster), **148**, 1158
- Heat shock**
- induction of
- peroxidase conferring tolerance to oxidative stress in *Neurospora crassa*, **147**, 904
- protein phosphorylation in soybean seedlings, **148**, 762
- Heme**
- binding to synthetic peptide mimicking heme-binding site of histidine-rich glycoprotein, **149**, 1070
- redox potentials for cytochrome *c*₃, structural assignment with modified arginine (*Desulfovibrio desulfuricans*), **147**, 818
- Heme oxygenase**
- hepatic, effect of phorone (rat), **145**, 502
- Hemin**
- inhibition of virion-associated reverse transcriptase of murine leukemia virus, **149**, 628
- Hemoglobin**
- carbonmonoxy, dissociation of carbon monoxide from α and β subunits (human), **148**, 1196
- oxygen bonding, X-ray absorption near edge structure study (human), **147**, 31
- proportions, changes during bleeding-induced anemia, relationship to plasma prostaglandin E₂ levels (rat), **149**, 1017
- Hemolymph**
- associated basic proteins, identification in Noctuid species, **146**, 265
- Hemopexin**
- species cross-reactivity, analysis with monoclonal and polyclonal antibodies, **144**, 88
- synthesis in hepatoma cells, regulation by hepatocyte-stimulating factor and interferon β_2 (rat), **146**, 1218
- Heparin**
- binding activity of pituitary-derived growth factor (human), **144**, 1128
- binding growth factor, transient activation in arterial smooth muscle cells (human), **146**, 771
- effect on fibronectin and thrombospondin synthesis by smooth muscle cells (human), **148**, 1264
- entry into cells, promotion by viruses, **146**, 1303
- induction of specific protein release from smooth muscle cells (human intestine), **142**, 542
- inhibition of
- 2':3'-cyclic-nucleotide 3'-phosphodiesterase (bovine, human brain), **145**, 686
- inositol trisphosphate-induced Ca²⁺ release from permeabilized liver cells (rat), **149**, 897
- related glycosaminoglycans, binding to fibroblast growth factor in extracellular matrix (bovine), **142**, 428
- Heparinase**, *see* Heparin lyase
- Heparin cofactor II**
- inhibition of thrombin, enhancement by carboxylate polyanions (human plasma), **148**, 362
- Heparin lyase**
- crude and purified forms, digestion of cell surface-associated glycosaminoglycans, effects on cell adhesion (*Flavobacter heparinum*), **144**, 986
- Heparin sulfate**
- synthesis inhibition, relationship to inhibition of molting by selenate (*Rhodnius prolixus*), **146**, 652
- Hepatitis**
- chronic active, detection of calmodulin conformation-recognizing antibody in serum (human), **144**, 191
- Hepatitis B virus**
- detection in intra blood-cerebrospinal fluid barrier (human), **146**, 452
- genomic DNA, colorimetric detection, **143**, 323
- recombinant vaccine, yeast-derived, properties, **149**, 1172
- surface antigen
- DNA sequence, site-directed mutagenesis at codon 160 from arginine to lysine for conversion of subtypic determinant from r to w, **148**, 500
- monoclonal antibody-secreting hybridoma, establishment, **142**, 805
- Hepatocytes**, *see also* Liver
- ATP citrate lyase activity *in vitro*, dependence on cell density (rat), **149**, 118
- Ca²⁺ ionophoretic activity of prostaglandin B₁ oligomers (rat), **143**, 1024
- cytotoxicity of acetaminophen, protective effects of superoxide dismutase and catalase (rat), **149**, 889
- degradation of insulin, identification of A-chain cleavage sites (pig), **147**, 615

Subject Index

- DNA synthesis *in vitro*, stimulation by sodium butyrate (rat), **147**, 78
- NADPH/NADP ratio, role in insulin regulation of pentose phosphate cycle (rat), **146**, 920
- synthesis of apolipoproteins A-IV and C *in vitro*, analysis (lean, obese Zucker rats), **142**, 78
- uptake of sulfobromophthalein glutathione, enhancement by phenobarbital (rat), **149**, 921
- from various acinar zones, flow cytometric analysis (rat), **147**, 535
- Hepatocyte-stimulating factor
- monocyte-derived, isolation and characterization (human), **144**, 1003
 - regulation of hemopexin and cysteine protease inhibitor synthesis in hepatoma cells (rat), **146**, 1218
- Hepoxilin A3
- formation *in vivo* (rat), **147**, 881
- Heptyl-oleate
- synthesis in microemulsions, catalysis by *Candida cylindracea* lipase, **146**, 361
- Herpes simplex virus type 1
- infection of BHK cells, inhibition by neomycin, **141**, 198; *erratum*, **143**, 1112
 - suppression of matrix protein synthesis in smooth muscle cells (bovine), **143**, 145
- Herpes simplex virus type 2
- induction of *c-fos* gene transcription in human and murine cell lines, **143**, 1055
 - replication, inhibition by Δ^7 -prostaglandin A₁ and Δ^{12} -prostaglandin J₂, mechanisms (human embryonic fibroblasts), **146**, 1425
- Hexetidine
- uncoupling of mitochondrial oxidative phosphorylation (rat liver), **147**, 801
- β -Hexosaminidase, *see* β -N-Acetylhexosaminidase
- Hexose
- insulin-stimulated transport by adipocytes, effect of chronic isoproterenol exposure (rat), **148**, 1093
- High-performance liquid chromatography
- microbore, with mass spectrometry, analysis of peptide mixtures using continuous flow interface, **146**, 291
 - rapid microbore mapping, identification of long form cystatin (human saliva), **145**, 1248
 - variant surface glycoproteins from *Trypanosoma brucei*, **144**, 1222
- Hippuran
- N-hydroxysuccinimide ester, application in radiolabeling of serum albumin (human), **144**, 323
- Histamine
- induced phosphoinositide metabolism in umbilical vein endothelial cells, association with thromboxane and prostacyclin release (human), **144**, 438
 - phorbol ester- and DiC8-induced release from basophils, inhibition by protein kinase C inhibitors H-7 and H-9 (human), **144**, 732
 - release from mast cells
 - effects of Ca²⁺ uptake (rat), **143**, 467
 - inhibition by low-density lipoproteins (human lung), **148**, 553
 - role of Ca²⁺, Mg²⁺-ATPase (rat), **144**, 951
- releasing activity of luteinizing hormone-releasing hormone antagonists, analysis, **148**, 849
 - stimulation of inositol phosphate accumulation in cultured endothelial cells, role of H₁-receptor (human), **148**, 47
- Histamine receptors
- H₁, in cultured endothelial cells, role in histamine-stimulated inositol phosphate accumulation (human), **148**, 47
- Histidine
- role in glutathione S-transferase catalytic activity (human liver), **143**, 965
- Histones
- F3, inhibition of 2':3'-cyclic-nucleotide 3'-phosphodiesterase (bovine, human brain), **145**, 686
- H1
- heptapeptide corresponding to fragment 103-109, phosphorylation by protein kinase C, role of lysine residue, **142**, 155
 - inhibition of translation by reticulocyte lysates with relative RNA selectivity (rat muscle), **144**, 329
- H2B, derived peptides, reactivation of affinity-purified rabbit estrogen receptors (bovine), **149**, 823
- H3, binding to high-mobility-group proteins in nucleosomes, photochemical crosslinking study (bovine thymus), **147**, 301
- variant synthesis patterns in confluent populations of diploid fibroblast-like cells of different *in vitro* ages (human), **149**, 791
- HIV, *see* Human immunodeficiency virus
- Hormones
- Ca²⁺-mobilizing, activation of endoplasmic reticulum Ca²⁺ pump of pancreatic acini (rat), **149**, 213
- Human chorionic gonadotropin
- effect on testosterone production by perfused Leydig cells (mouse), **146**, 216
 - α subunit, sulfation in placental explants (human), **148**, 1446
 - upregulation of type I insulin-like growth factor receptors in rat Leydig cells, **149**, 852
- Human immunodeficiency virus
- envelope peptide T, amino acid homology with thymosin α_1 , **145**, 884
 - infection *in vitro*, inhibition by PS-K, **148**, 726
 - long terminal repeat-directed expression, effect of sodium butyrate, **148**, 899
 - replication *in vitro*, inhibition by
 - 3'-azido-2',3'-dideoxyguanosine, **145**, 1080
 - 2',3'-dideoxyriboside of 2,6-diaminopurine, **145**, 269
 - 2',3'-dideoxythymidine and 2',3'-unsaturated derivative, **142**, 128 - reverse transcriptase inhibition by sugar-modified derivatives of thymidine 5'-triphosphate, comparison with cellular DNA polymerases α and β , **148**, 78
 - reverse transcriptase inhibitor, low-energy conformations, **145**, 1356
 - T-cell-binding gp120 octapeptide, homology with bovine ribonuclease A octapeptide, **143**, 248
 - type 1, infection-enhancing factor, detection in seropositive sera, **149**, 693

Subject Index

- Hyaluronate**
cell-surface binding sites on invasive bladder carcinoma cells, demonstration (human), **149**, 249
- Hybridization**
nonradioactive probes, preparation by reaction of biotin hydrazide with DNA (salmon sperm), **142**, 519
oxytocin mRNA *in situ*: macroscopic distribution and assay in hypothalamic cell groups (rat), **145**, 10
- Hybridomas**
secreting monoclonal antibody
to angiotensin II, generation (mouse), **143**, 133
to hepatitis B virus surface antigen, establishment (human), **142**, 805
- Hydrochloric acid**
secretion by parietal cells, role of protein kinase C (guinea pig), **149**, 720
- Hydrocortisone**
effect on insulin binding in erythrocytes (human), **147**, 158
modulation of tumor necrosis factor- α cytotoxicity (L929 cells), **149**, 815
-treated adipocytes, glucagon binding and action (rat), **145**, 90
- Hydrogen**
diffusion in gastric mucin, role of carbohydrates (canine stomach), **142**, 783
-Na⁺ exchanger
protein kinase C-independent activation by platelet-derived growth factor and vanadate, inhibition by cyclosporin A (Swiss 3T3 fibroblasts), **145**, 111
and protein kinase C, role in stimulation of leucine transport by phorbol ester (Chang liver cells), **144**, 900
species differences (rabbit, rat kidney), **144**, 869
stimulation by diferric transferrin reduction (HeLa cells), **145**, 467
- Hydrogenase**
and cytochrome *c*₃, electron exchange, electrochemical study (*Desulfovibrio desulfuricans*), **147**, 1289
inhibition by CO, NO, and NO₂⁻, application to characterization of multiple forms in *Desulfovibrio vulgaris*, **146**, 147
NAD-dependent, activation, role of regulatory redox center (*Alcaligenes eutrophus* Z1), **142**, 297
three classes in genus *Desulfovibrio*, identification, **149**, 369
- Hydrogen bonds**
between cytosine and threonine or serine peptides, implications for evolution of genetic code, **148**, 456
- Hydrogen peroxide**
activation of guanylate cyclase, mechanism (bovine arterial smooth muscle), **143**, 20
effect on adrenergic and muscarinic responses in airway smooth muscle (rat), **145**, 357
induced cell killing and DNA damage, protective role of catalase and DNA repair systems (*Escherichia coli*), **143**, 638
production by thyroid cells, regulation by cytoplasmic free Ca²⁺ (swine), **148**, 1527
reversible oxidation of glyceraldehyde 3-phosphate dehydrogenase thiols in lung carcinoma cells (human), **148**, 120
stimulation of insulin receptor kinase (rat adipocytes), **147**, 259
- Hydrolysis**
ATP
coupled with *N*-methylhydantoin amidohydrolysis, characterization (*Pseudomonas putida* 77), **142**, 1006
subsequent release of inorganic phosphate from F-actin filaments, measurement by linked enzyme assay, **143**, 1069
enzymatic, leukotriene A₄ in kidney (rat), **143**, 697
GTP, relationship to microtubule assembly, **147**, 588
phosphatidylinositol 4,5-bisphosphate in plasma membranes, activation by guanine nucleotide and pyrophosphate (rat liver), **147**, 1088
³²P-labeled phosphatidylinositol 4,5-bisphosphate by phospholipase C (DDT₁ MF-2 cells), **145**, 673
polyphosphatidylinositol in ovarian cells, induction by prostaglandin F_{2 α} (swine), **149**, 112
polyphosphoinositides
in Friend erythroleukemia cells, stimulation by erythroid differentiation factor (mouse), **146**, 187
role in fibroblast growth factor-induced early and late mitogenic events in epithelial lens cells (bovine), **146**, 32
- Hydroperoxide lyase**
conversion of 15-hydroperoxyeicosatetraenoic acid to 15-keto-pentadeca-5,8,11,13-tetraenoic acid (rabbit leukocytes), **149**, 1111
- Hydroperoxyeicosatetraenoic acid**
stimulation of Ca²⁺ release from mitochondria (rat liver), **143**, 609
- 15-Hydroperoxyeicosatetraenoic acid**
hydroperoxide lyase-induced conversion to 15-keto-pentadeca-5,8,11,13-tetraenoic acid (rabbit leukocytes), **149**, 1111
- 2-Hydroxyacid dehydrogenase**
with altered substrate specificity, rational construction, **148**, 15
- 4-Hydroxyaminoquinoline 1-oxide**
treatment of DNA in presence of seryl-AMP: formation of 8-hydroxyguanine residues (bovine thymus), **149**, 1141
- 4-Hydroxycinnamamide**
synthetic derivatives, inhibition of tyrosine-specific protein kinase (human A-431 cells), **147**, 322
- 4-Hydroxycyclohexene**
inhibitory effects on T47D breast cancer cell growth, partial reversal by epidermal growth factor (human), **146**, 739
- 18-Hydroxycorticosterone**
formation by adrenocortical cells, role of microfilaments (*Rana ridibunda*), **148**, 1354
- Hydroxyeicosatetraenoic acid**
stimulation of Ca²⁺ release from mitochondria (rat liver), **143**, 609
- 5-Hydroxyeicosatetraenoic acid**
generation by inflammatory cells *in vivo* (*Bufo americanus*, *Rana catesbeiana*), **148**, 1533
production by leukocytes, demonstration (frog), **142**, 309
stimulation of Ca²⁺ and protein kinase C mobilization in neutrophils (human), **148**, 575

Subject Index

- 12-Hydroxyeicosatetraenoic acid
synthesis
by erythropoietin-stimulated erythroid progenitor cells, regulatory effect of lipoxygenase metabolites (murine liver), **147**, 392
in platelets, stimulation by 13-hydroxyoctadeca-9,11-dienoic acid (human), **148**, 528
- 15-Hydroxyeicosatetraenoic acid
production by leukocytes, demonstration (frog), **142**, 309
synthesis by erythropoietin-stimulated erythroid progenitor cells, regulatory effect of lipoxygenase metabolites (murine liver), **147**, 392
- 15(*S*)-Hydroxy-5,8,11-*cis*-13-*trans*-eicosatetraenoic acid
regulation of neutrophil activation by monocyte-derived activating factor (human), **148**, 636
- 2-Hydroxy estradiol
antioxidant effect on membrane phospholipid peroxidation (rat liver), **142**, 919
- 2-Hydroxy estriol
antioxidant effect on membrane phospholipid peroxidation (rat liver), **142**, 919
- 2-Hydroxy estrone
antioxidant effect on membrane phospholipid peroxidation (rat liver), **142**, 919
- 8-Hydroxyguanine
formation in DNA treated with 4-hydroxyaminoquinoline 1-oxide and related compounds in presence of seryl-AMP (bovine thymus), **149**, 1141
- Hydroxyindole-*O*-methyltransferase
in harderian gland, effects of light-dark cycle and 6-*para*-chlorophenylalanine administration (female hamster), **145**, 1231
- 21-Hydroxylase
polymorphic gene mutations, prevalence in salt-losing congenital adrenal hyperplasia (human), **142**, 798
- Hydroxylation
estradiol by cytochrome *P*-450 (rat brain), **147**, 1245
- ω -Hydroxylation
N-acetyl leukotriene E₄ by hepatic microsomes (rat), **143**, 337
- 25-Hydroxylation
vitamin D₃, roles of mitochondrial and microsomal cytochrome *P*-450 (rat liver), **142**, 999
- Hydroxyl radicals
role in nickel-mediated lipid peroxidation: implications for nickel carcinogenesis (rat), **147**, 1276
- p*-Hydroxymercuribenzoate
differential inactivation of vitamin K-dependent carboxylase and oxygenase, **148**, 184
- 3-Hydroxy-3-methylglutaryl-CoA reductase
in hepatic peroxisomes, diurnal variation (rat), **148**, 890
mRNA, turnover rates: role of pituitary and thyroid hormones (rat), **146**, 1033
- 3-Hydroxy-3-methylglutaryl-CoA reductase kinase
microsomal, AMP allosteric and catalytic sites, reaction with 5'-*p*-fluorosulfonylbenzoyl adenosine (rat liver), **148**, 1009
- 7-Hydroxymethyl-12-methylbenz[*a*]anthracene
induction of DNA and RNA adduct formation (murine, rat liver), **144**, 576
- 13-Hydroxyoctadecadienoic acid
effect on prostacyclin synthesis by endothelial cells (bovine), **146**, 502
macrophage levels, stimulation by lipopolysaccharide (murine peritoneum), **147**, 695
- 13-Hydroxyoctadeca-9,11-dienoic acid
inhibition of thromboxane A₂ synthesis and stimulation of 12-hydroxyeicosatetraenoic acid production (human platelets), **148**, 528
- Hydroxyorganoboranes
effects on synthesis, transport, and N-linked glycosylation of plasma proteins (human hepatoma cells), **148**, 493
- 20 α -Hydroxy-4-pregnen-3-one
metabolism by cultured granulosa cells, time-dependent effects of follicle-stimulating hormone (rat), **144**, 67
- 3 α -Hydroxysteroid dehydrogenase
prostaglandin dehydrogenase activity (rat liver), **148**, 646
- 3 β -Hydroxysteroid dehydrogenase
inhibition by 17 β -*N,N*-diethylcarbamoyl-4-methyl-4-aza-5 α -androstan-3-one (porcine granulosa cells), **144**, 166
- N*-Hydroxysuccinimide esters
hippuran, application in radiolabeling of serum albumin (human), **144**, 323
- 4-Hydroxytamoxifen
and DL- α -difluoromethylornithine, additive growth inhibitory effects on MCF-7 breast cancer cells, **148**, 1338
inhibitory effects on T47D breast cancer cell growth, partial reversal by epidermal growth factor (human), **146**, 739
- Hydroxyurea
resistance, reversion, association with decline in ribonucleotide reductase activity and loss of M2 gene amplification (CHO mutants), **145**, 1276
- 25-Hydroxyvitamin D₃
serum levels, regulatory roles of 1,25-dihydroxyvitamin D₃ and dietary Ca²⁺ (rat), **144**, 1055
- Hypercalcemic factor
synthetic tumor-derived, parathyroid hormone-like vasorelaxation effects (rabbit renal artery), **149**, 227
- Hypertension
aortic smooth muscle, vasorelaxant effects of atriopeptin III (rat), **146**, 80
effect on
calpain inhibitor activity in Milan hypertensive rat, **145**, 1287
erythrocyte membrane phosphorylation (human), **145**, 1329
free Mg²⁺ levels in erythrocytes (rat), **143**, 1012
genetic, effect on atrial natriuretic factor receptor biochemical response and alterations (rat), **149**, 65
nonspontaneous models, correlations between cardiac hypertrophy and plasma levels of atrial natriuretic factor (rat), **145**, 532
pathophysiology, role of atrial natriuretic factor (rat), **143**, 316
spontaneous, effect on
atrial natriuretic factor and mRNA levels in heart, simultaneous determination (rat), **148**, 239

Subject Index

- atrial natriuretic factor receptor number in thymocytes and spleen cells (rat), **149**, 1132
- phorbol ester reactivity in mesenteric artery (rat), **145**, 1105
- Hypolipidemic effect
- garlic oil extract on high sucrose and alcohol diets, mechanism (rat), **142**, 1046
- Hypophysectomy
- somatomedin C levels and growth in operated rat, effects of bovine growth hormone, potentiation by monoclonal antibodies to hormone, **149**, 187
- Hypothalamus
- cell groups, macroscopic distribution and assay of *in situ* hybridized oxytocin mRNA (rat), **145**, 10
- Hypoxanthine
- metabolism in Duchenne muscular dystrophy, effect of chronic allopurinol therapy (human), **147**, 152
- Hypoxia
- moderate, effect on atrial natriuretic factor and arginine vasopressin levels in plasma (human), **148**, 906
- and recovery, and ischemia and recirculation, effects on antioxidant factors and β -adrenoceptor density (rat brain, erythrocytes), **149**, 568
- Hypusine
- containing proteins, formation and stability in CHO cells, **145**, 1335
- I**
- Iloprost
- effect on cytosolic free Ca^{2+} and inositol phosphates *in vitro* (rat mesangial cells), **142**, 579
- Imidazoline
- binding sites in basolateral membranes, identification (rabbit kidney), **147**, 1055
- Imipramine
- induction of β -hexosaminidase depletion in fibroblasts, prevention by dexamethasone: implications for treating psychotic hexosaminidase A-deficient patients, **148**, 1098
- Immunization
- primary *in vitro*, and L-leucine methyl ester treatment, peripheral blood lymphocytes, for monoclonal antibody production (human), **148**, 941
- Immunoassays
- acetylcholinesterase-linked, for atriopeptin: development, validation, and application (human, rat), **144**, 469
- enzyme-linked, for anti-insulin IgG (guinea pig serum), **147**, 644
- Immunoblotting
- detection of lectins in gluten and white rice flour, **142**, 717
- Immunoglobulin E
- stimulation of platelet-activating factor synthesis by cloned mast cells (mouse), **144**, 1243
- Immunoglobulin G
- anti-insulin, enzyme immunoassay (guinea pig serum), **147**, 644
- Fc fragment, stable intermediate form, structure (human), **148**, 92
- identification in cerebrospinal fluid and serum as high-molecular-weight Alzheimer's disease amyloid peptide (human), **145**, 241
- stimulation of neutrophil superoxide generation, effect of R 59022 (human), **143**, 630
- Immunoglobulins
- derived V regions, and T-cell receptor-derived C regions, in construction of chimeric gene, **149**, 960
- like domains, detection in carcinoembryonic antigen amino acid sequence analysis, **144**, 634
- vertebrate, conservation, detection with antibodies to synthetic joining segment peptide, **145**, 699
- Indium oxide electrodes
- direct electron transfer reactions of cytochrome c_{553} , analysis (*Desulfovibrio vulgaris*), **145**, 619
- Indoleacetic acid
- effect on membrane permeability and ion channels, **143**, 1085
- Indoleamine 2,3-dioxygenase
- induction, effects of interferon and anti-inflammatory agents (human peripheral blood monocytes), **144**, 1147
- Indomethacin
- effect on
- interferon induction of indoleamine 2,3-dioxygenase in peripheral blood monocytes (human), **144**, 1147
- tumor necrosis factor- α cytotoxicity (L929 cells), **149**, 815
- induction of lipoxygenase product formation in Ca^{2+} ionophore-stimulated neutrophils (human), **148**, 534
- Infrared spectroscopy
- Fourier transform, *see* Fourier transform infrared spectroscopy
- high-pressure, proinsulin gene expression in *Escherichia coli*, **146**, 232
- plasma membrane structural alterations induced by (2,4-dichlorophenoxy)acetic acid (soybean), **147**, 506
- Inhibin
- effect on rat granulosa cell differentiation (bovine), **146**, 1405
- FSH-stimulated production by testis, effect of β -endorphin (rat), **148**, 1513
- immunohistochemical detection in gonads (rat), **142**, 23; *erratum*, **146**, 926
- α -Inhibin-31
- immunocytochemical localization in brain and testis (mouse, rat), **145**, 81
- Initiation factors
- effect on interactions of mitochondrial ribosomes and subunits (bovine), **147**, 1077
- eIF-2
- GDP phosphorothioated complex, inhibition of protein synthesis in hemin-supplemented reticulocyte lysates (rabbit), **147**, 772
- ternary complex formation inhibition by
- AMP (rat liver), **146**, 1079
- Mg^{2+} (rabbit reticulocytes), **146**, 114
- Inosine
- metabolism in Duchenne muscular dystrophy, effect of chronic allopurinol therapy (human), **147**, 152

Subject Index

Inositides

metabolism in thrombin-stimulated endothelial cells (porcine aorta), **145**, 1302

Inositol bisphosphate

histamine-induced increase in umbilical vein endothelial cells, association with thromboxane and prostacyclin release (human), **144**, 438

Inositol 1,3-bisphosphate

identification as putative breakdown product of inositol 1,3,4-trisphosphate (GH₄ cells), **143**, 353

Inositol 1,4-bisphosphate

vasopressin-induced formation in smooth muscle cells, regulation by pertussis/cholera toxin-sensitive G-protein (rat aorta), **146**, 898

Inositol 3,4-bisphosphate

identification as putative breakdown product of inositol 1,3,4-trisphosphate (GH₄ cells), **143**, 353

isomer formed in chemoattractant-stimulated neutrophils, identification (human), **144**, 264

D-*myo*-Inositol (1,4)-bisphosphate 1-phosphatase

partial purification and characterization (rat liver), **146**, 1018

Inositol 1,2-cyclic 4,5-trisphosphate

formation in parotid gland after muscarinic stimulation (rat), **149**, 1208

Inositol glycan

stimulation of glucose utilization by adipocytes, comparison with insulin (rat), **149**, 1084

Inositol glycerophospholipid

identification and serum dependence of metabolism in cultured adrenocortical cells (bovine), **145**, 249

Inositol hexakisphosphate

detection in mammalian tissues by ³¹P NMR, **149**, 874

Inositol hexaphosphate

incorporation in erythrocyte membranes, effect on skeletal protein interactions, ESR study (human), **144**, 779

Inositol monophosphate

histamine-induced increase in umbilical vein endothelial cells, association with thromboxane and prostacyclin release (human), **144**, 438

vasopressin-induced formation in smooth muscle cells, regulation by pertussis/cholera toxin-sensitive G-protein (rat aorta), **146**, 898

Inositol 4-monophosphate

metabolism in mammalian tissue (rat), **145**, 59

Inositol pentakisphosphate

detection in mammalian tissues by ³¹P NMR, **149**, 874

production in T-lymphocyte cell line (human), **145**, 895

Inositol phosphate

accumulation in cultured endothelial cells, stimulation by histamine, role of H₁-receptor (human), **148**, 47

bradykinin-stimulated production by NG115-401L neuronal cells, effect of pertussis toxin, **148**, 412

formation

in C62B glioma cells, differential effects of phorbol ester and diacylglycerols, **148**, 701

and metabolism, angiotensin-II effects (bovine adrenal glomerulosa cells), **142**, 15

metabolism in aortic myocytes, stimulation by ATP (rat), **143**, 454

production in isolated parietal cells, interaction with dibutyl cAMP (rat), **147**, 758

role in calcitonin-induced stimulation of phosphate transport in LLC-PK₁ cells, **144**, 741

stimulation by prostaglandins *in vitro* (rat mesangial cells), **142**, 579

myo-Inositol phosphate

mass in renal papillary collecting tubule cells, bradykinin-induced changes (rabbit), **145**, 1119

Inositol phospholipids

turnover

in insulinoma cells, effect of glucose-stimulated insulin release (human), **145**, 263

role in signal transduction in plants (*Zea mays*), **149**, 334

Inositol 1,3,4,5-tetrakisphosphate

activation of sea urchin egg, inositol trisphosphate requirement, **146**, 284

³H-labeled, specific binding sites on HL-60 cell membranes, **149**, 680

Inositol 1,3,4,6-tetrakisphosphate

angiotensin II-induced formation in adrenal glomerulosa cells (bovine), **148**, 199

Inositol 1,3,4,5-tetrakisphosphate receptors

detection in various tissues (rat), **148**, 1283

Inositol trisphosphate

histamine-induced release in umbilical vein endothelial cells, association with thromboxane and prostacyclin release (human), **144**, 438

levels in parotid acinar cells, comparative effects of carbachol and substance P (rat), **148**, 1017

metabolism in stimulated T-cell clones, analysis (mouse), **144**, 1303

Inositol 1,3,4-trisphosphate

complex breakdown evidenced by detection of inositol 1,3- and inositol 3,4-bisphosphate (GH₄ cells), **143**, 353

Inositol 1,4,5-trisphosphate

and diacylglycerol, induction of Ca²⁺ release from platelets, comparison (human), **142**, 7

formation in A-431 cells, stimulation by epidermal growth factor, **142**, 688

³H-labeled, stereospecific recognition sites in particulate preparations of cerebellum (rat), **146**, 1071

induced Ca²⁺ release

from permeabilized liver cells, inhibition by heparin (rat), **149**, 897

from smooth muscle sarcoplasmic reticulum, GTP requirement (rabbit), **144**, 1313

in taenia caeci, dependence on Ca²⁺ levels (guinea pig), **142**, 47

levels in cultured mesangial cells, effect of angiotensin II (rat), **142**, 70

rod outer segment levels, light-stimulated rapid and transient increase (toad), **146**, 1392

stimulation of 23-kDa protein cAMP-dependent phosphorylation in platelet membrane vesicles (human), **145**, 139

synthesis regulation by distinct G-proteins in platelets (human), **146**, 659

vasopressin-induced formation in smooth muscle cells, regulation by pertussis/cholera toxin-sensitive G-protein (rat aorta), **146**, 898

Subject Index

Inositol 2,4,5-trisphosphate

role in inositol(1,3,4,5)tetrakisphosphate-induced activation of sea urchin egg, **146**, 284

Inositol 1,4,5-trisphosphate kinase

activity in norepinephrine-perfused heart (rat), **148**, 68

Insulin

amino groups, labeling with ^{13}C -enriched phenylisothiocyanate for ^{13}C NMR, **142**, 1064

antibodies, enzyme immunoassay (guinea pig serum), **147**, 644

B-chain, and A-domain of insulin-like growth factor I, hybrid molecules, enhanced mitogenic activity relative to insulin, **149**, 672

binding

in erythrocytes, effects of gluconeogenic hormones (human), **147**, 158

and internalization and processing in adipocytes, effects of metalloendoprotease inhibitors (rat), **142**, 205

and stimulated hexose transport in adipocytes, effect of chronic isoproterenol exposure (rat), **148**, 1093

dependent alterations of phorbol ester binding to adipocyte subcellular constituents, relationship to protein kinase C distribution (rat), **145**, 1384

effect on lactogen production by term placental explants (human), **144**, 674

formation from proinsulin, activation by prior glucose exposure in pancreatic islets, **148**, 1418

–glucagon ratio, endogenous, effects of acute alteration on mitochondrial function (rat liver), **142**, 315

glucose-stimulated release in insulinoma cells, effect on cAMP production and inositol phospholipid turnover (human), **145**, 263

–glutathione mixed disulfides, nonenzymatic formation, plasma desorption mass spectrometry, **146**, 815

high levels, effect on inhibition of casein synthesis by epidermal growth factor (mouse), **146**, 121

intact, identification of A-chain cleavage sites produced by insulin protease and isolated hepatocytes (pig), **147**, 615

interactions with plasma membrane receptor, validity of approach for inferring negative-cooperative site-specific interactions (rat liver), **147**, 399

–like effects of human growth hormone in adipocytes, role of protein kinase C (rat), **147**, 1232

mitogenic effect on breast cancer cells, inhibition by antiestrogens in absence of estrogens (human), **146**, 1502

reduced A and B chains, resynthesis in presence of denaturants (bovine), **146**, 437

regulation of pentose phosphate cycle, role of NADPH/NADP ratio in adipocytes and hepatocytes (rat), **146**, 920

release from pancreatic islets

induction *in vitro* by arachidonic acid after extracellular Ca^{2+} depletion (rat), **142**, 251

maitotoxin effects (rat), **144**, 172

secreting cells, ATP-modulated K^{+} channels, inhibition by glibenclamide (rat), **146**, 21

sensitive glycopospholipid, structural analysis (rat liver), **146**, 764

stimulating peptide derived from serum albumin, inhibition of tyrosine autophosphorylation of solubilized insulin receptor (bovine), **144**, 11

stimulation of

collagenase inhibitor release by chondrosarcoma chondrocytes (rat), **147**, 550

insulin receptor kinase-mediated phosphorylation of endogenous and plasma membrane-associated substrates (human liver), **149**, 1008

insulin receptor kinase (rat adipocytes), **147**, 259

iodothyronine 5'-deiodinase (rat adipocytes), **143**, 81

v-Ha-ras protein phosphorylation in membrane fraction, **144**, 19

–zinc hexamer, analysis by ^{13}C NMR (bovine), **143**, 116

Insulin-like growth factor I

A-domain, and insulin B-chain, hybrid molecules, enhanced mitogenic activity relative to insulin, **149**, 672

binding proteins

production by vascular endothelial cells (bovine, human, rodent), **148**, 734

in serum, comparisons (human, rat), **147**, 408

cDNA clones, sequence analysis: identification of 5'-untranslated regions (rat), **146**, 1154

effect on lactogen production by term placental explants (human), **144**, 674

inhibition by pertussis toxin (Balb/c 3T3 cells), **148**, 403

natural and synthetic forms

and desipeptide derivative, comparative biological activities and receptor binding (bovine, human), **149**, 398

and recombinant DNA-derived, comparative affinity for insulin-like growth factor II receptors (rat), **143**, 199

–somatomedin C-like material from Sertoli cells, characterization and regulation (pig), **146**, 1009

specificity of binding to type-II IGF receptors (rabbit mammary gland; hypophysectomized rat liver), **149**, 555

Insulin-like growth factor II

augmentation of cytoplasmic Ca^{2+} levels in fibroblasts treated with epidermal growth factor (mouse), **142**, 275

binding activity, stimulation by vanadium peroxides (rat adipocytes), **147**, 259

binding proteins

production by vascular endothelial cells (bovine, human, rodent), **148**, 734

in serum, comparisons (human, rat), **147**, 408

encoding gene, identification of leader exon (rat), **148**, 344

N-terminal amino acid sequence, comparison with erythropoietin-like factor of Cohn Fraction V (bovine), **149**, 1026

specificity of binding to type-II IGF receptors (rabbit mammary gland; hypophysectomized rat liver), **149**, 555

stimulation of erythroleukemia cell growth, regulation by somatomedin type 2 receptor (human), **148**, 811

Insulin-like growth factor I receptors

antibody, inhibition of growth of MCF-7 breast carcinoma cells in tissue culture (human), **149**, 276

in brain and blood–brain barrier, demonstration and structural comparison (rat), **149**, 159

Subject Index

- in skeletal muscle and L-6 myocytes, comparison (rat), **147**, 100
- upregulation by human chorionic gonadotropin (rat Leydig cells), **149**, 852
- Insulin-like growth factor II receptors
 - affinity of natural, synthetic, and recombinant DNA-derived insulin-like growth factor I, comparison (rat), **143**, 199
 - in brain and blood-brain barrier, demonstration and structural comparison (rat), **149**, 159
 - interactions with mannose 6-phosphate and antibodies to bovine Man-6-P receptor (human fetal brain), **149**, 600
 - monoclonal antibodies to, production (rat), **146**, 717
 - specificity, evaluation (human), **147**, 1206
 - specificity of IGF binding to, analysis (rabbit mammary gland, hypophysectomized rat liver), **149**, 555
- Insulin protease
 - degradation of insulin, identification of A-chain cleavage sites (pig), **147**, 615
- Insulin receptor kinase
 - phosphorylation of endogenous and plasma membrane-associated substrates, stimulation by insulin (human liver), **149**, 1008
- Insulin receptors
 - associated tyrosine kinase, stimulation by vanadium peroxides (rat adipocytes), **147**, 259
 - mRNA transcripts, effects of hepatocarcinogens (rat liver), **146**, 87
 - plasma membrane, interactions with insulin: validity of approach for inferring negative-cooperative site-specific interactions (rat liver), **147**, 399
 - in skeletal muscle and L-6 myocytes, comparison (rat), **147**, 100
 - tyrosine autophosphorylation, inhibition by insulin-stimulating peptide derived from serum albumin (bovine), **144**, 11
- Interesterification
 - in microemulsion, catalysis by *Candida cylindracea* lipase, **146**, 361
- Interferon α
 - early plasma membrane depolarization, correlation with antiproliferative signal (Daudi lymphoma cells), **146**, 300
 - types A and D, cloned, differential affinities for polyinosinic acid and relationship between molecular structure and species specificity (human), **145**, 426
 - types 1 and 4, domain structure, effect on antiviral response (mouse), **147**, 47
- Interferon β
 - induced membrane protein, isolation and inhibition of cell growth (Daudi cells), **148**, 140
- Interferon β_2
 - regulation of hemopexin and cysteine protease inhibitor synthesis in hepatoma cells (rat), **146**, 1218
- Interferon γ
 - inhibition of basal and interleukin 1-induced prostaglandin production and bone resorption in calvaria (neonatal mouse), **143**, 38
 - production and mRNA induction by phorbol esters and Ca^{2+} ionophore (human leukocytes), **146**, 927
 - treated U937 cells, cytosolic Ca^{2+} regulation, potential mechanisms, **145**, 1295
 - and tumor necrosis factor, synergistic induction of differentiation of myeloblastic leukemic ML-1 cells (human), **145**, 514
- Interferon- γ receptors
 - expression, effect of protein kinase C activation (mouse), **144**, 337
- Interferons
 - induction of indoleamine 2,3-dioxygenase in peripheral blood monocytes (human), **144**, 1147
 - inhibition of DNA synthesis, role of protein kinase C activation (Swiss 3T3 cells), **145**, 1026
- Interleukin 1
 - induced prostaglandin production in calvaria, inhibition by interferon γ (neonatal mouse), **143**, 38
 - induction and release, role of Ca^{2+} (human monocytes), **147**, 1027
 - inhibition of follicle-stimulating hormone-induced differentiation in granulosa cells *in vitro* (rat), **149**, 502
 - inhibitory factor, detection in α_1 -acid glycoprotein-exposed macrophages (human), **147**, 710
 - mediation of chondrocytic protease release, enhancement by fibroblast growth factor (rabbit), **142**, 448
 - recombinant, stimulation of arachidonic acid release and phospholipid metabolism (human synovial cells), **142**, 235
 - role as autocrine growth factor for monocytes (human leukemic JOSK-1 cells), **147**, 39
- Interleukin 1α
 - encoding mRNA from U937 cells, cDNA cloning (human), **143**, 345
 - and IL 1β , differential effects on ACTH release in conscious rat (human), **146**, 1286
 - recombinant, inhibitory effect on growth of vesicular endothelial cells (human), **145**, 969
- Interleukin 1β
 - encoding mRNA from U937 cells, cDNA cloning (human), **143**, 345
 - and IL 1α , differential effects on ACTH release in conscious rat (human), **146**, 1286
 - recombinant
 - human, purification and characterization (*Escherichia coli*), **147**, 315
 - inhibitory effect on growth of vesicular endothelial cells (human), **145**, 969
 - stimulation of procollagenase synthesis, correlation with cellular increases in procollagen mRNA levels (human articular chondrocytes), **144**, 583
 - synthetic C-terminal peptide, function as binding domain and receptor antagonist (human monocytes), **147**, 204
- Interleukin 2
 - induction of T-cell proliferation, inhibition by H-7 (mouse), **145**, 666
 - inhibition of adenylate cyclase in T cells, role of protein kinase C (human), **145**, 176
 - mRNA, induction by phorbol esters and Ca^{2+} ionophore (human leukocytes), **146**, 927

Subject Index

- stimulation of
 - prostaglandin E₂ and thromboxane B₂ synthesis by monocytes (human), **147**, 86
 - T-cell clones, effect on phospholipid metabolism (mouse), **144**, 1303
 - synthesis, inhibition by platelet-activating factor, effect of BN 52021 (human), **142**, 754
- Interleukin 3
 - dependent cell line, expression of functional erythropoietin receptors, **146**, 7
- Interleukin 4
 - human, high-affinity binding to various cell lines, **149**, 995
- Interleukin-1 β receptors
 - effect of synthetic C-terminal peptide of interleukin 1 β (human monocytes), **147**, 204
- Interleukin-2 receptors
 - gene activation by forskolin and cAMP analogs (human YT cells), **143**, 753
 - related proteins, tyrosine phosphorylation in phytohemagglutinin-activated lymphocytes (human), **144**, 160
- Intermediate filaments
 - like structures, polypeptides capable of polymerizing into, purification from *Drosophila melanogaster*, **144**, 1043
- Intestine
 - cholesterol absorption, inhibition by dietary 5 α -cholest-8(14)-en-3 β -ol-15-one in lymph-cannulated rat, **146**, 1003
 - differentiating cells, modulated expression of homeobox genes (human), **146**, 751
 - tubulin expression, regulation by 1,25-dihydroxyvitamin D₃ (chicken), **148**, 1270
- Iodide
 - discharge in thyroid cells, induction by Bay k 8644 (swine), **143**, 1107
- Iodine
 - oxidation by lactoperoxidase, irreversible enzyme inactivation, mechanism, **142**, 552
 - radioactive, detection of phosphotyrosine-containing proteins (HeLa S3 cells), **142**, 389
- Iodomelatonin
 - ¹²⁵I-labeled, binding to multiple sites in brain (hamster), **147**, 949
- Iodothyronine 5'-deiodinase
 - stimulation by insulin (rat adipocytes), **143**, 81
- Ionophore A23187
 - alteration of accessibility of surface thiols (human lymphocytes), **140**, 999; *erratum*, **147**, 1300
 - induction of glomerular arachidonate release and prostaglandin E₂ production, role of protein kinase C (rat), **149**, 658
 - and phorbol esters
 - effects on *c-fos* and *c-myc* expression and DNA synthesis in lymphocytes (human), **148**, 435
 - induction of interferon- γ production and mRNAs of interleukin 2 and interferon γ (human leukocytes), **146**, 927
 - stimulated neutrophils, indomethacin-induced lipoxigenase product formation (human), **148**, 534
 - stimulation of platelet-activating factor synthesis by cloned mast cells (mouse), **144**, 1243
- Ionophores
 - M₂ muscarinoceptor-associated, at adrenal medulla, detection (cat), **144**, 965
- Iron
 - adriamycin complex, induction of lipid peroxidation and respiratory chain inactivation, protective effect of coenzyme Q (bovine heart), **147**, 572
 - in cytochrome-c oxidase, relationship to polypeptide subunits III, VII, a, and b (bovine heart), **148**, 1520
 - EDTA-Fe(III) complexes, effect of chemical structure on lipid peroxidation in brain microsomes (rat), **145**, 211
 - heme, spin-state and axial ligation in cytochromes P-450-LM₂ and P-420-LM₂, comparison with photolysed CO complexes, **146**, 165
- Ischemia
 - and recirculation, and hypoxia and recovery, effects on antioxidant factors and β -adrenoceptor density (rat brain, erythrocytes), **149**, 568
 - and reperfusion, induced cerebral injury, effects of platelet-activating factor antagonist BN 52021 (gerbil), **149**, 580
- Isoflurophate
 - inactivation of membrane-bound and cytosolic sialic acid O-acetyltransferases (rat liver), **144**, 1099
 - labeled peptides from lecithin-cholesterol acyltransferase, isolation and sequencing (porcine plasma), **143**, 360
- Isoprenaline, *see* Isoproterenol
- Isoproterenol
 - chronic exposure of adipocytes, effects on insulin binding and insulin-stimulated hexose transport (rat), **148**, 1093
 - effect on glycogenolysis emergence during post-maturation aging (rat hepatocytes), **147**, 724
 - induction of polyamine and DNA synthesis in parotid gland (mouse), **144**, 1161
 - stimulation of cAMP synthesis in Ewing's sarcoma cells, **146**, 685
- 1-(5-Isoquinolinesulfonyl)-2-methylpiperazine
 - effect on
 - R59022-potentiated superoxide radical production induced by formyl-methionyl-leucyl-phenylalanine (rabbit neutrophils), **148**, 38
 - superoxide production in growing and resting histiocytic leukemia cells (human), **144**, 1317
 - inhibition of
 - enzyme induction by glucocorticoid and nuclear translocation of glucocorticoid-receptor complexes (rat hepatocytes), **144**, 152
 - phorbol ester- and DiC8-induced histamine release from basophils (human), **144**, 732
- 1-(5-Isoquinolinesulfonyl)-2-methylpiperazine dihydrochloride
 - inhibition of antigen- and interleukin-2-induced T-cell proliferation (mouse), **145**, 666
- 1-(5-Isoquinolinesulfonyl) piperazine
 - effect on polymorphonuclear leukocyte degranulation (human), **148**, 747
- Isovalerylcarnitine
 - activation of neutrophil calpain (human), **148**, 1189

Subject Index

J

- Juglone
effect on cytochrome *P*-450-linked monooxygenase systems (human placenta, rabbit liver), **146**, 487
- Juvenile hormone esterase
immunochemical characterization from different species of Lepidoptera, **144**, 1281

K

- K-252a
inhibition of
40-kDa protein phosphorylation and serotonin release in phorbol ester-stimulated platelets (rabbit), **144**, 35
protein kinase C and cyclic nucleotide-dependent protein kinases, **142**, 436
- K-252b
inhibition of protein kinase C and cyclic nucleotide-dependent protein kinases, **142**, 436
- Keoxifene
and DL- α -difluoromethylornithine, additive growth inhibitory effects on MCF-7 breast cancer cells, **148**, 1338
- Keratinocytes
12-*O*-tetradecanoylphorbol-13-acetate-induced mitotic activity, relationship to DNA synthesis (rat), **146**, 777
- α -Ketoglutarate dehydrogenase
mitochondrial, inhibition by 1-methyl-4-phenylpyridinium ion (murine brain), **143**, 971
- 15-Keto-pentadeca-5,8,11,13-tetraenoic acid
hydroperoxide lyase-induced formation from 15-hydroperoxyeicosatetraenoic acid (rabbit leukocytes), **149**, 1111
- Kidney
angiotensin-converting enzyme, regional distribution (rat), **144**, 915
antithrombin III mRNA levels during development (rat), **142**, 417
atrial natriuretic factor receptors, identification (human), **147**, 135
calpain inhibitor activity, decrease in Milan hypertensive rat, **145**, 1287
cellular phosphate uptake, inhibition by phorbol esters: model of proximal renal tubular cells (opossum), **145**, 303
detection of mineralocorticoid receptors for aldosterone and RU 26752 (rat), **143**, 398
glomerular arachidonate release and prostaglandin E₂ production, ionophore A23187-induced, role of protein kinase C (rat), **149**, 658
isolated, perfused with angiotensinogen-free medium, direct release of angiotensins I and II (rat), **149**, 475
papillary collecting tubule cells, bradykinin-induced changes in inositol phosphate mass (rabbit), **145**, 1119
peroxidation levels during gestation (rat), **145**, 134
29-kDa GTP-binding protein, detection (mouse), **149**, 686
- Kininogen
type T, direct radioimmunoassay (rat), **144**, 1090
- Kirsten murine sarcoma virus
ras genes, expression in epithelial cells, effect on adenylate cyclase (rat thyroid), **142**, 527

- ras* protein, stimulation of proliferation via platelet-derived growth factor receptor (NRK cells), **148**, 376
- Klebsiella pneumoniae*
induction of protein kinase C translocation in human polymorphonuclear leukocytes, **147**, 787

L

- L-652,731
inhibition of mitogen-induced peripheral blood T-cell proliferation (human), **148**, 802
- L-653,150
inhibition of mitogen-induced peripheral blood T-cell proliferation (human), **148**, 802
- α -Lactalbumin
regulation of parotid acinar cell growth (rat), **147**, 174
- Lactate
role in fetal lung glycogen synthesis (rabbit), **145**, 397
- Lactate dehydrogenase
encoding gene, alteration for construction of 2-hydroxyacid dehydrogenase with altered specificity, **148**, 15
interaction with tubulin, demonstration by gel electrophoresis (rabbit heart), **146**, 827
substrate binding, role of arginine 171 (*Bacillus stearothermophilus*), **146**, 346
type A, promoter-CAT fusion gene, induction by cAMP (CHO cells), **147**, 501
- D-Lactate dehydrogenase
-formate dehydrogenase cycle, experimental evidence for zero-order ultrasensitivity (rabbit muscle, yeast), **149**, 615
- L-Lactate dehydrogenase
sperm-specific, encoding gene, cDNA isolation and sequence determination (mouse), **146**, 964
- Lactic dehydrogenase, *see* D-Lactate dehydrogenase
- Lactogen, *see* Prolactin
- Lactoperoxidase
irreversible inactivation during iodine oxidation, mechanism, **142**, 552
- S-D-Lactoylglutathione
levels in resting and activated neutrophils, analysis (human), **145**, 769
- Lactoylglutathione lyase
encoding gene, molecular cloning in *Escherichia coli* (*Pseudomonas putida*), **147**, 831
- Lamin A
high-molecular-weight form isolated in presence of *N*-ethylmaleimide, analysis (rat liver), **149**, 417
- Lanosterol 14 α -demethylase
cytochrome *P*-450-associated, gene isolation and expression in *Saccharomyces cerevisiae* (*Candida tropicalis*), **146**, 1311
- Lawson
effect on cytochrome *P*-450-linked monooxygenase systems (human placenta, rabbit liver), **146**, 487
- Lecithin-cholesterol acyltransferase, *see* Phosphatidylcholine-sterol acyltransferase
- Lectins
detection in gluten and white rice flour by immunoblotting, **142**, 717

Subject Index

- effect on adenosine receptor-mediated cAMP accumulation in Jurkat cells (human), **145**, 344
- Leishmania major*
folylpolyglutamate, analysis, **146**, 1089
- Leucine
transport stimulation by phorbol ester, activation through protein kinase C and Na^+/H^+ exchanger (Chang liver cells), **144**, 900
- L-Leucine methyl ester
-treated and *in vitro* immunized peripheral blood lymphocytes, monoclonal antibody production (human), **148**, 941
- Leucine-tRNA ligase
synthesis of P^1, P^4 -di(adenosine 5'-) tetraphosphate from ATP (*Bacillus stearothermophilus*), **146**, 173
- Leucyl-tRNA synthetase, *see* Leucine-tRNA ligase
- Leukemia
acute, patient with, isolation of *hst* genomic clone with transforming activity, **142**, 1019
- Leukocyte elastase
effect on intact and oxidized (met)-enkephalin-arg⁶-gly⁷-leu⁸ peptide (human), **147**, 416
inhibition by (\pm)2-chloro-4-(1-hydroxyoctadecyl)benzoic acid (human), **147**, 666
reversible slow tight-binding inhibition, analysis (human), **145**, 509
- Leukocytes
leukotriene and related eicosanoid production, demonstration (frog), **142**, 309
nonadherent, induction of prolyl hydroxylase (human), **147**, 486
nonoxidative ethanol metabolism, assay (human), **142**, 979
palmitoyl-CoA, elongation reduction in patient with hereditary methemoglobinemia associated with mental retardation, **148**, 384
polymorphonuclear, *see* Neutrophils
role in acute-phase response of angiotensinogen to lipopolysaccharide (rat), **145**, 1225
- Leukotriene A₄
enzymatic hydrolysis into 5,6-dihydroxy-7,9,11,14-eicosatetraenoic acid and leukotriene B₄ in kidney (rat), **143**, 697
- Leukotriene-A hydrolase
regulation by phorbol myristate acetate (human neutrophils), **147**, 622
- Leukotriene-A₄ synthase
associated activity of 12-lipoxygenase from polymorphonuclear leukocyte, analysis (bovine), **149**, 258
- Leukotriene B₄
conversion to dihydro and 19-hydroxy metabolites by polymorphonuclear leukocytes (rat), **145**, 991
effect on cytoskeletal actin levels in neutrophils (rabbit), **145**, 934
enzymatic conversion to 6-*trans*-leukotriene B₄ by renal homogenates (rat), **142**, 667
enzymatic formation from leukotriene A₄ in kidney (rat), **143**, 697
generation by inflammatory cells *in vivo* (*Bufo americanus*, *Rana catesbeiana*), **148**, 1533
induction of
Ca²⁺ mobilization in polymorphonuclear leukocytes, correlation with respiratory burst activation (rabbit), **144**, 794
oscillatory behavior in neutrophils (human), **147**, 361
production by leukocytes, demonstration (frog), **142**, 309
- 6-*trans*-Leukotriene B₄
enzymatic synthesis from leukotriene B₄ by renal homogenates (rat), **142**, 667
- Leukotriene-B₄ receptors
detection in pulmonary cell membranes (guinea pig), **143**, 364
- Leukotriene C₄
conversion to leukotriene D₄, induction by macrophage cell-surface enzyme (rat), **147**, 282
- Leukotriene D₄
formation from leukotriene C₄, induction by macrophage cell-surface enzyme (rat), **147**, 282
inhalation exposure, subsequent urinary excretion of leukotriene E₄ (human), **148**, 864
- Leukotriene E₄
evidence for *in vivo* ω -oxidation (rat), **148**, 1237
 ω -oxidation products in bile and urine, identification (monkey), **148**, 664
urinary excretion after leukotriene D₄ inhalation exposure (human), **148**, 864
- Leukotriene synthesis
in neutrophils, differential effects of monosodium urate and calcium pyrophosphate (human), **149**, 649
regulation by platelet-activating factor, effects of prostaglandins E₁ and F_{1 α} (rat lung), **147**, 1213
- Leulysin
production by gel-entrapped *Saccharomyces cerevisiae* cells, **145**, 316
- Leupeptin
effect on R59022-potentiated superoxide radical production induced by formyl-methionyl-leucyl-phenylalanine (rabbit neutrophils), **148**, 38
inhibition of protein methylesterase (rat kidney), **142**, 603
- Levorphanol
conformation at monoclonal antibody-binding sites, ¹H transferred nuclear Overhauser effect measurements, **141**, 1267; *erratum*, **143**, 797
- Leydig's cells
inhibition by human transforming growth factor type β (pig), **146**, 575
steroidogenesis, inhibition by transforming growth factor β , **146**, 387
- Ligandin
cDNA clone, isolation and sequence analysis (human, rat liver), **142**, 986
- Light
brief pulses, induction of retinal mechanical responses (bullfrog, toad), **143**, 93
induction of plasmid DNA modifications by gilvocarcin V and aglyclone analog, **143**, 808
near-infrared, sensitivity of eye (*Mysis relicta*), **147**, 747
stimulation of increase in inositol 1,4,5-trisphosphate levels in rod outer segments (toad), **146**, 1392

Subject Index

Light-dark cycle

- effects on *N*-acetyltransferase, hydroxyindole-*O*-methyltransferase, and melatonin levels in harderian glands (female hamster), **145**, 1231

Linoleate

- effect on free radical generation in tumor cells *in vitro* (human), **145**, 15

 γ -Linoleate

- effect on free radical generation in tumor cells *in vitro* (human), **145**, 15

Linoleic acid

- cis* and *trans* forms, activation of protein kinase C in intact platelets, potentiation by diacylglycerol (human), **149**, 762

Lipase, *see* Triacylglycerol lipase

Lipid hydroperoxides

- hepatic synthesis, effect of food restriction (rat), **145**, 1185

Lipids

- bacteriorhodopsin interactions, circular dichroism study (*Halobacterium halobium*), **144**, 836

endotoxic type A

- antigenic determinants, analysis with synthetic models and monoclonal antibodies (*Bordetella pertussis*), **143**, 723

- structure in lipopolysaccharide (*Pseudomonas diminuta*), **142**, 972

- inositol-containing, breakdown during T-lymphocyte mitogenesis, role of guanine nucleotide-binding proteins in coupling to cell surface receptors (human), **148**, 1223

- like product from *Serratia marcescens*, cytotoxicity analysis, **149**, 1033

- metabolism in aortic smooth muscle, effects of sex hormones (human), **144**, 284

- ornithine-containing, identification, occurrence, and possible role (*Thiobacillus ferrooxidans*), **142**, 925

peroxidation

- acetaldehyde-mediated, role of ferritin and superoxide radicals (rat liver), **143**, 984

- after administration of *N*-nitrosamines (rat), **146**, 1047
- in brain microsomes, effects of EDTA-Fe(III) chemical structure (rat), **145**, 211

- effect of food restriction (rat), **145**, 1185

- enhancement by nickel, role of hydroxyl radicals: implications for nickel carcinogenesis (rat), **147**, 1276

- induced by adriamycin-iron complex, protective effect of coenzyme Q (bovine heart), **147**, 572

- levels in kidney during gestation (rat), **145**, 134

- in myopathic heart, effects of dietary selenium (hamster), **144**, 815

- in pulmonary microsomes, inhibition by 3-methylindole (goat), **149**, 73

- polar, desorbed from lyophilized membranes and cells, mass spectral analysis (*Escherichia coli*, rat brain), **142**, 194

Lipoate acetyltransferase, *see* Dihydrolipoamide acetyltransferase

Lipophosphoglycan

- inhibition of protein kinase C (*Leishmania donovani*), **148**, 653

Lipopolysaccharides

- bacterial, activation of B lymphocytes, effect of protein kinase C inhibitors (murine spleen), **145**, 1315

effect on

- lipoprotein lipase secretion by peritoneal macrophages (mouse), **142**, 1

- transcription of early competence genes JE and KC in peritoneal macrophages (mouse), **149**, 969

- with endotoxic lipid A structure, identification and characterization (*Pseudomonas diminuta*), **142**, 972

- stimulation of 13-hydroxyoctadecadienoic acid levels in macrophages (murine peritoneum), **147**, 695

Lipoprotein lipase

- secretion by peritoneal macrophages, effects of cycloheximide, tunicamycin, and lipopolysaccharide (mouse), **142**, 1

Lipoprotein receptors

- high-density, in murine adipose cells, relationship to promotion of reverse cholesterol transport, **149**, 545

low-density

- fibroblast levels, effect of inhibition of cholesterol esterification (human), **145**, 350

- on monocytic leukemia cells, induction of acetylated forms and suppression (human), **146**, 802

Lipoproteins

low-density

- enzymatically-oxidized, toxicity evaluation (rabbit), **148**, 260

- inhibition of histamine release from mast cells (human lung), **148**, 553

- and very-low-density, detection in amniotic fluid (human), **149**, 208

- serum, surface diffusion (human), **146**, 1139

Liposomes

- aminophospholipid topology, cholesterol-induced rearrangements (ovine platelets), **145**, 1362; *erratum*, **147**, 1302

- antibody-bearing, as *in vivo* drug delivery vehicles for *Plasmodium berghei*-infected erythrocytes (mouse), **148**, 357

- antibody-mediated targeting, role of multivalency (RDM-4 lymphoma cells), **145**, 1205

- apolipoprotein A-I- and A-I/A-II-containing, effect on cholesterol efflux from cultured adipose cells (mouse), **142**, 63

- bilayer, phospholipid interactions with vitamin E, **146**, 1413

- multilamellar, ³¹P NMR study (*Thermus aquaticus*), **148**, 397

- phosphatidic acid-containing, stimulation of quiescent 3T3 cells, **145**, 228

- pH-sensitive, transformation of target cells with adsorbed plasmid DNA, **147**, 980

Lipoxin A

effect on

- functional responses of granulocytes (human), **145**, 168
- glomerular microcirculatory dynamics (rat), **145**, 408; *erratum*, **147**, 1300

Lipoxin B

- effect on functional responses of granulocytes (human), **145**, 168

Subject Index

- formation from arachidonic acid, effect of phospholipase A₂ isoenzyme (porcine leukocytes), **144**, 123
- Lipoxin synthesis
by arachidonate 5-lipoxygenase (porcine leukocytes), **144**, 996
by arachidonate 12-lipoxygenase (porcine neutrophils), **149**, 1063
- Lipoxygenase
endogenous metabolites, regulatory role in endothelial cell proliferation (bovine aorta), **144**, 345
metabolites
indomethacin-induced formation in Ca²⁺ ionophore-stimulated neutrophils (human), **148**, 534
regulation of erythropoietin-stimulated erythroid progenitor cells (murine liver), **147**, 392
platelet, role in tumor cell-induced platelet aggregation (rat), **145**, 384
- 12-Lipoxygenase
polymorphonuclear leukocyte, leukotriene A₄-synthase activity, analysis (bovine), **149**, 258
- Lipoxygenation
arachidonic acid, relationship to accumulation of platelet-activating factor in injured cornea (rabbit), **149**, 915
- Liver, *see also* Hepatocytes
acetaminophen-induced toxicity, early inhibition of Na⁺/K⁺-ATPase ion pump (rat), **149**, 203
acute phase response, associated activation of polyamine biosynthetic decarboxylases (rat), **143**, 856
antithrombin III mRNA levels during development (rat), **142**, 417
cancerous or with persistent nodules, mitogenic activity in platelet-poor plasma (rat), **148**, 449
cantharidin-specific binding site, association with toxic action (mouse), **149**, 79
c-myc transcript levels, age effects (rat), **147**, 1
developing, oncogene expression (human), **142**, 932
diquat-induced oxidant stress and toxicity, effect of 1,3-bis(2-chloroethyl)-N-nitrosourea pretreatment (rat), **144**, 415
inositol 4-monophosphate metabolism (rat), **145**, 59
intracellular transport and processing of
lysosomal cathepsin B (rat), **148**, 254
lysosomal cathepsin H (rat), **148**, 329
metallothionein mRNA, ontogenic regulation (chicken), **147**, 226
nicotine elimination, induction by phenobarbital pretreatment (rat), **148**, 192
regenerating
detection of activated S6 kinase (rat), **146**, 239
DNA replication and c-myc expression, effects of actinomycin D (rat), **144**, 1049
and normal, DNA synthesis in isolated hepatocytes, inhibition by transforming growth factor β (rat), **145**, 436
- Lung
detection of leukotriene-B₄ receptors (guinea pig), **143**, 364
- fetal
development, effect of simultaneous administration of betamethasone and triiodothyronine (rabbit), **146**, 524
glycogen synthesis, role of lactate (rabbit), **145**, 397
29-kDa GTP-binding protein, detection (mouse), **149**, 686
- Luteinizing hormone
releasing activity of human gonadotropin-releasing hormone precursor (14–26) analogs, analysis, **143**, 872
- Luteinizing hormone-releasing hormone
antagonists with antiovarulatory and histamine-releasing activity, design, biosynthesis and bioassays, **148**, 849
stimulation of progesterone production in granulosa cells, role of protein kinase C (rat), **146**, 939
- LY 117018
and DL- α -difluoromethylornithine, additive growth inhibitory effects on MCF-7 breast cancer cells, **148**, 1338
inhibitory effects on T47D breast cancer cell growth, partial reversal by epidermal growth factor (human), **146**, 739
- Lymphoblastoid cells
ataxia-telangiectasia homozygote-derived, defect in DNA topoisomerase II, demonstration, **149**, 233
- Lymphoblasts
human CEM-C1, thymine glycol-DNA glycosylase-AP endonuclease, identification: analog of *Escherichia coli* endonuclease III, **149**, 93
- Lymphocyte receptors
T-cell, derived C regions, and Ig-derived V regions, in construction of chimeric genes, **149**, 960
- Lymphocytes
B-cell
activation by bacterial lipopolysaccharide, effect of protein kinase C inhibitors (murine spleen), **145**, 1315
antibody production and protein kinase activity, enhancement by 2,3,7,8-tetrachlorodibenzo-p-dioxin (murine spleen), **145**, 25
granule-mediated cytotoxicity, requirement of serine protease (rat), **149**, 882
L-leucine methyl ester-treated and *in vitro* immunized, monoclonal antibody production (human peripheral blood), **148**, 941
mitogen-induced proliferation, effect of sodium orthovanadate (old, young humans), **142**, 836; *erratum*, **144**, 1348
phytohemagglutinin-activated, tyrosine phosphorylation of interleukin-2 receptor-related proteins (human), **144**, 160
proliferation, inhibition by platelet-activating factor, effect of BN 52021 (human), **142**, 754
surface thiols, accessibility, alteration by ionophores or OKT-3 antibodies (human), **140**, 999; *erratum*, **147**, 1300
- T-cell
antigen- and interleukin-2-induced proliferation, inhibition by H-7 (mouse), **145**, 666
clones, phospholipid metabolism, effects of concanavalin A and interleukin 2 (mouse), **144**, 1303
inhibition of adenylate cyclase by interleukin 2, role of protein kinase C (human), **145**, 176
inositol lipid breakdown during mitogenesis, role of guanine nucleotide-binding proteins in coupling to cell-surface receptors (human), **148**, 1223

Subject Index

- mitogen-induced proliferation, inhibition by platelet-activating factor receptor antagonists (human peripheral blood), **148**, 802
- production of inositol pentakisphosphate (human), **145**, 895
- proliferative response, stimulation by macrophages fed α_2 -macroglobulin-antigen conjugates (mouse), **146**, 26
- serine esterase release, regulation by phorbol ester (mouse), **146**, 1262
- Lysine**
- active-site residue on aspartate aminotransferase, substitution with arginyl residue (*Escherichia coli*), **146**, 416
- carboxylate ion pair strength, comparison with arginine-carboxylate ion pairs, implications for design of enzymes and drugs, **149**, 927
- crosslinking with carboxyl groups, effect on bacteriorhodopsin photocycle (*Halobacterium halobium*), **145**, 1164
- in heptapeptide corresponding to histone fragment 103-109, role in phosphorylation by protein kinase C, **142**, 155
- L-Lysinethiol**
- inhibition of aminopeptidase B, **145**, 1038
- Lysophosphatidylcholine**
- effect on K^+ transport in heavy gastric membranes enriched with H^+ , K^+ -ATPase (rat), **146**, 840
- Lysosomal cholesterol storage disorder**
- associated impaired cholesterol esterification, analysis in primary neuroglial cultures (neonatal mouse), **143**, 233
- Lysosomes**
- cysteine proteinase autodegradation, analysis (rat liver), **144**, 749
- Lysozyme**
- human
- secretion by *Saccharomyces cerevisiae* and *Bacillus subtilis*, comparison, **145**, 712
- signal sequence, engineering of hydrophobic segment for efficient secretion by *Saccharomyces cerevisiae*, **149**, 431
- T4**
- N-terminal domain, retention of enzymatic activity: expression of synthetic DNA in *Escherichia coli*, **145**, 190
- total synthesis, observation of possible pause mutant (*Escherichia coli*), **149**, 340
- M**
- α_2 -Macroglobulin
- antigen conjugates, uptake by macrophages, stimulation of T-cell proliferation (mouse), **146**, 26
- encoding gene
- AT-cluster in first intron, interaction with nuclear factor (rat), **147**, 824
- nuclear matrix association regions, identification (rat liver), **149**, 449
- functional half-molecules induced by cadmium, properties (human plasma), **149**, 488
- α -galactosidase conjugate
- endocytotic internalization by cultured fibroblasts from Fabry's disease patient, **142**, 100
- fate after internalization into fibroblasts from Fabry's patient, **143**, 954
- Macrophages**
- alveolar
- mannose receptor purification (human), **148**, 883
- ^{31}P NMR spectra, fluoride effects (rabbit), **147**, 519
- cell-surface enzyme, conversion of leukotriene C_4 to leukotriene D_4 (rat), **147**, 282
- colony-stimulating activity, induction by tumor necrosis factor type α in osteoblast-like cells (mouse), **145**, 323
- interleukin-1 inhibitory activity, induction by α_1 -acid glycoprotein exposure (human), **147**, 710
- like J774.2 cells, drug-resistant, associated membrane glycoproteins, analysis with polyclonal antibodies, **143**, 732
- peritoneal
- differential regulation of early competence genes JE and KC in response to lipopolysaccharide (mouse), **149**, 969
- 13-hydroxyoctadecadienoic acid levels, stimulation by lipopolysaccharide (mouse), **147**, 695
- lipoprotein lipase secretion, effects of cycloheximide, tunicamycin, and lipopolysaccharide (mouse), **142**, 1
- yeast binding, inhibition by wheat germ agglutinin (mouse), **148**, 1202
- rich tissues, glucose utilization *in vivo*, enhancement by tumor necrosis factor (rat), **149**, 1
- serum-free cultured, phospholipase A_2 translocation from cytosol to membranes, induction by 1-oleoyl-2-acetyl-glycerol (mouse), **149**, 769
- uptake of α_2 -macroglobulin-antigen conjugates, stimulation of T-cell proliferation (mouse), **146**, 26
- Magnesium**
- ATP, reversal of long-chain acyl-CoA inhibition of protein kinase C in neutrophils (bovine), **147**, 428
- and Ca^{2+} , relative binding affinities for prothrombin and fragment 1 (bovine, human), **144**, 520
- in cytochrome-c oxidase, relationship to polypeptide subunits III, VII, a, and b (bovine heart), **148**, 1520
- effect on
- diadenosine 5',5'''- P^1 , P^4 -tetraphosphate base stacking, 1H magnetic resonance study, **144**, 922
- interactions of mitochondrial ribosomes and subunits (bovine), **147**, 1077
- free
- erythrocyte levels in spontaneously hypertensive and nonhypertensive rats, comparison, **143**, 1012
- and total, intracellular, concentration decrease after traumatic brain injury (rat), **149**, 594
- inhibition of ternary complex formation by reticulocyte eukaryotic initiation factor 2, (rabbit), **146**, 114
- and manganese, independent binding to glutamate synthetase active site (*Bacillus cereus*), **142**, 475
- Na^+ antiport, characterization by simultaneous $^{28}Mg^{2+}$ influx (chicken erythrocytes), **148**, 1069

Subject Index

- tissue levels, effects of spinal cord impact trauma (rat), **147**, 1170
- Maitotoxin**
effects on ionic and secretory events in pancreatic islets (rat), **144**, 172
- Malate dehydrogenase**
microheterogeneity (chicken, guinea pig liver, skeletal muscle), **147**, 753
- Malate dehydrogenase (oxaloacetate-decarboxylating) (NADP⁺)**
activity in isolated hepatocytes, dependence on cell density, analysis (rat), **149**, 118
- m-Maleimidobenzoyl N-hydroxysuccinimide ester**
as affinity label for analysis of cholecystokinin receptors in pancreas (rat), **143**, 761
- Malic enzyme**
NADP-linked, *see* Malate dehydrogenase (oxaloacetate-decarboxylating) (NADP⁺)
- Malondialdehyde**
hepatic synthesis, effect of food restriction (rat), **145**, 1185
- Malonyl-CoA**
binding protein, purification and characterization (rat liver), **147**, 234
sensitivity of hepatic carnitine palmitoyltransferase, effect of ethanol feeding (rat), **149**, 443
- Mammary-derived growth inhibitor**
antibodies, reactions with fibroblast growth inhibitor and heart fatty acid-binding protein (bovine), **148**, 1425
- Manganese**
-containing purple acid phosphatase, purification and characterization (sweet potato), **146**, 1173
and magnesium, independent binding to glutamate synthetase active site (*Bacillus cereus*), **142**, 475
- Mannoheptulose**
induced alterations in endogenous insulin-glucagon ratio, effect on mitochondrial function (rat liver), **142**, 315
- Mannose 6-phosphate**
interactions with insulin-like growth factor II receptor (human fetal brain), **149**, 600
- Mannose-6-phosphate receptors**
antibodies, interactions with human insulin-like growth factor II receptor (bovine), **149**, 600
- Mannose receptors**
alveolar macrophage, purification (human), **148**, 883
hepatic, *in vivo* depletion by ricin A chain, effect on clearance of β -glucuronidase (rat), **146**, 849
- Mannosylsaccharides**
 α 1,2-linked, site of phosphorylation by *N*-acetylglucosamine-1-phosphotransferase from fibroblasts, **142**, 354
- Mass spectrometer**
improved detection limits with combined matrix free FAB and photodiode array detection, **145**, 542
- Mass spectrometry**
fast atom bombardment, *see* Fast atom bombardment mass spectrometry
field desorption, conformational effect of peptide derivative fragmentation, **146**, 907
- Mass spectroscopy**
cross-reacting determinant glycan from variant specific glycoprotein (*Trypanosoma brucei brucei* MITat 1.6), **146**, 1055
- polar lipids desorbed from lyophilized membranes and cells (*Escherichia coli*, rat brain), **142**, 194
- Mast cells**
agonist activation, association with subcellular redistribution of protein kinase C (rat), **142**, 645
-degranulating peptide, and dendrotoxin I, allosteric interaction of respective receptors (rat brain), **143**, 383
histamine release
inhibition by low-density lipoproteins (human lung), **148**, 553
role of Ca²⁺, Mg²⁺-ATPase (rat), **144**, 951
- MC9**, cloned, antigen- and ionophore-stimulated synthesis of platelet-activating factor (mouse), **144**, 1243
- peritoneal, Ca²⁺ uptake, effect on histamine release and prostaglandin D₂ production (rat), **143**, 467
- permeabilized, arachidonic acid release, stimulation by guanosine 5'-(γ -thio)triphosphate (rat peritoneum), **145**, 1267
- Melanin**
formation via dopa and tyrosine oxidation, role of reactive oxygen species, **142**, 265
- Melanocyte growth factor**
melanoma-derived, purification and characterization (human), **146**, 1204
- α -Melanocyte-stimulating hormone, *see* α -Melanotropin
- α -Melanotropin
secretion from permeabilized cells of pituitary intermediate lobe, stimulation by cAMP (rat), **143**, 1076
- β -Melanotropin
binding capacity and responsiveness in melanoma cells, stimulation by L-dopa phosphorylated isomers (mouse), **145**, 719
- Melatonin**
levels in harderian gland, effects of light-dark cycle and 6-*para*-chlorophenylalanine administration (female hamster), **145**, 1231
- Mellitic acid**
enhancement of thrombin inhibition by heparin cofactor II (human plasma), **148**, 362
- Membrane metallo-endopeptidase**
antibody to, identification of λ GT11 fusion protein (rabbit kidney), **145**, 488
assay with fluorescent substrates, **143**, 58
encoding genes, cloning and sequence analysis (rat), **144**, 59
inhibitory potencies of thiorphan and retrothiorphan enantiomers and interaction with thermolysin active site, computer model, **147**, 1034
- Membrane potential**
effect on chromaffin granule ATPase regulation of proton pumping (bovine adrenal gland), **149**, 140
- Membranes**
associated type-1 protein phosphatase-activating protein kinase F_A, detection (porcine brain, liver; rabbit heart, skeletal muscle), **142**, 38
basolateral
identification of fodrin-like protein (rat liver), **145**, 1033
imidazoline binding sites, identification (rabbit kidney), **147**, 1055

Subject Index

- brush border
 Na^+ -dependent transport system, inhibition by *N,N'*-dicyclohexylcarbodiimide (rat kidney), **147**, 375
 vesicle fluidity, age-related changes (rat kidney), **142**, 849
- cardiac, Ca^{2+} channel-associated 1,4-dihydropyridine receptors, photoaffinity labeling (hamster), **148**, 926
- cerebellar
 galanin receptors, identification and characterization (rat), **144**, 298
 stereospecific recognition sites for [^3H]inositol(1,4,5)-trisphosphate, identification (rat), **146**, 1071
- cerebral myelin interaction with myelin basic protein, mechanism, role of arginine methylation (bovine), **145**, 1112
- chloroplast, preparation and identification of phosphate translocator (maize), **143**, 164
- chorioallantoic, induction of angiogenesis by mixtures of human angiogenin and bovine acidic fibroblast growth factor (chicken), **146**, 1122
- chromaffin granule, occurrence of 3-sulfoglucuronic acid (bovine adrenal medulla), **145**, 1142
- Dictyostelium discoideum*, cholera and pertussis toxin ADP-ribosylation, **149**, 975
- epididymal, binding of β -galactosidase from epididymal fluid, analysis (rat), **143**, 799
- erythrocyte
 detection of crosslinked polymers in Hb-Koln disease (human), **147**, 602
 Na^+ , K^+ -ATPase activity in diabetes mellitus (human), **146**, 179
 phosphorylation, increase in hypertensive patients, **145**, 1329
 skeletal protein interactions, effects of polyanion exposure and inositol hexaphosphate incorporation, ESR studies (human), **144**, 779
 structural analysis by 1,6-diphenyl-1,3,5-hexatriene fluorescence lifetime distribution (human), **147**, 460
 heavy gastric, enriched with H^+ , K^+ -ATPase, K^+ transport, effect of lysophosphatidylcholine (rat), **146**, 840
- leukemic HL-60 cells
 [^3H]inositol(1,3,4,5)tetrakisphosphate-specific binding sites, identification (human), **149**, 680
 reversible activation of NADPH oxidase (human), **146**, 1296
- microsomal, protein and lipid composition after bile duct ligation (rat liver), **144**, 980
- neutrophil, associated protein kinase C, regulation by guanine nucleotides (rabbit), **142**, 242
- oriented purple, polarized attenuated total reflectance spectra (*Halobacterium cutirubrum*), **145**, 298
- ovarian, protein kinase C translocation, induction by prostaglandin $\text{F}_{2\alpha}$ (swine), **149**, 112
- Paramecium*, temperature-specific surface antigen anchor region, identification as glycosylinositol phospholipid, **147**, 1219
- permeability and ion channels, effects of plant hormones, **143**, 1085
- phospholipid bilayer, immobilization by UV irradiation, **146**, 1116
- photoreceptor, GTPase levels, effect on turnover rate (bovine retina), **146**, 379
- plasma, *see* Plasma membranes
- pulmonary, detection of leukotriene B_4 receptors (guinea pig), **143**, 364
- renal, atrial natriuretic factor binding in salt-sensitive and salt-resistant rats, correlation with cGMP production, **144**, 1076
- rough endoplasmic reticulum, detection of cytoplasmically exposed high-affinity GTP-binding sites (rat liver), **148**, 478
- sarcolemmal, phospholipid N-methylation during cardiomyopathy, analysis (hamster), **143**, 31
- S49 CYC $^-$, reconstitution of guanine stimulatory regulatory proteins from melanoma cell clones, **147**, 443
- stable phospholipid, supported on porous filter paper, construction, **145**, 1092
- synaptosomal, radiolabeling of multiple binding sites with 2-[^{125}I]iodomelatonin (hamster brain), **147**, 949
- thyroid, detection of ADP-ribosylated G-like protein multiple isoforms (dog, bovine, pig), **144**, 536
- vesicles, sinusoidal, glutathione transport, characterization (rat liver), **143**, 377
- v-Ha-ras protein phosphorylation, stimulation by insulin, **144**, 19
- Menadione
 effect on cytochrome P-450-linked monooxygenase systems (human placenta, rabbit liver), **146**, 487
- Mental retardation
 associated with methemoglobin, reduction of palmitoyl-CoA elongation in platelets and leukocytes (human), **148**, 384
- 1-Mercapto-*n*-alkanes
 long-chain, inhibition of alcohol dehydrogenase (equine liver), **142**, 993
- [1-(β -Mercapto- β , β -cyclopentamethylenepropionic acid)-2-(*O*-ethyl)-D-tyrosine, 4-valine]arginine-vasopressin
 desensitization of vasopressin-stimulated adenylate cyclase (rat kidney), **144**, 770
- 7-Mercaptoheptanoylthreonine phosphate
 and coenzyme M, heterodisulfide, production by methylreductase reaction (*Methanobacterium thermoautotrophicum*), **149**, 455
 role in methylcoenzyme M methylreductase system (*Methanobacterium thermoautotrophicum*), **145**, 204
- 2-Mercaptomethylglutaric acid
 inhibition of γ -glutamyl hydrolases in fibroblasts and lymphocytes (human), **144**, 292
- Mesangial cells
 alkyl-ether glycerophospholipid synthesis, evidence for alkylidihydroxyacetone phosphate synthase activity (rat), **144**, 666
 cytosolic free Ca^{2+} and inositol phosphate levels, stimulation by prostaglandins *in vitro* (rat), **142**, 579
- Metallo-endoropeptidase
 membrane, *see* Membrane metallo-endoropeptidase
 role in inactivation of bradykinin by brain slices (rat), **146**, 154
 soluble intracellular, role in myoblast fusion (rat), **147**, 474

Subject Index

- Metalloendoprotease inhibitors
effects on insulin binding, internalization, and processing (rat adipocytes), **142**, 205
- Metalloproteinase inhibitors
tissue, human recombinant, inhibition of type I collagen film degradation by osteoblasts (mouse), **148**, 596
- Metallothionein
mRNA, ontogenic regulation (chicken liver), **147**, 226
- Metastasis
transformed fibroblasts, effect of transfer of v-fos oncogene (rat), **149**, 173
- Methane
synthesis from acetate *in vitro*, role of acetyl-CoA (*Methanosarcina barkeri*), **147**, 254
- Methanobacterium thermoautotrophicum*
cytoplasmic cofactor, structure, **147**, 1021
methylreductase reaction, production of heterodisulfide of coenzyme M and 7-mercaptoheptanoylthreonine phosphate, **149**, 455
- Methemoglobin
hereditary, associated with mental retardation, reduction of palmitoyl-CoA elongation in platelets and leukocytes (human), **148**, 384
- 3-Methionine
¹³C-labeled, incorporation into *Escherichia coli* alkaline phosphatase, **144**, 375
- Methionine-enkephalin
derived peptide, intact and oxidized, effect of neutrophil elastase (human), **147**, 416
- Methionine⁵-enkephalinamide
in aqueous solution, ethanol-induced conformational changes, ¹H NMR, **143**, 126
- Methoxamine
induction of polyamine and DNA synthesis in parotid gland (mouse), **144**, 1161
- 2-Methoxy-4-aminoazobenzene
induction of cytochrome P-448 isozymes in primary cultured hepatocytes (rat), **148**, 947
- 8-Methoxycarbonyloctyl trisaccharide
in assay for UDP-N-acetylglucosamine:α-mannoside β(1,6)-N-acetylglucosaminyltransferase in cultured cells, **146**, 679
- 1-Methyladenine
synthesis by follicle cells, regulatory role of cAMP (starfish), **147**, 8
- Methylarginine
content in bovine myelin basic protein, decrease in presence of partially purified S-adenosylmethionine: myelin basic protein N-methyltransferase, **142**, 200
- Methylase
Hha I, DNA methylation, effects on cleavage reactions by Hae II, Aha II, and Ban I endonucleases, **145**, 482
- Methylation
adenine
role in myelin basic protein interaction with myelin membrane (bovine brain), **145**, 1112
in zein genes, analysis (maize), **147**, 1082
deoxycytidines in DNA, quantitation (human), **145**, 888
DNA(cytosine-5)-methyltransferase, effect of dT• dG mispair (human), **146**, 596
DNA in isogenic hepatoma cell lines, relationship to α-fetoprotein gene expression (rat), **143**, 447
sarcolemmal phosphatidylethanolamine during cardiomyopathy, analysis (hamster), **143**, 31
tissue-specific, c-myc gene, analysis (adult chicken), **149**, 313
- 3-Methylcholanthrene
induction of
cytochrome P-448 isozymes in primary cultured hepatocytes (rat), **148**, 947
epidermal NADPH:quinone reductase, role in detoxification (mouse, rat), **146**, 126
hepatic porphyria and inhibition of uroporphyrinogen decarboxylase (Fe-loaded mouse), **146**, 13
-treated embryo, hepatic extracts, oxidation of uroporphyrinogen, role of cytochrome P-450 (chicken), **146**, 1324
- Methyl-CoM
associated cytoplasmic cofactor, structural analysis (*Methanobacterium thermoautotrophicum*), **147**, 1021
synthesis from acetate *in vitro*, role of acetyl-CoA (*Methanosarcina barkeri*), **147**, 254
- Methyl-CoM methylreductase
system in *Methanobacterium thermoautotrophicum*, role of 7-mercaptoheptanoylthreonine phosphate, **145**, 204
- Methylenecyclopropaneacetyl-CoA
inactivation of general acyl-CoA dehydrogenase, kinetic analysis (porcine kidney), **146**, 1277
- 3-O-Methylglucose
transport into isolated adipocytes, stimulation by glucose tolerance factor (rat), **144**, 1237
- Methylglyoxal bis(butylamidinehydrazone)
inhibition of phorbol ester-induced ornithine decarboxylase (murine brain, liver, lung), **144**, 757
- Methylglyoxal bis(guanyldiazide), *see* Mitoguanone
- Methyl groups
substitution at 5-position of pyrimidine, biological effects, **148**, 790
- 7-Methylguanosine 5'-phosphate
inhibition of mRNA translation, reversion by polysomal and soluble factors (*Saccharomyces cerevisiae*), **146**, 1093
- N-Methylhydantoin amidohydrolase
hydrolysis reaction, characterization: requirement for coupled ATP hydrolysis (*Pseudomonas putida* 77), **142**, 1006
- 3-Methylindole
inhibition of lipid peroxidation in pulmonary microsomes (goat), **149**, 73
- Methyl iodide
induction of adaptive response in *Escherichia coli* without appreciable mutagenicity, **144**, 447
- N-Methyl-Nβ7-nitro-N-nitrosoguanidine
induced DNA damage in Alzheimer's disease fibroblasts, normal repair as determined by alkaline elution (human), **149**, 355
transformation of C3H 10T1/2 cells, activation of Ha-ras gene, **147**, 1194

Subject Index

- N*-Methyl-*N*-nitrosourea
cytotoxicity, temperature dependence (Chinese hamster V79 cells), **146**, 67
- 1-Methyl-4-phenyl-2,3-dihydropyridinium
one-electron oxidation, analysis, **147**, 354
oxidation mechanism, **144**, 692
- 1-Methyl-4-phenylpyridinium ion
bio-reduction: role of MPTP in neurotoxicity (murine liver), **147**, 1095
formation from MPTP, intermediate oxidation states, **144**, 957
inhibition of
 α -ketoglutarate dehydrogenase (murine brain), **143**, 971
 mitochondrial respiration (rat liver), **148**, 684; *erratum*, **149**, 1220
 NADH:ubiquinone oxidoreductase (rat brain), **143**, 294
- 1-Methyl-4-phenyl-1,2,3,6-tetrahydropyridine
competitive inhibition of cytochrome *P*-450 isozymes catalyzing debrisoquine 4-hydroxylation (human, rat), **148**, 1144
induction of glutathione depletion in hepatocytes, mechanism (rat), **148**, 153
intermediate oxidation states during conversion to MPP⁺, **144**, 957
neurotoxicity, mechanism, relationship to bio-reduction of paraquat, MPP⁺, and analogs (murine liver), **147**, 1095
- 2-Methyl-tetrahydroquinoline
identification in parkinsonian and normal brain (human), **144**, 1084
- Metyrapone
effect on cytokinin metabolism in green tomato pericarp, **144**, 109
- Mezerein
and Ca²⁺ ionophore, induction of interferon- γ production and mRNAs of interleukin 2 and interferon γ (human leukocytes), **146**, 927
- Microemulsions
droplets containing glycogen phosphorylase, spin-label studies, **148**, 1151
- Microfilaments
role in 11 β -hydroxysteroid formation in adrenocortical cells (*Rana ridibunda*), **148**, 1354
- α_1 -Microglobulin
and complement factor C8 γ chain, homology (human), **149**, 282
- Microsomes
Ca²⁺-transporting, derived from sarcoplasmic reticulum, Ca²⁺ binding analysis (bovine uterus), **147**, 13
hepatic
 cholesterol ester hydrolase, topological studies (rat), **146**, 1212
 constitutive cytochrome *P*-450 levels, effect of diabetes (rat), **142**, 623
 ω -hydroxylation of *N*-acetyl-leukotriene E₄ (rat), **143**, 337
 membrane protein and lipid composition, effect of bile duct ligation (rat), **144**, 980
 synthesis of catechol estrogens, prolonged inhibitory effects of cobalt-protoporphyrin (rat), **145**, 376
 jejunal, acyl CoA:cholesterol acyl transferase activity, effect of dietary 5 α -cholest-8(14)-en-3 β -ol-15-one (rat), **148**, 920
 lipid peroxidation, effects of EDTA-Fe(III) chemical structure (rat brain), **145**, 211
 lumen, detection and characterization of cathepsin D precursor *in vitro* (rat liver), **148**, 335
 placental, constitutive 7-ethoxycoumarin *O*-deethylase activity, relationship to aromatase (human), **145**, 1012
- Microtiter plate assay
chromogenic, for plasminogen activators, description (human), **142**, 147
- Microtubules
associated proteins, binding of 30- and 60-kDa cerebral mitochondrial proteins, visualization by ligand blotting (rat), **149**, 776
binding domain of microtubule-associated protein-2, detection of neurofilament-binding site (bovine brain), **148**, 1453
cytosynalin- and microtubule-associated proteins, induced formation, comparison (bovine brain), **146**, 711
dimer assembly, relationship to GTP hydrolysis, **147**, 588
formation from sperm 19S dynein-induced polymerization of brain tubulin (bovine), **148**, 218
super-stable state, induction by STOP protein (bovine brain), **148**, 429
tubulin, dynamic properties at steady state of polymerization (bovine brain), **149**, 461
- Microvilli
leukemic L1210 cells, distribution of transferrin and transcobalamin II receptors, **146**, 1102
- Mitochondria
Ca²⁺ release, stimulation by hydroperoxyeicosatetraenoic acids (rat liver), **143**, 609
effects of acute alterations in endogenous insulin-glucagon ratio (rat liver), **142**, 315
energy transduction, role of chargerin II, immunochemical analysis (rat liver), **146**, 953
function in myopathic heart, effects of dietary selenium (hamster), **144**, 815
lysates from Ehrlich ascites cells, stimulation of transcription and translation by aurin tricarboxylic acid, **145**, 1149
matrix, localization of chelator-sensitive proteases (*Saccharomyces cerevisiae*), **144**, 277
NADP⁺ phosphatase, detection (rat liver), **146**, 253
oxidative phosphorylation
 inhibition by cyanine dye (rat liver), **148**, 1081
 uncoupling by hexetidine (rat liver), **147**, 801
pCa and pH, estimation by fura-2 and 2,7-bis(carboxyethyl)-5(6)-carboxyfluorescein fluorescence (rat heart), **149**, 40
respiration, inhibition by analogs of 4-phenylpyridine and 1-methyl-4-phenylpyridinium cation (rat liver), **148**, 684; *erratum*, **149**, 1220
30- and 60-kDa proteins, binding to microtubule-associated proteins, visualization by ligand blotting (rat brain), **149**, 776
transport of ornithine carbamoyltransferase precursor
 inhibition by apocytochrome *c* (rat liver), **146**, 1318

Subject Index

- stimulation by spermidine and spermine (rat liver), **149**, 21
- Mitogenesis**
bombesin-induced, inhibition by pertussis toxin: dissociation from phospholipase C pathway (Swiss 3T3 cells), **146**, 456
- Mitogenicity**
hybrid molecules containing A-domain of insulin-like growth factor I and insulin B-chain, enhanced activity relative to insulin, **149**, 672
- Mitoguazone**
resistant adenovirus-transformed cell revertants, isolation and uptake characteristics (rat brain), **147**, 675
- Mitosis**
inhibiting peptide, epidermal, isolation and characterization (mouse), **146**, 1493
12-*O*-tetradecanoylphorbol-13-acetate-induced in keratinocyte monolayer cultures, relationship to DNA synthesis (rat), **146**, 777
- Models**
splicing, for synthesis and secretion of 20-kDa form of growth hormone (rat pituitary), **147**, 650
- Moloney murine leukemia virus**
inhibitory effects of castanospermine and deoxynojirimycin, **148**, 206
- Moloney murine sarcoma virus**
transformation-associated proteins, interaction with specific receptors on kidney cells (rat), **147**, 513
- Molting**
inhibition by selenate, relationship to inhibition of heparin sulfate and chondroitin sulfate synthesis (*Rhodnius prolixus*), **146**, 652
- Mono(ADP-ribosylation)**
Ca²⁺-dependent ATPase in skeletal muscle sarcoplasmic reticulum, effect of poly L-lysine (sheep), **144**, 856
- Monoamine oxidase**, *see* Amine oxidase
- Monoclonal antibodies**
angiotensin II, secreting hybridomas, generation (mouse), **143**, 133
anti-H2K^k IgG, liposome targeting, role of multivalency (RDM-4 lymphoma cells), **145**, 1205
anti-idiotypic, to nicotine binding site on brain receptor, preparation and characterization (rat), **145**, 847
anti-parathyroid, inhibition of Ca²⁺-sensor in parathyroid cells (human), **143**, 570
binding sites, flexible opiate conformations, ¹H transferred nuclear Overhauser effect measurements, **141**, 1267; *erratum*, **143**, 797
C3.1, identification as platelet-derived growth factor antagonist, **147**, 839
CD9, activation of platelets, mechanism, comparison with thrombin (human), **146**, 1397
detection by Western blotting, procedural improvements, **146**, 1509
directed against head region of vimentin, synthesis and characterization (Ehrlich ascites cells), **146**, 1366
to endotoxin lipid A antigenic determinants, analysis of cross-reactivities with synthetic models (*Bordetella pertussis*), **143**, 723
growth hormone, potentiation of hormone effects on somatomedin C levels and growth (hypophysectomized rat), **149**, 187
hemopexin, in analysis of species cross-reactivity, **144**, 88
hepatitis B virus surface antigen, secreting hybridoma, establishment (human), **142**, 805
to high-anti left-handed oligonucleotide duplex, preparation and characterization, **144**, 930
in identification of functional regions in C-terminal domain of ribosomal protein S1 (*Escherichia coli*), **149**, 34
in immunoenzymatic localization of GTP cyclohydrolase I in peripheral blood smears (human), **148**, 1232
insulin-like growth factor II receptor
inhibition of growth of MCF-7 breast carcinoma cells in tissue culture (human), **149**, 276
production (rat), **146**, 717
murine 528 IgG, biological screening method, **149**, 309
OKT-3, alteration of accessibility of surface thiols (human lymphocytes), **140**, 999; *erratum*, **147**, 1300
to phosphoenolpyruvate carboxylase G isozyme subunit, analysis of enzyme photoregulation (sorghum), **143**, 170
production by L-leucine methyl ester-treated and *in vitro* immunized peripheral blood lymphocytes (human), **148**, 941
- Monocytes**
derived hepatocyte-stimulating factor, isolation and characterization (human), **144**, 1003
interleukin-1 induction and release, role of Ca²⁺ (human), **147**, 1027
-like U937 cells
interferon-treated, potential mechanisms, **145**, 1295
phorbol ester-induced adhesion, cholesterol requirement (human), **144**, 1167
-produced neutrophil-activating factor, purification and amino acid sequencing (human), **149**, 755
prostaglandin E₂ and thromboxane B₂ synthesis, stimulation by interleukin 2 (human), **147**, 86
- Mononuclear cells**
peripheral blood, from systemic lupus erythematosus patients, synthesis of heat-shock proteins, **148**, 1063
- Monosodium urate**
and calcium pyrophosphate, differential activation of excitation-response coupling sequence (human neutrophils), **149**, 649
- MPP⁺**, *see* 1-Methyl-4-phenylpyridinium ion
- MPTP**, *see* 1-Methyl-4-phenyl-1,2,3,6-tetrahydropyridine
- Mucin**
degradation by *Campylobacter pyloridis* (human), **144**, 307
viscosity and permeability to hydrogen ion, role of carbohydrates (canine stomach), **142**, 783
- Mucosal cells**
gastric
D-cell, stimulatory and inhibitory effects of carbamoylcholine, mechanism (dog), **147**, 140
degradation by *Campylobacter pyloridis* (human), **144**, 307
- Murine leukemia virus**
virion-associated reverse transcriptase, inhibition by hemin, **149**, 628

Subject Index

Muscarinic receptors

airway smooth muscle, effect of hydrogen peroxide (rat), **145**, 357

Ca²⁺ mobilization in astrocytoma cells, measurement with quin 2 fluorescence (human), **147**, 182

M₂, associated ionophore at adrenal medulla, detection (cat), **144**, 965

phosphorylation, characterization: evidence for receptor regulation (porcine synaptic membrane), **142**, 911

Muscles

chloride conductance decrease, induction by protein kinase C activators, mechanism (mouse), **148**, 1383

skeletal

insulin and insulin-like growth factor I receptors, comparison with L-6 monocytes (rat), **147**, 100

modulation of ryanodine-induced Ca²⁺ release (amphibian sp.), **142**, 674

specific expression of activated glucocorticoid receptors (rat), **142**, 322

smooth

and airway epithelium, β -adrenergic receptors, comparison (bovine), **148**, 178

Ca²⁺ release, inositol 1,4,5-trisphosphate-induced, dependence on Ca²⁺ levels (guinea pig), **142**, 47

cGMP response to atrial natriuretic factor analogs, comparison with aortic vasorelaxation (rabbit), **144**, 422

contraction, inhibition by impurities in commercial xanthine oxidase preparations (porcine heart), **143**, 575

fibronectin and thrombospondin synthesis, effect of heparin (human), **148**, 1264

hypertensive aortic, vasorelaxant effects of atriopeptin III (rat), **146**, 80

induction of cytosolic free Ca²⁺ transients by serotonin (rat aorta), **143**, 532

prostaglandin E₂ release, inhibition by cyclosporin A (rat aorta), **147**, 542

protein release, induction by heparin (human intestine), **142**, 542

sex-mediated lipid metabolism (human aorta), **144**, 284

specific expression of activated glucocorticoid receptors (rat), **142**, 322

synthesis of matrix proteins, suppression by herpes simplex virus type 1 (bovine), **143**, 145

vascular, identification of atrial natriuretic factor receptor subtypes (rat), **147**, 1146

vasopressin-induced ⁴⁵Ca influx (rat aorta), **148**, 273

tail, fatigue and recovery, *in vivo* ³¹P NMR (*Palaemon elegans*), **145**, 453

Muscular dystrophy

purine metabolism, effect of chronic allopurinol therapy (human), **147**, 152

Mutagenesis

site-directed

hepatitis B virus surface antigen DNA codon 160 from arginine to lysine, conversion of subtypic determinant from r to w, **148**, 500

ribulose-bisphosphate carboxylase/oxygenase, in analysis of Glu-48 functional role (*Rhodospirillum rubrum*), **145**, 1158

β subunit from F₁-ATPase, effect on catalytic activity (*Escherichia coli*), **146**, 705

Mutants

Celipitium-resistant, relationship between drug uptake and cytotoxicity (*Streptococcus pneumoniae*), **145**, 927

cytochrome P-450-deficient, characterization (*Candida albicans*), **147**, 794

hydroxyurea-resistant, reversion, association with decline in ribonucleotide reductase activity and loss of M2 gene amplification (CHO cells), **145**, 1276

hypophosphatemic, X-linked, phosphate readsorption by renal tubular cells, effects of parathyroid hormone, low phosphate environment, and 12-O-tetradecanoyl phorbol-13-acetate (mouse), **144**, 763

organophosphonate-deficient, genetic characterization (*Escherichia coli*), **148**, 148

pause, observation in total synthesis of T4 lysozyme (*Escherichia coli*), **149**, 340

spf and *spf-ash*, ornithine transcarbamylase deficiency: analysis of genes, mRNA, and mRNA precursors (mouse), **146**, 1064

Mutations

point, codon 13 of N-ras oncogene, detection in stomach cancer cells (human), **146**, 247

polymorphic, in 21-hydroxylase gene, prevalence in salt-losing congenital adrenal hyperplasia (human), **142**, 798

wasted, homozygous immunodeficient mice, adenosine deaminase activity in recipients of transplanted bone marrow, **145**, 581

Myelin

lyophilized, desorbed polar lipids, mass spectral analysis (rat brain), **142**, 194

Myelin basic protein

L-aspartate and L-serine, differential racemization (human), **146**, 1342

fragmentation, identification of phosphorylated domains (human), **144**, 1287

incorporation of ³²P-labeled phosphoinositides *in vitro*, **145**, 803

inhibition of 2':3'-cyclic-nucleotide 3'-phosphodiesterase (bovine, human brain), **145**, 686

interaction with myelin membrane, mechanism, role of arginine methylation (bovine brain), **145**, 1112

methylarginine content, decrease in presence of partially purified S-adenosylmethionine:myelin basic protein N-methyltransferase (bovine brain), **142**, 200

phosphorylation, stimulation by chloroform (murine brain), **146**, 1084

Myoblasts

fusion, role of intracellular soluble metalloendoprotease (rat), **147**, 474

nondifferentiating, C-type retrovirus expression, relationship to neoplastic progression (rat), **142**, 1111

Myocrisin, *see* Gold sodium thiomalate

Myocytes

aortic

⁴⁵Ca uptake by primary cultures, effects of ionized Ca²⁺ and 1,25-dihydroxyvitamin D₃ (normotensive, spontaneously hypertensive rats), **146**, 1330

Subject Index

- inositol phosphate metabolism and Ca^{2+} levels, effects of ATP (rat), **143**, 454
- cardiac
- intracellular Ca^{2+} , assay by fluorescence microscopy: calibration of fura-2 ratios (rat), **147**, 120
 - intracellular glutathione levels, enhancement by external oxidized glutathione (rat), **147**, 658
 - primary, from offspring, Ca^{2+} levels, effects of ethanol and exercise during pregnancy (rat), **142**, 496
 - synthesis of atrial natriuretic factor, comparative effects of dexamethasone (neonatal rat), **148**, 1030
 - synthesis and secretion of atrial natriuretic factor, effects of steroid and thyroid hormones (rat), **145**, 336
- insulin and insulin-like growth factor I receptors, comparison with skeletal muscle (rat), **147**, 100
- ventricular, cyclic nucleotide levels and phosphatidylinositol turnover, effect of atrial natriuretic factor (rabbit), **148**, 962
- Myofibroblast growth factor
- isolation from breast carcinoma cell lines (human), **149**, 1125
- Myosin
- dependent contraction of actin-binding protein-induced actin gel, **144**, 936
 - heavy chain, N-terminus, immunochemical probing (rabbit muscle), **147**, 369
 - light chain phosphorylation, role in platelet activation (human), **140**, 280; *erratum*, **142**, 289
- Myosin ATPase
- activity and endogenous phosphorylation, regulation by Ca^{2+} /calmodulin (rabbit brain), **145**, 1217
 - tropomyosin-enhanced, in platelets, inhibition by caldesmon (porcine blood), **143**, 475
- Myosin light-chain kinase
- smooth muscle, Ca^{2+} /calmodulin-dependent, regulation by calpain (chicken), **145**, 1321
- Myosin light-chain kinase inhibitors
- effect on dopamine secretion by pheochromocytoma cells (rat), **143**, 1045
- Myotonia
- induction by protein kinase C activators, mechanism (mouse), **148**, 1383
- Myotubes
- exposed to forskolin, acetylcholine receptor channel properties (rat), **147**, 1000
- 12-Myristate 13-acetate
- induction of monocyte-like cell adhesion, cholesterol requirement (human), **144**, 1167
- Myristic acid
- hydroxylamine stable covalent linkage, detection in guanine nucleotide-binding protein G_o α (bovine brain), **146**, 1234
- N
- NAD^+ (oxidized nicotinamide adenine dinucleotide)
- regulation of adenylate cyclase in cardiac membrane (rabbit), **142**, 631
- NAD^+ ADP-ribosyltransferase
- cDNA
 - full-length nucleotide sequence (human fibroblasts), **148**, 617
 - molecular cloning and expression in HL-60 cells during differentiation (human), **146**, 403; *erratum*, **148**, 1549
 - interaction with DNA, loop formation (bovine thymus), **148**, 913
- NADH (reduced nicotinamide adenine dinucleotide)
- binding to alcohol dehydrogenase β_1 and β_3 subunits, comparison (human), **146**, 1227
 - fluorescence decay kinetics, origin of heterogeneity, **144**, 387
 - inactivation by adriamycin-iron complex, protective effect of coenzyme Q (bovine heart), **147**, 572
 - nonenzymatic oxidation, inhibition by daunomycin, **143**, 1037
 - oxidation, inhibition by pyridine derivatives (rat liver), **146**, 53
- NADH dehydrogenase (ubiquinone)
- mitochondrial, inhibition by 1-methyl-4-phenylpyridinium ion (rat brain), **143**, 294
- NADH:ubiquinone oxidoreductase, *see* NADH dehydrogenase (ubiquinone)
- NADP^+ (oxidized nicotinamide adenine dinucleotide phosphate)
- NADPH ratio in adipocytes and hepatocytes, role in insulin regulation of pentose phosphate cycle (rat), **146**, 920
 - periodate-oxidized, inhibition of placental estradiol-17 β dehydrogenase (human), **146**, 645
- NADPH (reduced nicotinamide adenine dinucleotide phosphate)
- NADP ratio in adipocytes and hepatocytes, role in insulin regulation of pentose phosphate cycle (rat), **146**, 920
 - 4R- and 4S-tritium-labeled, synthesis and application in determination of coenzyme stereospecificity of NADPH:protochlorophyllide oxidoreductase (*Triticum aestivum*), **148**, 515
- NADPH-cytochrome *c* reductase
- superoxide generation in presence of cytochrome *b*₅₅₉ and phospholipid (porcine neutrophils), **147**, 71
- NADPH dehydrogenase
- stereospecificity, determination with 4R- and 4S-tritium-labeled NADPH (*Triticum aestivum*), **148**, 515
- NAD(P)H dehydrogenase (quinone)
- epidermal, induction by chemical carcinogens, role in detoxification (mouse, rat), **146**, 126
- NADPH: O_2 oxidoreductase
- product specificity, reassessment (human neutrophils), **142**, 213
- NADPH oxidase
- activation by arachidonate in cell-free system, inhibition by W-7 and trifluoperazine (guinea pig macrophages), **148**, 112
 - cell-free activation: tissue and differentiation-specific expression of cytosolic cofactor activity (human neutrophils), **145**, 1198
 - reversible activation in membranes of leukemic HL-60 cells (human), **146**, 1296

Subject Index

- NADPH:protochlorophyllide oxidoreductase, *see* NADPH dehydrogenase
- NAD(P)H:quinone reductase, *see* NAD(P)H dehydrogenase (quinone)
- NADP⁺ phosphatase
detection in mitochondria (rat liver), **146**, 253
- NAD(P)⁺ transhydrogenase
mitochondrial
catalysis and proton pumping, role of vicinal dithiol (bovine heart), **142**, 573
import, inhibition by rhodamine 123 (rat liver), **144**, 477
- Nalorphine
conformation at monoclonal antibody-binding sites, ¹H transferred nuclear Overhauser effect measurements, **141**, 1267; *erratum*, **143**, 797
- Nandrolone phenpropionate
type A, effect on rat granulosa cell differentiation (bovine), **146**, 1405
- Naphthazarin
effect on cytochrome *P*-450-linked monooxygenase systems (human placenta, rabbit liver), **146**, 487
and other naphthol derivatives, inhibition of benzo-[a]pyrene and benzo[a]pyrene-7,8-dihydrodiol metabolism and mutagenicity (*Salmonella typhimurium*), **142**, 939
- α -Naphthoflavone
induction of hepatic porphyria and inhibition of uroporphyrinogen decarboxylase (Fe-loaded mouse), **146**, 13
- β -Naphthoflavone
induction of hepatic porphyria and inhibition of uroporphyrinogen decarboxylase (Fe-loaded mouse), **146**, 13
- 1,2-Naphthoquinone
inhibition of cytochrome *P*-450-linked monooxygenase systems (human placenta, rabbit liver), **146**, 487
- 1,4-Naphthoquinone
effect on cytochrome *P*-450-linked monooxygenase systems (human placenta, rabbit liver), **146**, 487
- Nebulin
skeletal muscle, phosphorylation *in vivo* (frog), **147**, 986
- Neomycin
induction of arachidonic acid release in platelets (human), **146**, 820
inhibition of
agonist-stimulated polyphosphoinositide metabolism in platelets (human), **144**, 454
herpes simplex virus type 1 infection of BHK cells, **141**, 198; *erratum*, **143**, 1112
- Nerve growth factor
encoding gene, expression in murine L cells, enhancement by retinoic acid, **149**, 510
synthesis and secretion by astroglial cells
regulation by catecholamine (mouse), **147**, 1048
relationship to cell growth (murine brain), **142**, 395
- Nerve growth factor receptors
in oligodendrocytes and astrocytes, binding constants (rat), **147**, 422
reduction in sympathetic ganglia from aged mice, **146**, 797
- Nervous tissue
central, differential expression of multiple protein kinase C subspecies (rat), **147**, 911
- Neuraminidase, *see* Sialidase
- Neurofilaments
binding sites, detection in 28,000 M, microtubule-binding domain of microtubule-associated protein-2 (bovine brain), **148**, 1453
dephosphorylated and untreated, Ca²⁺-binding properties (pig), **145**, 1006
phosphorylated epitopes, conservation during chordate evolution, **149**, 807
- Neurogenesis
effect on β -subunit of mitochondrial F₁-ATPase (mouse), **145**, 443
- Neurokinin 1
-substance P receptors, apparent molecular weight, determination with photoaffinity-labeled probe (rat brain), **149**, 297
- Neuronal ceroid lipofuscinosis
cathepsin B deficiency, role of peroxide inhibition (human fibroblasts), **147**, 267
- Neurons
cerebral cortical, localization of growth factor (bovine), **144**, 81
- Neuropeptide Y
and polypeptide YY, differential effects on immunoreactive atrial natriuretic factor (rat), **145**, 680
- Neurophysin
disulfide pairs, partial assignment (bovine), **148**, 827
vasotocin-associated, isolation and sequencing (*Rana esculenta*), **149**, 538
- Neurotensin receptors
on hepatic plasma membranes, characterization (rat), **145**, 1071
- Neutral endopeptidase, *see* Membrane metallo-endopeptidase
- Neutral protease
Ca²⁺-activated, *see* Calpain
- Neutrophil-activating factor
monocyte-derived, activation of neutrophils, regulation by arachidonic acid and 15(*S*)-hydroxy-5,8,11-*cis*-13-*trans*-eicosatetraenoic acid (human), **148**, 636
produced by monocytes, purification and amino acid sequencing (human), **149**, 755
- Neutrophil chemotactic factor
induced Ca²⁺ mobilization and respiratory burst activation, correlation (rabbit), **144**, 794
induced inositol bisphosphate isomer, identification (human), **144**, 264
production by epithelioid cells from cultured renal glomeruli (rat), **149**, 989
- Neutrophil elastase, *see* Leukocyte elastase
- Neutrophils
activation
inhibition by CI-922, mechanism (human), **148**, 1110
by monocyte-derived activating factor, regulation by arachidonic acid and 15(*S*)-hydroxy-5,8,11-*cis*-13-*trans*-eicosatetraenoic acid (human), **148**, 636
Ca²⁺ and protein kinase C mobilization, stimulation by 5-hydroxyeicosatetraenoic acid (human), **148**, 575

Subject Index

- chemotaxis, stimulation by urokinase-type plasminogen activator (human), **147**, 1176
- conversion of leukotriene B₄ to dihydro and 19-hydroxy metabolites (rat), **145**, 991
- cytoskeletal actin increase, signaling mechanisms (rabbit), **145**, 934
- cytotoxicity, role of protein kinase C (human), **148**, 1290
- degranulation
- effect of protein kinase C inhibitor (human), **148**, 747
 - formyl-methionyl-leucyl-phenylalanine-induced, role of cytosolic free Ca²⁺ (human), **145**, 976
 - relationship to Ca²⁺ release (human), **146**, 1386
 - and superoxide production and protein phosphorylation, inhibition by quercetin (human), **144**, 1229
- diacylglycerol kinase translocation after stimulation with chemotactic peptide and phorbol ester (guinea pig), **144**, 1025
- excitation-response coupling sequence, differential activation by monosodium urate and calcium pyrophosphate (human), **149**, 649
- formyl-methionyl-leucyl-phenylalanine-induced G-protein dissociation, GTP-GDP exchange, and GTPase activity, effects of phorbol ester treatment (rabbit), **143**, 489
- ionophore A23187-stimulated, indomethacin-induced lipoxigenase product formation (human), **148**, 534
- 12-lipoxygenase, leukotriene A₄-synthase activity, analysis (bovine), **149**, 258
- oscillatory behavior in response to chemotactic stimulation (human), **147**, 361
- oxyradical burst, real-time visualization with ultrasensitive video intensifier microscopy (human), **149**, 1106
- protein kinase C translocation, induction by bacteria (human), **147**, 787
- respiratory burst, activation, role of calmodulin and protein kinase C, comparison (human), **142**, 53
- resting and activated, S-D-lactoylglutathione levels (human), **145**, 769
- stimulated production and natural occurrence of 1,2-diarachidonoylglycerophosphocholine (human), **145**, 1126
- superoxide anion formation
- in intact and cell-free preparations, induction by saturated and *trans*-unsaturated fatty acids (human, pig), **144**, 606
 - after stimulation with formyl-methionyl-leucyl-phenylalanine, IgG, and C3b, effect of R 59022 (human), **143**, 630
 - stimulation by palytoxin and thapsigargin (human, porcine blood), **143**, 672
- Niacinamide
- prevention of adriamycin-induced interphase death in promyelocytic leukemia cells (human), **144**, 1031
- Nicardipine
- effect on Ca²⁺/calmodulin-dependent cyclic-nucleotide phosphodiesterases from aorta and brain, comparison (rabbit), **148**, 1468
- Nickel
- enhancement of lipid peroxidation, role of hydroxyl radicals: implications for nickel carcinogenesis (rat), **147**, 1276
- Nick-translation
- in radiolabeling of DNA/polypeptide complexes in isolated bulk DNA and residual nuclear matrix DNA, **147**, 340
- Nicotinamide, *see* Niacinamide
- Nicotinamide-nucleotide transhydrogenase, *see* NAD(P)⁺ transhydrogenase
- Nicotine
- binding site on brain receptor, specific anti-idiotypic monoclonal antibodies, preparation and characterization (rat), **145**, 847
 - elimination from liver, induction by phenobarbital pretreatment (rat), **148**, 192
 - induction of catecholamine release from
 - adrenal chromaffin cells, facilitation by pertussis toxin (bovine), **144**, 907
 - chromaffin cells, inhibition by amidorphin C-terminal sequence (bovine adrenal medulla), **143**, 545
- Nifedipine
- effect on 67-kDa calcimedin in cultured macrophages and smooth muscle cells (mouse), **145**, 726
- Nimodipine
- effect on Ca²⁺/calmodulin-dependent cyclic-nucleotide phosphodiesterases from aorta and brain, comparison (rabbit), **148**, 1468
 - ³H-labeled, binding to Ca²⁺ channel receptor protein, inhibition by kappa agonist U50-488H (rat brain), **149**, 1042
- Nitrate reductase
- copper-containing, kinetics and interaction with blue copper protein (*Achromobacter cycloclastes*), **145**, 563
- Nitrate reductase (NADH)
- transcriptional regulation (soybean), **146**, 1160
- Nitrendipine
- augmentation of Bay k 8644-induced Ca²⁺ influx in coronary artery rings (pig), **148**, 1
- Nitrendipine receptors
- and ω-conotoxin receptors, localization in brain (rat), **149**, 982
- Nitric oxide
- cytochrome c' complex, spectral properties (*Rhodopseudomonas capsulata* B100), **145**, 868
 - role in platelet adhesion to vascular endothelium (human), **148**, 1482
- Nitrile hydratase
- identification as quinoprotein (*Brevibacterium* R312), **147**, 701
- Nitroarenes
- mutagenic, detection with tester strains of *Salmonella typhimurium*, **147**, 974
- Nitrobenzylthioinosine
- effect on nucleoside permeation in erythrocytes infected with *Plasmodium yoelii* (mouse), **145**, 1134
- Nitrobenzylthioinosine 5'-monophosphate
- effect on nucleoside permeation in erythrocytes infected with *Plasmodium yoelii* (mouse), **145**, 1134
- 2-Nitrofluorene
- biotransformation to corresponding formylamino compounds (rabbit, rat), **142**, 376

Subject Index

- 1-Nitropyrene
 biotransformation to corresponding formylamino compounds (rabbit, rat), **142**, 376
- N*-Nitrosodiethanolamine
 induction of oxidative stress (rat), **146**, 1047
- N*-Nitrosodiethylamine
 effect on mRNA transcripts of insulin and epidermal growth factor receptors (rat liver), **146**, 87
 induction of oxidative stress (rat), **146**, 1047
- N*-Nitrosomethylbenzylamine
 induction of oxidative stress (rat), **146**, 1047
- Nitrous oxide
 effect on dioxygen utilization by mitochondrial particles (bean seed, bovine heart), **144**, 643
- Nocodazole
 resistant CHO cells, 2-benzimidazolyl urea as antimetabolic compound, identification based on cross-resistance studies, **143**, 225
- Noradrenaline, *see* Norepinephrine
- Nordihydroguaiaretic acid
 effect on tumor necrosis factor- α cytotoxicity (L929 cells), **149**, 815
 inhibition of Ca^{2+} uptake and neurotransmitter release from synaptosomes (guinea pig brain), **146**, 603
- Norepinephrine
 perfused heart, effect on inositol-(1,4,5)trisphosphate kinase activity (rat), **148**, 68
 release from
 adrenal medulla, induction by capsaicin (rat), **142**, 259
 PC12 cells, induction by *Clostridium perfringens* type A enterotoxin, **144**, 217
 stimulation of cAMP synthesis in Ewing's sarcoma cells, **146**, 685
- Nuclear magnetic resonance
 ^{13}C
 human transthyretin and bovine zinc-insulin hexamer, **143**, 116
 in measurement of CO_2 hydration and bicarbonate dehydration rates (human erythrocytes), **143**, 67
 synthesis and application of ^{13}C -enriched phenylisothiocyanate as protein probe, **142**, 1064
 cross-reacting determinant glycan from variant specific glycoprotein (*Trypanosoma brucei brucei* MITat 1.6), **146**, 1055
 Fourier transform, two-dimensional, d-CTCGAGCTCGAG, **144**, 26
 ^1H
 amide hydrogen exchange rates of group A streptococcal polysaccharide in water, **143**, 685
 cytochrome *c* interaction with corresponding specific reductase (*Hansenula anomala*), **145**, 1098
 high-resolution, human arterial plaque, **149**, 437
 isotope-edited, amide proton exchange rates of bound pepsin inhibitor (pig), **147**, 892
 Met⁵-enkephalinamide conformational changes induced by ethanol in aqueous solution, **143**, 126
 plasma, for detection of malignancy (human), **145**, 1397
 β subunit of coupling factor 1 from spinach chloroplasts, **144**, 718
 transferred nuclear Overhauser effect measurements of flexible opiate conformations at monoclonal antibody binding sites, **141**, 1271; *erratum*, **143**, 797
 ^2H , diabetic cataractogenesis in intact lens (rabbit), **142**, 359
 $^1\text{H}/^{13}\text{C}$ inversely correlated, acylation and glycosylation sites on *O*-specific polysaccharide (*Hafnia alvei* 1187), **146**, 1283
 heart by ^1H magnetic resonance imaging and depth-selected EKG-gated ^{31}P magnetic resonance spectroscopy *in vivo* (rat), **144**, 841
 ^{31}P
 alveolar macrophages and lymphoid tumor cells, fluoride effects (rabbit), **147**, 519
 in analysis of cerebral metabolism in tumor cells (mouse), **144**, 53
 multilamellar liposomes from *Thermus aquaticus*, **148**, 397
 tail muscle fatigue and recovery *in vivo* (*Palaemon elephas*), **145**, 453
- Nuclear matrix
 bound DNA, enrichment of autonomously replicating sequences (HeLa cells), **144**, 1018
 detection of multiple thyroid hormone receptors (rat liver), **148**, 1496
- Nuclear Overhauser effects
 as diagnostic for left-handed helical conformations in peptides, **149**, 953
- Nuclease
 sensitive control element in unfertilized eggs, analysis (*Lytechinus pictus*), **145**, 921
- Nuclei
 hepatic, binding by protein kinase C (rat), **145**, 760
 HL-60 promyelocytic leukemia, specific binding of phorbol esters (human), **144**, 393
- Nucleic acids
 damage and repair model: thymidine bromohydrin repair by sunlight or heat, **148**, 995
- Nucleobases
 liberation from nucleotides by superoxide, enhancement by phosphate group, **142**, 1104
- Nucleoplasm
 localization of U3 small nucleolar RNA genes (HeLa cells), **143**, 658
- Nucleoside-diphosphate kinase
 direct activation of guanine nucleotide-binding proteins through high-energy phosphate transfer, **148**, 300
 physiological correlation with enzyme-associated guanine nucleotide-binding proteins (Ehrlich ascites tumor cells), **143**, 552
- Nucleosides
 channeling *in vivo*, evidence: deoxythymidine incorporation into hepatic dTTP and nuclear matrix DNA (rat), **149**, 27
 permeation in erythrocytes infected with *Plasmodium yoelii* (mouse), **145**, 1134
- Nucleosomes
 core particles, DNA release after ADP-ribosylation *in vitro* (rat liver), **143**, 1049

Subject Index

- histone H3, high-mobility-group protein binding, photochemical crosslinking study (bovine thymus), **147**, 301
- segregation in replicated α -globin gene (mouse), **145**, 1064
- 5'-Nucleotidase
- purification after release from plasma membranes by phosphatidylinositol-specific phospholipase C (human placenta), **145**, 118
- Nucleotide pyrophosphatase
- immunoaffinity purification and characterization (human placenta), **147**, 1061
- Nucleotides
- nucleobase liberation by superoxide, enhancement by phosphate group, **142**, 1104
- Nucleotide sequence
- alkaline-inducible cytochrome *P*-450 gene (*Candida tropicalis*), **144**, 251
 - apolipoprotein A-I cDNA (chicken), **148**, 485
 - apolipoprotein B cDNA (rat), **142**, 92
 - cAMP-dependent protein kinase regulatory subunit cDNA (rat brain), **146**, 878
 - carcinoembryonic antigen cDNA, in determination of primary structure (human), **142**, 511
 - β -casein cDNA (bovine mammary gland), **142**, 617
 - cDNA clones corresponding to highly abundant mRNAs encoding submandibular gland stathmin and basic histidine-rich peptide, in demonstration of common ancestral sequence (human), **149**, 784
 - α A-crystallin cDNA (bovine lens), **148**, 31
 - γ -crystallin cDNA (bovine lens), **146**, 332
 - cytochrome c_1 cDNA (human), **145**, 34
 - cytochrome *P*-450IIC4 cDNA (rabbit), **146**, 224
 - cytochrome *P*-450e 5' gene variant, **144**, 258
 - DNA fragments containing repetitive regions potentially coding for histidine-rich proteins: identification of overlapping reading frames (*Plasmodium falciparum*), **146**, 368
 - full-length
 - cDNA for adrenodoxin oxidoreductase mRNA (bovine adrenal cortex), **145**, 1239
 - fibroblast poly(ADP-ribose)polymerase cDNA (human), **148**, 617
 - globin cDNA (rat), **146**, 618
 - hepatic pyruvate kinase cDNA (human), **143**, 431
 - hepatitis B virus surface antigen DNA: site-directed mutagenesis at codon 160 from arginine to lysine for conversion of subtypic determinant from r to w, **148**, 500
 - H_a subunit cDNA clone of glutathione *S*-transferase (human liver), **145**, 474
 - insulin-like growth factor I cDNA clones: identification of 5'-untranslated regions (rat), **146**, 1154
 - lactate dehydrogenase-X cDNA (mouse), **146**, 964
 - ligandin cDNA clones, homology (human, rat liver), **142**, 986
 - mitochondrial aspartate aminotransferase precursor gene (rat liver), **149**, 859
 - myelin DM-20 cDNA clone, identification of proteolipid protein deletion (human), **146**, 666
 - pancreatic secretory trypsin inhibitor gene (human), **149**, 635
 - peptide C-terminal α -amidating enzyme cDNA (*Xenopus laevis*), **148**, 546
 - poly-ubiquitin cDNA (human ovarian granulosa cells), **147**, 581
 - pulmonary surfactant-associated protein A cDNA (rat), **144**, 367
 - reovirus serotype 1 Lang strain s2 mRNA encoding core polypeptide σ_2 (human), **147**, 1153
 - S-antigen cDNA (bovine retina), **142**, 904
 - tyrosine 3-hydroxylase cDNA (human), **146**, 971
- Nutrients
- environmental levels, monitorium by marine bacterial sugar-specific adhesion/deadhesion apparatus, **149**, 86
- O**
- 9,12-Octadecadienoic acid, *see* Linoleic acid
- Octapeptides
- collagen-derived, effect on phosphoinositide turnover and 43-kDa protein phosphorylation in collagen-activated platelets, **146**, 277
- Octyl Sepharose
- interaction with tubulin, **145**, 949
- Ocytocin, *see* Oxytocin
- 1-Oleoyl-2-acetylgllycerol
- induction of phospholipase A₂ translocation from cytosol to membranes in serum-free cultured macrophages (mouse), **149**, 769
 - inhibition of phosphate uptake by kidney cells: model of proximal renal tubular cells (opossum), **145**, 303
 - stimulation of diacylglycerol kinase translocation in neutrophils (guinea pig), **144**, 1025
- 1-Oleoyl-2-acetyl-*rac*-glycerol
- potentiation of protein kinase C activation by *cis*- and *trans*-octadecadienoic acids in intact platelets (human), **149**, 762
- 1-Oleoyl-2-acetyl-*sn*-glycerol
- stimulation of leucine transport, mechanism (Chang liver cells), **144**, 900
- 2',5'-Oligoadenylate
- inhibition of viral reverse transcriptase, **145**, 291
- Oligodendrocytes
- soluble nerve growth factor receptors, binding constants (rat), **147**, 422
- Oligonucleotides
- as conserved consensus probe in identification of cytochrome *P*-450 mRNAs (rabbit, rat), **149**, 326
 - d-CTCGAGCTCGAG, two-dimensional structure, NMR analysis, **144**, 26
 - high-anti left-handed, monoclonal antibodies, preparation and characterization, **144**, 930
 - sequence-specific, hybridization with DNA extracted from formalin-fixed paraffin-embedded tissues (human), **142**, 710

Subject Index

- synthetic probes, detection of N-ras oncogene activation mechanism in leukemia cells (human), **147**, 870
- Oligosaccharides
- chitin, stimulation of chitinase (melon), **143**, 885
 - expression by NIH3T3 cells transfected with human tumor DNA, effect of swainsonine, **142**, 348
 - multiple chains in voltage-sensitive Na channel, detection of α -2,8-linked polysialic acid (*Electrophorus electricus*), **148**, 817
 - sulfated, detection in lysosomal enzymes (human fibroblasts), **143**, 178
- Oocytes, *see* Eggs
- Opiate receptors
- type μ , interaction with dimers of inactive enkephalin fragments, **146**, 1109
- Organophosphonate
- deficient mutant, genetic characterization (*Escherichia coli*), **148**, 148
- Ornithine
- containing lipids, occurrence, identification and possible role (*Thiobacillus ferrooxidans*), **142**, 925
- Ornithine carbamoyltransferase
- deficiency in *spf* and *spf-ash* mutants: analysis of genes, mRNA, and mRNA precursors (mouse), **146**, 1064
 - precursor, uptake by hepatic mitochondria
 - inhibition by apocytochrome *c* (rat), **146**, 1318
 - stimulation by spermidine and spermine (rat), **149**, 21 - proteolytic inactivation, protection by 2,3-bisphosphoglycerate (bovine liver), **142**, 680
- Ornithine decarboxylase
- activation
 - in fibroblasts, relationship to phorbol ester-induced prostaglandin synthesis (mouse), **139**, 186; *erratum*, **142**, 287
 - by glucocorticoids, inhibition by 1-(5-isoquinolinesulfonyl)-2-methylpiperazine (rat hepatocytes), **144**, 152
 - during hepatic acute phase response, analysis (rat), **143**, 856
 - in parotid gland, effects of sialagogues (mouse), **144**, 1161
 - by phorbol ester, inhibition by methylglyoxal bis(butylamidino)hydrazone (murine brain, liver, lung), **144**, 757
 - by phorone (rat liver), **148**, 422 - activity and mRNA levels, effect of polyamine administration (murine kidney, transformed fibroblasts), **143**, 424
 - levels in 2-difluoromethylornithine-resistant myeloma cells (human), **144**, 132
 - mRNA, induction by 12-*O*-tetradecanoylphorbol-13-acetate
 - in epidermal cells, effect of staurosporine (mouse), **148**, 740
 - in hepatoma cells, analysis (rat), **147**, 809
 - in Swiss 3T3 fibroblasts, analysis (mouse), **147**, 219
- Ornithine transcarbamylase, *see* Ornithine carbamoyltransferase
- Osteoblasts
- degradation of type I collagen films, effects of 1,25-dihydroxyvitamin D₃ and recombinant tissue inhibitor of metalloproteinases (mouse), **148**, 596
- MC3T3-E1
- cytosolic Ca²⁺ levels, induction by 1,25-dihydroxyvitamin D₃ (mouse), **145**, 956
 - production of macrophage colony-stimulating activity and prostaglandin E₂, stimulation by tumor necrosis factor type α (mouse), **145**, 323
 - periosteum-derived, *in vitro* calcification (human), **145**, 651
- Osteocalcin
- extraction from fossil bones and teeth (bovine, rodent), **149**, 712
- Osteopontin
- tissue specificity and developmental expression (rat), **148**, 1129
- Ouabain
- stimulation of phospholipase C (rat pinealocytes), **142**, 819
- Ovary
- inhibit immunohistochemical detection (rat), **142**, 23; *erratum*, **146**, 926
 - renin mRNA identification (rat), **142**, 169
- Ovomucoid
- third domain, covalent hybrids, preparation from natural and synthetic peptide chains (turkey), **144**, 499
- Oxidation
- detection and induction of glutathione peroxidase (*Saccharomyces cerevisiae*), **147**, 1200
 - dopa and tyrosine to melanin, role of reactive oxygen species, **142**, 265
 - iodine, by lactoperoxidase, irreversible enzyme inactivation, mechanism, **142**, 552
 - 1-methyl-4-phenyl-2,3-dihydropyridinium, mechanism, **144**, 692
- NADH
- inhibition by pyridine derivatives (rat liver), **146**, 53
 - nonenzymatic, inhibition by daunomycin, **143**, 1037
- one-electron, 1-methyl-4-phenyl-2,3-dihydropyridinium, analysis, **147**, 354
- pyruvate and aldehydes, inhibition by acetoin synthesized by tumoral pyruvate dehydrogenase (rat liver), **145**, 153
- uroporphyrinogen, by hepatic extracts from 3-methylcholanthrene-treated embryo, role of cytochrome P-450 (chicken), **146**, 1324
- ω -Oxidation
- leukotriene E₄, product identification in bile and urine (monkey), **148**, 664
 - peptide leukotrienes *in vivo*, analysis (rat), **148**, 1237
- 2-Oxo acid dehydrogenase
- branched-chain, phosphorylation in isolated hepatocytes (rat), **144**, 628
- Oxophenylarsine
- effect on mitochondrial nicotinamide-nucleotide transhydrogenase (bovine heart), **142**, 573
- Oxygen
- bonding in hemoglobin and isolated subunits, X-ray absorption near edge structure study (human), **147**, 31
 - copper(II)-ascorbic acid system, induction of oxytocin denaturation and disulfide interchange reaction, **145**, 596

Subject Index

- reaction with cysteine and glutathione thiol radicals, formation of sulfinyl radicals, **144**, 1037
- reperfusion of skin fibroblasts after oxygen deficiency stress, induction of *c-fos* mRNA expression (human), **149**, 1093
- utilization by submitochondrial particles, effect of nitrous oxide (bean seed, bovine heart), **144**, 643
- Oxygenase
- and carboxylase, vitamin K-dependent, differential inactivation by sulfhydryl reagents, **148**, 184
- Oxygen radicals
- photonic burst in neutrophils, real-time visualization using ultrasensitive video intensifier microscopy (human), **149**, 1106
 - singlet
 - generation by water-induced dismutation of superoxide anion, **145**, 842
 - role in dopa and tyrosine oxidation to melanin, **142**, 265
- Oxypurinol
- role as free radical scavenger, mechanism (porcine heart), **148**, 314; *erratum*, **148**, 1550
- Oxytocin
- C-terminally extended, processing-related endoprotease, identification and characterization (bovine corpus luteum), **143**, 789; *erratum*, **144**, 1349
 - denaturation by copper(II)/ascorbic acid/O₂ system, **145**, 596
 - mRNA, *in situ* hybridization: macroscopic distribution and assay in hypothalamic cell groups (rat), **145**, 10
- P**
- Paclitaxel
- inhibition of sterol synthesis: evidence for role of 24-ethylsterol in cell division (*Apium gravidens*), **146**, 510
- Palindrome sequences
- identical, identification in high-mobility-group I chromosomal proteins (human), **146**, 725
- Palmitoyl-CoA
- elongation reduction in platelets and leukocytes in patient with hereditary methemoglobinemia associated with mental retardation, **148**, 384
- Palytoxin
- stimulation of superoxide anion formation in neutrophils (human, porcine blood), **143**, 672
- Pancreas
- β -cells, rapid increase in cytoplasmic free Ca²⁺, induction by extracellular Ca²⁺ (obese hyperglycemic mouse), **149**, 152
 - calcium and insulin release, maitotoxin effects (rat), **144**, 172
 - exocrine secretion, effect of human atrial natriuretic factor (dog), **146**, 757
 - thyrotropin-releasing hormone mRNA, ontogenesis (rat), **146**, 354
- Pancreatic ribonuclease
- bovine, cleavage octapeptide, homology with T-cell binding gp120 octapeptide of human immunodeficiency virus, **143**, 248
- Pancreatitis
- caerulein-induced acute, effect on pancreatic xanthine oxidase (mouse), **149**, 841
 - experimental acute, effect on metabolism of phosphatidylcholine (dog), **145**, 612
- Papillomaviruses
- bovine, type 1, stimulation of cellular DNA synthesis (murine C127 cells), **148**, 86
 - human, types 16 and 18, E6 and E7 regions, detection in DNA samples from cervical cancer cells, **143**, 837
- 6-Parachlorophenylalanine
- effects on *N*-acetyltransferase, hydroxyindole-*O*-methyltransferase, and melatonin levels in harderian glands (female hamster), **145**, 1231
- Paraquat
- bioreduction: role of MPTP in neurotoxicity (murine liver), **147**, 1095
 - cytotoxicity, temperature dependence (Chinese hamster V79 cells), **146**, 67
- Parathyroid cells
- membrane calcium-sensor, inhibition by monoclonal anti-parathyroid antibodies (human), **143**, 570
- Parathyroid hormone
- antisense peptide sequences, comparison with receptor sequences (human kidney), **149**, 930
 - degradation by osteoblast-like osteosarcoma cells, role of protein kinase C (rat), **143**, 539
 - effect on phosphate readorption by cultured renal tubular cells from mutant hypophosphatemic mouse, **144**, 763
 - like and -unlike domains in tumor-derived adenylate cyclase-stimulating proteins, identification (human), **146**, 672
 - like vasorelaxation effects of synthetic tumor-derived hypercalcemic factor (rabbit renal artery), **149**, 227
- Parietal cells
- gastric acid secretion, inhibition by human calcitonin gene-related peptide (guinea pig), **146**, 430
 - gastric, detection of calmodulin-dependent protein kinase (rabbit), **148**, 1390
 - phosphoinositide system, interaction with dibutyl cAMP (rat), **147**, 758
 - protein kinase C subcellular distribution and role in acid formation (guinea pig), **149**, 720
- Parkinson's disease
- identification of 1,2,3,4-tetrahydroisoquinoline and 2-methyl-tetrahydroquinoline in affected brain (human), **144**, 1084
 - 1-methyl-4-phenyl-1,2,3,6-tetrahydropyridine-induced, intermediate oxidation states in metabolic activation, **144**, 957
- Parotid gland
- muscarinic stimulation, induction of inositol 1,2-cyclic 4,5-trisphosphate formation (rat), **149**, 1208
 - polyamine and DNA synthesis, effects of sialagogues (mouse), **144**, 1161
- Pentose phosphate cycle
- in adipocytes and hepatocytes, regulation by insulin, role of NADPH/NADP ratio (rat), **146**, 920

Subject Index

Pepsin inhibitors

amide proton exchange rates, assay by isotope-edited proton NMR (pig), **147**, 892

Peptidase

associated with atrial natriuretic factor precursor processing, identification by fluorometric assay (rat heart), **143**, 587

leucine-lysine-specific, production by gel-entrapped *Saccharomyces cerevisiae* cells, **145**, 316

Peptide derivatives

fragmentation, conformational effect in field desorption mass spectrometry, **146**, 907

Peptides

bombesin-like, effects on cytosolic Ca^{2+} in small cell lung cancer cells, **147**, 189

calcitonin gene-related

^{125}I -labeled, characterization of affinity binding sites in rat brain and heart (human), **146**, 443

inhibition of gastric acid secretion by guinea pig parietal cells (human), **146**, 430

low-molecular-weight forms, *in vitro* production and characterization (rat thyroid), **144**, 883

mRNA levels in cultured thyroid C cells, effects of 1,25-dihydroxyvitamin D_3 (human), **149**, 239

chimeric, as vehicle for peptide pharmaceutical delivery through blood-brain barrier (bovine brain), **146**, 307

corresponding to histone fragment 103-109, phosphorylation by protein kinase C, role of lysine residue, **142**, 155

epidermal mitosis-inhibiting, isolation and characterization (mouse), **146**, 1493

extra signal, pre-mitochondrial aspartate aminotransferase, antibody and anti-idiotypic antibody synthesis and characterization (porcine liver), **148**, 979

glucagon-like, biological activity (catfish), **143**, 87

gonadotropin-releasing hormone-associated, and gonadotropin-releasing hormone, cosecretion into hypophyseal portal blood (ovariectomized sheep), **143**, 665

growth stimulating-/cholecystokinin releasing-, competition with epidermal growth factor for binding to 3T3 fibroblasts (rat), **145**, 646

high-molecular-weight, with salmon calcitonin immunoreactivity, partial characterization and amino acid composition (*Nephrops norvegicus*), **148**, 463

histidine-rich, basic, and statherin, encoding by highly abundant mRNAs derived from common ancestral sequence (human submandibular gland), **149**, 784

histone H2B-derived, reactivation of affinity-purified rabbit estrogen receptors (bovine), **149**, 823

human atrial natriuretic prohormone, induction of porcine aortic vasodilation, **148**, 1540

immunoreactive for amino-terminus of cholecystokinin 33, distribution and characterization in brain (rat), **149**, 902

insulin-like growth factor I desipeptide derivative, and natural and synthetic IGF-I, comparative biological activities and receptor binding (bovine, human), **149**, 398

insulin-stimulating, derived from serum albumin, inhibition of tyrosine autophosphorylation of solubilized insulin receptor (bovine), **144**, 11

left-handed helical conformations, nuclear Overhauser effects as diagnostic, **149**, 953

linear, conformational equilibria, resolution by circular dichroism in cryogenic solvents, **143**, 1005

mast cell-degranulating, and dendrotoxin I, allosteric interaction of respective receptors (rat brain), **143**, 383

natural and synthetic, in preparation of covalent hybrids of ovomucoid third domains (turkey), **144**, 499

165-kDa, associated with dihydropyridine- and phenylalkylamine-sensitive Ca^{2+} channels, photoaffinity labeling and phosphorylation (rabbit muscle), **147**, 1137

opioid, nicotine-induced secretion from chromaffin cells, inhibition by amidorphin C-terminal sequence (bovine adrenal medulla), **143**, 545

with parathyroid hormone antisense sequence, comparison with receptor sequences, **149**, 930

phosphopyridoxyl, from P-protein of glycine cleavage system, amino acid sequence (chicken liver), **149**, 621

proenkephalin F, E, and B, tissue binding distribution (guinea pig, rabbit, rat), **146**, 1184

and protein mixtures, microbore HPLC with mass spectrometry using continuous flow interface, **146**, 291

synthetic

2-Gln-Val-Val-OMe, effects on thiol proteinases, **143**, 749

mimicking heme-binding site of histidine-rich glycoprotein, interaction with heme, **149**, 1070

synthetic joining segment, antibodies for detection of conservation among vertebrate immunoglobulin chains, **145**, 699

T, from human immunodeficiency virus envelope, amino acid homology with thymosin α_1 , **145**, 884

Pericarp

cytokinin metabolism, effect of metyrapone (green tomato), **144**, 109

Periodate

-oxidized $NADP^+$, inhibition of placental estradiol-17 β dehydrogenase (human), **146**, 645

Peroxidase

heat shock-induced, role in resistance to oxidative stress (*Neurospora crassa*), **147**, 904

Peroxidation

lipids

acetaldehyde-mediated, role of ferritin and superoxide radicals (rat liver), **143**, 984

after administration of *N*-nitrosamines (rat), **146**, 1047

in brain microsomes, effects of EDTA-Fe(III) chemical structure (rat), **145**, 211

effect of food restriction (rat), **145**, 1185

enhancement by nickel, role of hydroxyl radicals: implications for nickel carcinogenesis (rat), **147**, 1276

induced by adriamycin-iron complex, protective effect of coenzyme Q (bovine heart), **147**, 572

in kidney during gestation, analysis (rat), **145**, 134

in myopathic heart, effects of dietary selenium (hamster), **144**, 815

Subject Index

- in pulmonary microsomes, inhibition by 3-methylindole (goat), **149**, 73
- membrane phospholipids, effects of catechol estrogens (rat liver), **142**, 919
- Peroxides
 - role in cathepsin B deficiency in neuronal ceroid lipofuscinosis (human fibroblasts), **147**, 267
- Peroxisomes
 - hepatic
 - chain-shortening of prostaglandin $F_{2\alpha}$ (rat), **144**, 1206
 - diurnal variation of 3-hydroxy-3-methylglutaryl-CoA reductase (rat), **148**, 890
- Pertussis toxin
 - ADP-ribosylation in *Dictyostelium discoideum* membranes, **149**, 975
 - and cholera toxin-sensitive G-protein, regulation of vasopressin-induced inositol phosphate formation in smooth muscle cells (rat aorta), **146**, 898
 - effect on
 - arachidonic acid release and 1,2-diacylglycerol formation by saponin-permeabilized platelets (human), **148**, 971
 - bradykinin-stimulated inositol phosphate production by NG115-401L neuronal cells, **148**, 412
 - facilitation of secretagogue-induced catecholamine release from adrenal chromaffin cells (bovine), **144**, 907
 - inhibition of
 - bombesin-induced mitogenesis: dissociation from phospholipase C pathway (Swiss 3T3 cells), **146**, 456
 - insulin-like growth factor I (Balb/c 3T3 cells), **148**, 403
 - stimulated motility in melanoma cells (human), **146**, 339
 - modulation of tumor necrosis factor- α cytotoxicity (L929 cells), **149**, 815
- pH
 - intramitochondrial, estimation by fura-2 and 2,7-bis-carboxyethyl-5(6)-carboxyfluorescein fluorescence (rat heart), **149**, 40
- Pharmaceuticals
 - peptide, evaluation of chimeric peptides as vehicle for delivery through blood-brain barrier (bovine brain), **146**, 307
- Phencyclidines
 - binding sites in brain, high-affinity association with monovalent ion-sensitive polypeptide (rat), **142**, 501
- Phenobarbital
 - effect on α -ecdysone 20-monooxygenase (*Musca domestica*), **148**, 1075
 - enhancement of sulfobromophthalein glutathione uptake by liver cells (rat), **149**, 921
 - hepatic pretreatment, induction of nicotine elimination (rat), **148**, 192
 - induction of mRNA related to cytochrome P-450IIC4 cDNA (rabbit), **146**, 224
- Phenol hydroxylase, *see* Phenol 2-monooxygenase
- Phenol 2 monooxygenase
 - in situ* and *in vitro* kinetics, comparison (*Trichosporon cutaneum*), **146**, 41
- Phenol red
 - effect on progesterone receptor synthesis in response to estradiol (MCF-7 cells), **142**, 724
- Phenylalanine
 - tRNA, expressed minor variant, detection in yeast, **142**, 183
- Phenylalanine hydroxylase
 - recombinant, production by NIH3T3 cells and *Escherichia coli*, effects of *para*-chlorophenylalanine (human), **142**, 302
- Phenylalkylamine
 - binding by hippocampus, and Ca^{2+} uptake, concomitant regulation by substance P (rat), **144**, 1135
- Phenylalkylamine receptors
 - associated with Ca^{2+} channels, photoaffinity labeling and phosphorylation of 165-kDa peptide (rabbit muscle), **147**, 1137
- Phenylarsine oxide, *see* Oxophenylarsine
- Phenylephrine
 - and porcine vasoactive intestinal peptide, stimulation of pineal cAMP and cGMP, effect of ethanol (rat), **147**, 145
 - stimulation of cAMP synthesis in Ewing's sarcoma cells, **146**, 685
- Phenylisothiocyanate
 - ^{13}C -enriched, synthesis and application as ^{13}C NMR protein probe, **142**, 1064
- 4-Phenylpyridine
 - analogs, inhibition of mitochondrial respiration (rat liver), **148**, 684; *erratum*, **149**, 1220
- Phorbol 12,13-dibutyrate
 - binding to adipocyte subcellular constituents, insulin-dependent alterations, relationship to protein kinase C distribution (rat), **145**, 1384
 - effect on
 - adenosine receptor-mediated cAMP accumulation in Jurkat cells (human), **145**, 344
 - inositol phosphate formation in C62B glioma cells, **148**, 701
 - inhibition of phosphate uptake by kidney cells: model of proximal renal tubular cells (opossum), **145**, 303
 - reactivity in mesenteric artery of spontaneously hypertensive rat, **145**, 1105
 - specific binding to nuclei of promyelocytic leukemia cells (human), **144**, 393
- Phorbol 12,13-dibutyrate receptors
 - membrane-associated, increased binding in sickle red cells, **147**, 56
- 4 α -Phorbol 12,13-didecanoate
 - effect on adenosine receptor-mediated cAMP accumulation in Jurkat cells (human), **145**, 344
 - inhibition of phosphate uptake by kidney cells: model of proximal renal tubular cells (opossum), **145**, 303
- 4 β -Phorbol 12,13-didecanoate
 - inhibition of phosphate uptake by kidney cells: model of proximal renal tubular cells (opossum), **145**, 303
- Phorbol esters
 - activation of mast cells, association with subcellular redistribution of protein kinase C (rat), **142**, 645

Subject Index

- binding activity in MCF-7 cells, induction of subcellular translocation and down-regulation by 12-*O*-tetradecanoylphorbol-13-acetate, **146**, 537
- effect on
- ecto- and basal-protein kinases in fibroblasts (human), **143**, 600
 - stimulus-secretion coupling mechanisms in gonadotropin-releasing hormone-stimulated pituitary gonadotrophs (rat), **148**, 1312
- induction of
- histamine release from basophils, inhibition by protein kinase C inhibitors H-7 and H-9 (human), **144**, 732
 - myotonia by lowering chloride conductance in muscle (mouse), **148**, 1383
- Phorbol 12-myristate 13-acetate
- effect on G-protein dissociation, GTP-GDP exchange, and GTPase activity in formyl-methionyl-leucyl-phenyl-alanine-stimulated neutrophils (rabbit), **143**, 489
 - interference with vasoactive intestinal peptide receptor/effector system in prostatic epithelial cells (rat), **149**, 221
 - potentiation of ACTH-induced production of cAMP by cultured adrenal cells, role of Gi protein α subunit (bovine), **146**, 517
 - regulation of
 - leukotriene-A hydrolase (human neutrophils), **147**, 622
 - serine esterase release from cytotoxic T lymphocytes (mouse), **146**, 1262
 - stimulation of
 - acetyl-CoA carboxylase (rat hepatocytes), **142**, 135
 - procollagenase synthesis, correlation with cellular increases in procollagen mRNA levels (human articular chondrocytes), **144**, 583
- Phorone
- effect on hepatic enzymes involved in drug and heme metabolism (rat), **145**, 502
 - induction of ornithine decarboxylase (rat liver), **148**, 422
- Phosphate
- calcitonin-induced transport in LLC-PK₁ cells, role of inositol phosphates and calmodulin, **144**, 741
 - depleted environment, effect on phosphate reabsorption by cultured renal tubular cells (hypophosphatemic mouse), **144**, 763
 - effect on superoxide-induced nucleobase liberation from nucleotides, **142**, 1104
 - high-energy transfer, in direct activation of guanine nucleotide-binding proteins by nucleoside-diphosphate kinase, **148**, 300
 - inorganic, release from F-actin filaments after ATP hydrolysis, measurement by linked enzyme assay, **143**, 1069
 - insoluble, precipitation, effect of γ -carboxyglutamic acid-containing proteins, **142**, 113
 - reabsorption by cultured renal tubular cells from hypophosphatemic mutants, effects of parathyroid hormone, low phosphate environment, and 12-*O*-tetradecanoylphorbol-13-acetate (mouse), **144**, 763
 - substrate-specific stimulation of protein kinase C (bovine brain), **147**, 248
 - translocating protein from mesophyll chloroplasts, identification (maize), **143**, 164
 - transport in cultured renal epithelial cells, inhibition by arachidonic acid (mouse), **143**, 991
 - uptake by kidney cells, inhibition by phorbol esters (opossum), **145**, 303
- Phosphatidic acid
- agonist-induced increase in platelets, neomycin effects (human), **144**, 454
 - containing liposomes, stimulation of quiescent 3T3 cells, **145**, 228
- Phosphatidylcholine
- effect on superoxide generation by NADPH-cytochrome-c reductase (porcine neutrophils), **147**, 71
 - metabolism, effect of experimental acute pancreatitis (dog), **145**, 612
- Phosphatidylcholine-sterol acyltransferase
- catalytic center, isolation and sequencing of diisopropyl fluorophosphate-labeled peptides (porcine plasma), **143**, 360
 - cDNA clone, isolation, characterization, and diagnostic applications (human), **148**, 161
- Phosphatidylethanol
- phospholipase D-catalyzed synthesis (rat brain), **142**, 958
- Phosphatidylethanolamine
- pool containing epoxyeicosatrienoic acids, identification in liver (rat), **146**, 638
 - role in biosynthesis of linear gramicidin A by *Bacillus brevis* ATCC 8185, **144**, 203
 - sarcolemmal, N-methylation during cardiomyopathy, analysis (hamster), **143**, 31
- Phosphatidylinositol
- anchorage of Ly-6 antigens, detection by phospholipase C digestion and gel electrophoresis in octylglucoside, **148**, 1304
 - associated with nicotinic acetylcholine receptor, phosphorylation (*Torpedo californica*), **147**, 1251
 - effect on phosphorylation of protein components I and II in photoreceptor rod outer segments (frog), **148**, 54
 - inhibition of cAMP-independent protein kinase (caprine spermatozoa), **146**, 422
 - pool containing epoxyeicosatrienoic acids, identification in liver (rat), **146**, 638
 - turnover in ventricular myocytes, effect of atrial natriuretic factor (rabbit), **148**, 962
- Phosphatidylinositol 4,5-bisphosphate
- agonist-induced increase in platelets, neomycin effects (human), **144**, 454
 - effect on phosphorylation of protein components I and II in photoreceptor rod outer segments (frog), **148**, 54
 - formation, ability of partially purified phosphatidylinositol kinase to act as catalyst (murine liver), **143**, 512
 - hydrolysis in plasma membranes, activation by guanine nucleotide and pyrophosphate (rat liver), **147**, 1088
 - ³²P-labeled, *in vitro* synthesis and hydrolysis, **145**, 673
- Phosphatidylinositol kinase
- effect on diacylglycerol levels in spontaneously hypertensive rat, **146**, 1419
 - inhibition by cAMP, role of cAMP-dependent protein kinase (murine liver), **146**, 561

Subject Index

- partially purified, ability to catalyze phosphatidylinositol-4,5-bisphosphate formation (murine liver), **143**, 512
- Phosphatidylinositol 4-phosphate
- agonist-induced increase in platelets, neomycin effects (human), **144**, 454
 - effect on phosphorylation of protein components I and II in photoreceptor rod outer segments (frog), **148**, 54
- Phosphatidylinositol-4-phosphate kinase
- effect on diacylglycerol levels in spontaneously hypertensive rat, **146**, 1419
- Phosphatidylserine
- effect on phosphorylation of protein components I and II in photoreceptor rod outer segments (frog), **148**, 54
 - endogenous, specific stimulation of progesterone 5 α -reductase solubilized from hepatic microsomes (rat), **149**, 482
 - vesicles, induction of synaptosomal adenylate cyclase (rat brain), **145**, 631
- Phosphocholinesterase
- plasma membrane activity, effect of diet (rat brain), **145**, 309
- Phosphodiesterase
- Ca²⁺- and calmodulin-dependent, inhibition by capsaicin (rat), **148**, 292
- 6-Phosphofructokinase
- dissociation-induced inactivation, effect of aldolase (rabbit muscle), **147**, 1121
 - genomic fragments, construction of cDNA clone (human liver), **147**, 1182
- 6-Phosphofructo-2-kinase
- fructose 2,6-bisphosphatase, isolation of encoding cDNA (rat liver), **143**, 1092; *erratum*, **145**, 637
- Phosphoinositides
- ³²P-labeled, *in vitro* incorporation into myelin basic protein, **145**, 803
 - specific phospholipase C, in synaptic membrane and cytosol, physical and kinetic properties (rat), **145**, 218
 - turnover in collagen-activated platelets, effect of collagen-derived octapeptide, **146**, 277
- Phospholipase A₂
- activation in chemotactic peptide-stimulated HL-60 cells, synergistic regulation by diacylglycerol and Ca²⁺ in protein kinase C-independent mechanism, **144**, 683
 - isoenzyme, stimulation of lipoxin B formation from arachidonic acid (porcine leukocytes), **144**, 123
 - platelet membrane protein, identification (human), **146**, 582
 - translocation from cytosol to membranes in serum-free cultured macrophages, induction by 1-oleoyl-2-acetyl-glycerol (mouse), **149**, 769
- Phospholipase C
- in demonstration of phosphatidylinositol anchorage of Ly-6 antigens, **148**, 1304
 - effect on diacylglycerol levels in spontaneously hypertensive rat, **146**, 1419
 - membrane activity in DMSO-differentiated HL-60 cells, regulation by chemotactic peptide, Ca²⁺, and guanidine nucleotides, **145**, 825
 - metabolic pathway in Swiss 3T3 cells, relationship to pertussis toxin inhibition of bombesin-induced mitogenesis, **146**, 456
- phosphatidylinositol-specific, induction of 5'-nucleotidase release from plasma membranes for purification (human placenta), **145**, 118
- phosphoinositide-specific, in synaptic membrane and cytosol, physical and kinetic properties (rat brain), **145**, 218
- platelet membrane, stimulation by GTP-binding proteins (human), **146**, 861
- role in platelet-derived growth factor-stimulated prostaglandin E₂ release from *ras*-transformed NIH-3T3 cells, **145**, 1254
- smooth muscle membrane-bound, hydrolysis of ³²P-labeled phosphatidylinositol 4,5-bisphosphate (DDT₁ MF-2 cells), **145**, 673
- stimulation by cardiac glycosides (rat pinealocytes), **142**, 819
- thrombin-induced activation in platelets, enhancement by guanosine 5'-O-(2-thiodiphosphate), evidence for inhibitory GTP-binding protein role (human), **144**, 1188
- Phospholipase D
- catalysis of phosphatidylethanol synthesis (rat brain), **142**, 958
- Phospholipid fatty acid
- composition in cerebral cortex, effect of substance P (rat), **144**, 232
- Phospholipids
- and actin-binding 36-kDa Ca²⁺-dependent proteins, isolation and characterization (human placental membrane), **146**, 912
 - cardiotoxin mixed monomolecular films, analysis by surface fluorescence spectroscopy (*Naja mossambica mossambica*), **143**, 506
 - cerebral levels, effect of substance P (rat), **144**, 232
 - deacylation-reacylation cycles, assessment by stable isotope technique (mouse), **142**, 86
 - interaction with vitamin E in bilayer liposomes, **146**, 1413
 - membrane
 - microsomal, effect of bile duct ligation (rat liver), **144**, 980
 - peroxidation, effects of catechol estrogens (rat liver), **142**, 919
 - metabolism in
 - HL-60 cells, comparative effects of polymyxin B, phorbol ester, and bryostatin, **146**, 208
 - stimulated T-cell clones, analysis (mouse), **144**, 1303
 - synovial cells, stimulation by recombinant interleukin 1 and tumor necrosis factor (human), **142**, 235
 - stable membranes supported on porous filter paper, construction, **145**, 1092
 - surface diffusion in serum lipoproteins (human), **146**, 1139
 - transfer protein, amino-terminal sequence (rat lung), **145**, 1310
- Phospho-oligosaccharides
- insulin-like action on glycogen phosphorylase and pyruvate kinase in isolated hepatocytes (rat), **147**, 765
- Phosphopeptides
- tryptic, riboflavin-binding proteins, phosphorylation heterogeneity (chicken), **147**, 115
- Phosphoprotein phosphatase
- evaluation of E1A, *fos*, and *myc* proteins as inhibitors, **143**, 194

Subject Index

- type 1
 activating protein kinase F_A , association with membranes (porcine brain, liver; rabbit heart, skeletal muscle), **142**, 38
 catalytic subunit, purification and characterization (*Drosophila melanogaster*), **144**, 1175
 latent forms in skeletal muscle, analysis (rabbit), **148**, 1174
- Phosphoenolpyruvate carboxylase
 photoregulation, analysis with monoclonal antibodies to G isozyme subunit (sorghum), **143**, 170
- Phosphorus
 radioactive, detection of phosphotyrosine-containing proteins (HeLa S3 cells), **142**, 389
- Phosphorylation, *see also* Protein kinase
 associated activity of tyrosine protein kinase P56^{lck}, correlation with kinase activity (murine lymphoma cells), **149**, 56
 auto-, *see* Autophosphorylation
 B₂ chain of α -crystallin, site identification (bovine), **144**, 1340
 branched-chain 2-oxo acid dehydrogenase complex in isolated hepatocytes (rat), **144**, 628
 Ca²⁺-dependent, oocyte plasma membranes, induction of meiotic divisions (*Rana pipiens*), **147**, 863
 cAMP-dependent, 23-kDa protein in platelet membrane vesicles, stimulation by inositol 1,4,5-trisphosphate (human), **145**, 139
 domain in erythrocyte Ca²⁺-ATPase, amino acid sequence (human), **149**, 7
 endogenous
 actomyosin, regulation by Ca²⁺/calmodulin (rabbit brain), **145**, 1217
 and plasma membrane-associated substrates by insulin receptor kinase, stimulation by insulin (human liver), **149**, 1008
 erythrocyte membranes, increase in hypertensive patients, **145**, 1329
 40-kDa protein, inhibition by K252a in phorbol ester-stimulated platelets (rabbit), **144**, 35
 43-kDa protein in collagen-activated platelets, effect of collagen-derived octapeptide, **146**, 277
 glucocorticoid receptor tyrosine, stimulation by epidermal growth factor (human epithelial cells), **144**, 512
 isoenzyme-specific, cytochromes P-450 and other drug-metabolizing enzymes, **142**, 885
 α 1,2-linked mannosylsaccharide by N-acetylglucosamine-1-phosphotransferase from fibroblasts, site localization, **142**, 354
 lysosomal enzyme-binding receptor protein, analysis (simian brain), **147**, 927
 membrane proteins, volume expansion-induced changes (rat kidney), **143**, 74
 muscarinic receptors, characterization: evidence for receptor regulation (porcine synaptic membranes), **142**, 911
 myelin basic protein
 site identification (human), **144**, 1287
 stimulation by chloroform (murine brain), **146**, 1084
 myosin light chain, role in platelet activation (human), **140**, 280; *erratum*, **142**, 289
 nebulin and titin *in vivo*, analysis (frog skeletal muscle), **147**, 986
 neutrophil proteins, inhibition by quercetin (human), **144**, 1229
 nonhistone proteins, changes during differentiation (*Physarum polycephalum*), **142**, 188
 165-kDa peptide associated with dihydropyridine- and phenylalkylamine-sensitive Ca²⁺ channels (rabbit muscle), **147**, 1137
 oxidative
 in hepatic mitochondria
 inhibition by cyanine dye (rat), **148**, 1081
 uncoupling by hexetidine (rat liver), **147**, 801
 site 3, thermodynamic feasibility of ATP/2e⁻ stoichiometry of 1 1/2, **142**, 176
 phosphatidylinositol associated with nicotinic acetylcholine receptor (*Torpedo californica*), **147**, 1251
 poly(ADP-ribose) synthetase by protein kinase C *in vitro* (bovine thymus), **148**, 709
 progesterone receptor by ligands activating protein kinases (human breast carcinoma cells), **146**, 1357
 protamines by protein kinase C, *in vivo* sites, effect of cAMP-dependent protein kinase (fish), **144**, 1324; *erratum*, **148**, 898
 protein components I and II in photoreceptor rod outer segments, stimulation by phosphatidylinositol (frog), **148**, 54
 protein kinase C and 240-kDa protein in adrenal cortical plasma membrane, inhibition by cGMP-dependent and -independent mechanisms (bovine), **148**, 589
 proteins
 auxin-regulated changes (pea epicotyls), **144**, 944
 comparative effects of polymyxin B, phorbol ester, and bryostatin (HL-60 cells), **146**, 208
 in HL-60 and K562 cells, phorbol ester-promoted, regulation by alkyllysophospholipid, **142**, 661
 induction by heat shock in soybean seedlings, **148**, 762
 serine and tyrosine, epidermal growth factor-induced, in 59-kDa protein in purified plasma membranes (rat liver), **145**, 982
 synaptosomal plasma membrane proteins *in vitro*, inhibition by 4-aminopyridine, effect of 2-amino-5-phosphonovalerate (rat hippocampus), **147**, 94
 tryptic phosphopeptides of riboflavin-binding proteins, heterogeneity (chicken), **147**, 115
 tyrosine 3-hydroxylase by cAMP-dependent protein kinase, prior and subsequent effects of spermine (bovine adrenal medulla), **148**, 1460
 tyrosine, interleukin-2 receptor-related proteins in phytohemagglutinin-activated lymphocytes (human), **144**, 160
 v-Ha-ras protein in membrane fraction, stimulation by insulin, **144**, 19
- Phosphotyrosine
 -containing proteins, detection by ³²P and ¹²⁵I labeling (HeLa S3 cells), **142**, 389
- Phosphotyrosyl-protein phosphatase
 membrane-bound, in erythrocytes, dephosphorylation of membrane band 3 protein (human), **142**, 587

Subject Index

- Photoaffinity labeling
 calcium channel 1,4-dihydropyridine receptors in cardiac membranes (cardiomyopathic hamster), **148**, 926
 sodium-bile salt cotransport system (rat kidney), **143**, 1018
- Photocycle
 bacteriorhodopsin, effect of crosslinking of carboxyl and lysine groups (*Halobacterium halobium*), **145**, 1164
- Photodimers
 internal [2 + 2], 1,1'-trimethylene-bis-(5-fluoro) uracil derivatives, structural analysis, **146**, 1270
- Photolyase
 transient induction in arrested cells in response to short-wave ultraviolet segment of simulated sunlight (frog), **145**, 604
- Photoreceptors
 rod outer segments, phosphatidylinositol-stimulated phosphorylation of protein components I and II (frog), **148**, 54
- Photosynthesis
 action spectra of energy storage in bundle sheath cells (*Zea mays*), **144**, 198
 ribulose 1,5-bisphosphate carboxylation adduct intermediate, reaction pathway, **142**, 732
- Photosystem I
 reaction center polypeptides, identification as products of chloroplast genes PS1A1 and PS1A2 (spinach), **143**, 281
- Phytohemagglutinin
 induction of
 lymphocyte proliferation, effect of sodium orthovanadate (old, young humans), **142**, 836; *erratum*, **144**, 1348
 peripheral blood T-cell proliferation, inhibition by platelet-activating factor receptor antagonists (human), **148**, 802
- Phytosphingosine
 content in glycosphingolipids from thyrocytes and whole thyroid, comparison (human), **143**, 827
- Pigment-dispersing hormones
 position 3 analogs, synthesis and biological activity (*Pandatus* sp.), **143**, 652
- Pilocarpine
 induction of polyamine and DNA synthesis in parotid gland (mouse), **144**, 1161
- Pituitary
 anterior, cultured cells, cAMP levels, augmentation by relaxin (rat), **148**, 1246
 calcitonin secretion, demonstration by reverse hemolytic plaque assay (rat), **146**, 1350
 derived hormones, role in regulation of 3-hydroxy-3-methylglutaryl-CoA reductase mRNA levels (rat), **146**, 1033
 detection of glycosylated growth hormone and evidence of physiological fluctuations (mouse), **145**, 1368
 follicle-stimulating hormone release by cultured cells
 specific inhibition by follistatin (rat), **149**, 133
 stimulation by erythroid differentiation factor (rat), **146**, 1382
 glycosylated prolactin, detection and alteration of concentrations (mouse, rat), **148**, 505
 gonadotrophs, gonadotropin-releasing hormone-stimulated, effect of phorbol ester on stimulus-secretion coupling mechanisms (rat), **148**, 1312
 permeabilized cells of intermediate lobe, secretion of α -melanocyte-stimulating hormone, stimulation by cAMP (rat), **143**, 1076
 pro-opiomelanocortin mRNA levels, physiologically induced changes (*Xenopus laevis*), **143**, 678
- Placenta
 corticotropin-releasing hormone gene expression (human), **148**, 1208
 explants
 lactogen production, effects of insulin-like growth factor I and insulin (human), **144**, 674
 sulfation of human chorionic gonadotropin α subunit (human), **148**, 1446
- Plaque
 arterial, high-resolution proton NMR spectra (human), **149**, 437
- Plasma, *see also* Blood; Serum
 arginine vasopressin and atrial natriuretic factor levels, effect of cyclophosphamide (rabbit), **143**, 140
 atrial natriuretic factor levels
 clonidine-induced increase (rat), **143**, 159
 correlation with
 cardiac hypertrophy in non-spontaneous models of hypertension (rat), **145**, 532
 specific binding to renal glomeruli during hypertension (rat), **145**, 522
 molecular forms, characterization (human), **142**, 461
 in spontaneously hypertensive, stroke-prone spontaneously hypertensive, and nonhypertensive rats, comparison, **143**, 316
 β -atrial natriuretic factor, formation of α -atrial natriuretic factor *in vitro* (human), **143**, 560; *erratum*, **145**, 989
 contact activation-promoting activity of sulfatide bilayers (human), **149**, 1002
 detection of high-affinity binding protein for corticotropin-releasing hormone (human), **143**, 411
 ^1H NMR spectroscopy, for detection of malignancy (human), **145**, 1397
 identification of proteins immunochemically related to urinary urokinase (human), **142**, 162
 platelet-poor, from rats with liver nodules or liver cancer, mitogenic activity, **148**, 449
 prostaglandin E_2 levels, relationship to changes in hemoglobin proportions during bleeding-induced anemia (rat), **149**, 1017
- Plasma membranes
 adipocyte, insulin-independent release of pyruvate dehydrogenase activator, effect of *S*-adenosylhomocysteine (rat), **143**, 832
 aminophospholipid topology, cholesterol-induced rearrangements (ovine platelets), **145**, 1362; *erratum*, **147**, 1302
 associated substrates, phosphorylation by insulin receptor kinase, stimulation by insulin (human liver), **149**, 1008
 biotin receptor, isolation (murine liver), **143**, 913

Subject Index

- Ca²⁺-dependent phosphorylation, induction of meiotic divisions (*Rana pipiens* oocytes), **147**, 863
- Ca²⁺-transporting ATPase, detection with GTP (human placenta), **148**, 126
- and chromaffin granules, cell-free interactions, letter to editor, **148**, 896
- conformational changes induced by (2,4-dichlorophenoxy)acetic acid, infrared spectroscopy study (soybean), **147**, 506
- early depolarization by α interferon, correlation with anti-proliferative signal (Daudi lymphoma cells), **146**, 300
- 59-kDa protein, serine and tyrosine phosphorylation, stimulation by epidermal growth factor (rat liver), **145**, 982
- Friend erythroleukemia cells, detection of multiple ion channels (mouse), **146**, 1450
- GTP-binding protein amino-terminal attachment (bovine brain, human neutrophils), **148**, 1398
- lens fiber cells, limited proteolysis of gap junction protein (bovine eye), **147**, 846
- neurotensin receptor, characterization (rat liver), **145**, 1071
- 5'-nucleotidase release by phosphatidylinositol-specific phospholipase C (human placenta), **145**, 118
- phosphatidylinositol 4,5-bisphosphate hydrolysis, activation by guanine nucleotide and pyrophosphate (rat liver), **147**, 1088
- phosphocholinesterase activity, effect of diet (rat brain), **145**, 309
- synaptosomal, protein phosphorylation *in vitro*, inhibition by 4-aminopyridine, effect of 2-amino-5-phosphonovalerate (rat hippocampus), **147**, 94
- Plasmids
- pBR322, identification of glucocorticoid regulatory element DNA consensus sequences, **144**, 1
- pGKL1, encoded killer toxin, use of secretion signal in yeast secretion system for foreign proteins (*Saccharomyces cerevisiae*), **144**, 613
- pUC8, complexed with 4'-6-diamidine-2-phenylindole, preparation and application in analysis of biological effects of nucleic acid-drug interactions, **145**, 40
- pX01 and pX02, purification and physical analysis (*Bacillus anthracis*), **149**, 362
- Rts 1, DNA fragment responsible for temperature-sensitive growth, identification (*Escherichia coli*), **142**, 1084; *erratum*, **143**, 797
- Plasminogen activator
- chromogenic microtiter plate assay, description (human), **142**, 147
- gene expression and enzymatic activity, inhibition by dexamethasone (porcine kidney), **143**, 329
- tissue-type, reconstituted onto phospholipid and glycolipid vesicles, properties (porcine heart), **146**, 94
- urinary, immunochemically related proteins, identification in plasma (human), **142**, 162
- urokinase-type
- magnetic, fibrinolytic activity (human urine), **148**, 392
- stimulation of neutrophil chemotaxis (human), **147**, 1176
- Plasminogen activator inhibitors
- endotoxin-induced secretion from pulmonary arterial and aortic endothelial cells (bovine), **148**, 1346
- fibroblast-derived, comparison with protease nexin (human), **149**, 866
- Plasmodium falciparum*
- glycosidase production, role in invasion of human erythrocytes and cytoadherence to endothelial cells, **143**, 461; *erratum*, **147**, 1301
- Plasmodium yoelii*
- infected erythrocytes, nucleoside permeation (mouse), **145**, 1134
- Platelet-activating factor
- accumulation in injured cornea, relationship to synthesis of lipoxigenase products (rabbit), **149**, 915
- antigen- and ionophore-stimulated synthesis by cloned mast cells (mouse), **144**, 1243
- binding to
- neutrophils, effect of 1-O-alkyl-2-N-methylcarbamyglycerophosphocholine (human blood), **147**, 18
- platelets, competitive inhibition by triazolobenzodiazepines (human), **144**, 359
- and collagen, cooperativity in platelet aggregation (bovine endothelial cells), **145**, 915
- effect on
- chemotaxis of normodense eosinophils (human), **142**, 638
- cytoskeletal actin levels in neutrophils (rabbit), **145**, 934
- pulmonary β -adrenoceptors (human), **143**, 1
- ³H-labeled, binding to neutrophil granulocytes, inhibition by ginkgolide B (human), **148**, 1412
- homologs and analogs, detection in brain lipid extract (bovine), **145**, 415
- induction of
- Ca²⁺ mobilization in polymorphonuclear leukocytes, correlation with respiratory burst activation (rabbit), **144**, 794
- oscillatory behavior in neutrophils (human), **147**, 361
- inhibition of lymphocyte proliferation and interleukin-2 production, effect of BN 52021 (human), **142**, 754
- regulation of leukotriene biosynthesis, effects of prostaglandins E₁ and F_{1 α} (rat lung), **147**, 1213
- spasmogenic effect on isolated stomach fundus strip (rat), **146**, 855
- Platelet-derived growth factor
- inhibition by monoclonal antibody C3.1, **147**, 839
- protein kinase C-independent activation of Na⁺/H⁺ exchanger, inhibition by cyclosporin A (Swiss 3T3 fibroblasts), **145**, 111
- stimulation of prostaglandin E₂ release from *ras*-transformed NIH-3T3 cells, role of phospholipase C, **145**, 1254
- Platelet-derived growth factor receptors
- antagonists, inhibition of mitogen-induced peripheral blood T-cell proliferation (human), **148**, 802
- role in viral Ki-*ras* protein-stimulated cell proliferation (NRK cells), **148**, 376
- Platelets
- activation
- agonist-induced, effect of stelazine (human), **148**, 768

Subject Index

- monoclonal antibody-induced, mechanism, comparison with thrombin (human), **146**, 1397
- role of myosin light chain phosphorylation (human), **140**, 280; *erratum*, **142**, 289
- by thrombin and 12-*O*-tetradecanoylphorbol 13-acetate, synergism at subthreshold levels (human), **148**, 1025
- adhesion to vascular endothelium, role of nitric oxide and cGMP (human), **148**, 1482
- aggregation, cooperative effects of platelet-activating factor and collagen (bovine endothelial cells), **145**, 915
- agonist-induced polyphosphoinositide metabolism, neomycin effects (human), **144**, 454
- arachidonic acid release and inositol 1,4,5-trisphosphate synthesis, stimulation by distinct G-proteins (human), **146**, 659
- Ca²⁺ release, induction by diacylglycerol and inositol 1,4,5-trisphosphate, comparison (human), **142**, 7
- Ca²⁺ transients, effects of protein kinase C activation and inhibition, monitoring with aequorin, fura-2, and quin-2 (human), **145**, 66
- collagen-activated, effect of collagen-derived octapeptide on phosphoinositide turnover and 43-kDa protein phosphorylation, **146**, 277
- cytoplasmic free Ca²⁺ levels
- effect of thapsigargin: mechanism for tumor promotion (human blood), **142**, 654
 - regulation by intracellular cAMP produced with photoactivatable derivative (human), **146**, 321
- fibrinogen binding, inhibition by ajoene (human), **141**, 145; *erratum*, **144**, 1348
- intact, protein kinase C activation by *cis*- and *trans*-octadecadienoic acids, potentiation by diacylglycerol (human), **149**, 762
- membrane vesicles, cAMP-dependent phosphorylation in platelet membrane vesicles (human), **145**, 139
- neomycin-induced arachidonic acid release (human), **146**, 820
- palmitoyl-CoA, elongation reduction in patient with hereditary methemoglobinemia associated with mental retardation, **148**, 384
- phorbol ester-stimulated, 40-kDa protein phosphorylation and serotonin secretion, inhibition by K252a (rabbit), **144**, 35
- phospholipase C activation, thrombin-induced, enhancement by guanosine 5'-*O*-(2-thiodiphosphate), evidence for inhibitory GTP-binding protein role (human), **144**, 1188
- plasma membranes and liposomes, aminophospholipid topology, cholesterol-induced rearrangements (sheep), **145**, 1362; *erratum*, **147**, 1302
- platelet-activating factor binding, competitive inhibition by triazolobenzodiazepines (human), **144**, 359
- response to arachidonate upon stimulation with other agonists, role of Ca²⁺ movement (human), **149**, 1193
- saponin-permeabilized, arachidonic acid release and 1,2-diacylglycerol formation, differential sensitivity to pertussis toxin, GDPβS and NaF (human), **148**, 971
- spiropiperidol binding sites, analysis (human, rat), **146**, 983
- thrombin-induced arachidonic acid transfer, effect of trifluoperazine (human), **144**, 821
- thrombolamban, partial purification and characterization (human), **149**, 700
- thromboxane A₂ and 12-hydroxyoctadeca-9,11-dienoic acid production, effects of 13-hydroxyoctadeca-9,11-dienoic acid (human), **148**, 528
- tumor cell-induced aggregation, role of platelet cyclooxygenase and lipoxygenase (rat), **145**, 384
- Plumbagin
- effect on cytochrome *P*-450-linked monooxygenase systems (human placenta, rabbit liver), **146**, 487
- Pneumocytes
- type II, β-adrenoreceptor heterogeneity (guinea pig), **142**, 898
- Polyadenylate
- inhibition of 2':3'-cyclic nucleotide 3'-phosphodiesterase (bovine, human brain), **145**, 686
 - role in protein synthesis, **144**, 649
- Poly(ADP-ribose) polymerase, *see* NAD⁺ ADP-ribosyltransferase
- Poly(ADP-ribose) synthetase
- automodification, reaction mechanisms, **147**, 1008
 - inhibition, potentiation of decarbazine cytotoxicity (human melanoma cells), **142**, 1089
 - phosphorylation by protein kinase C *in vitro* (bovine thymus), **148**, 709
- Polyamine oxidase
- isozymes, separation and characterization (murine leukemia cells), **144**, 528
- Polyaspartic acid
- enhancement of thrombin inhibition by heparin cofactor II (human plasma), **148**, 362
- Polybrominated biphenyls
- modulation of protein kinase C *in vitro* (murine, rat brain), **142**, 567
- Polychlorinated biphenyls
- Aroclor 1254, induction of epidermal NADPH:quinone reductase, role in detoxification (mouse, rat), **146**, 126
 - modulation of protein kinase C *in vitro* (murine, rat brain), **142**, 567
- Polyclonal antibodies
- in detection of hormone-sensitive lipase in non-adipose tissues (rat), **148**, 99
 - to hemopexins, in analysis of species cross-reactivity, **144**, 88
 - as probes of membrane glycoproteins associated with drug-resistant cells, **143**, 732
- Polycytidylic acid
- hydrolysis by ribonuclease from cobra venom, **145**, 740
- Polyethylene glycol
- derivative-modified cholesterol oxidase, solubility and activity in benzene (*Nocardia* sp.), **148**, 876
- Polygalacturonic acid
- interactions with polyamines *in vitro*, **148**, 1259
- Polyglutamic acid
- enhancement of thrombin inhibition by heparin cofactor II (human plasma), **148**, 362
- Polyinosinic acid
- differential affinities for cloned human interferons α, **145**, 426

Subject Index

Poly L-lysine

effect on mono(ADP-ribosyl)ation of Ca^{2+} -dependent ATPase in skeletal muscle sarcoplasmic reticulum (sheep), **144**, 856

Polymerization

actin

correlation with changes in optical density at 235 nm (rabbit muscle), **145**, 46

induction by serotonin in cultured endothelial cells (bovine aorta), **143**, 152

polyphenylalanine, effect of ribosome-inactivating proteins, **148**, 521; *erratum*, **149**, 1220

steady-state, tubulin microtubules, dynamic properties (bovine brain), **149**, 461

Polymyxin B

and phorbol ester and bryostatin, comparative effects on HL-60 cells, **146**, 208

Polymyxin B nonapeptide

effect on transformation of *Escherichia coli*, **143**, 923

5'-Polynucleotide kinase

associated activity of 2':3'-cyclic nucleotide 3'-phosphodiesterase (bovine, human brain), **145**, 686

Polyoma virus

large T antigen

high-affinity binding to murine genomic DNA sequence, **148**, 1053

immortalizing domain, biochemical properties, **144**, 973

Polypeptides

cytosolic, M_r 52,000, and placental glutathione *S*-transferase, in preneoplastic hepatocyte nodules, comparison (rat), **143**, 98

-DNA complexes

in isolated bulk DNA and residual nuclear matrix DNA, radiolabeling by nick-translation, **147**, 340

subset characteristics of DNA sequences and homology to nuclear matrix DNA, **147**, 335

follicle-stimulating hormone-suppressing, structurally different from inhibin, isolation (bovine follicular fluid), **149**, 744

major intrinsic MIP26K, amino acid internal sequence, changes during senile cataractogenesis (human lens membrane), **142**, 761

monovalent ion-sensitive, high-affinity association with phencyclidine receptors (rat brain), **142**, 501

photosystem I reaction center, identification as products of chloroplast genes PS1A1 and PS1A2 (spinach), **143**, 281

polymerizing into intermediate-like filaments, purification from *Drosophila melanogaster*, **144**, 1043

reovirus virion core σ_2 , cDNA cloning and nucleotide sequence (human), **147**, 1153

RNA polymerase II 180-kDa, identification of DNA-binding domain (chicken leukemia cells), **145**, 73

subunits III, VII, a, and b, in cytochrome-c oxidase, relationship to enzyme metal content and activity (bovine), **148**, 1520

tropoelastin, multiple forms, identification in lung (chicken), **146**, 1291

28-kDa, reversion of 7-methylguanosine 5'-phosphate inhibition of yeast mRNA translation, **146**, 1093

Polypeptide YY

and neuropeptide Y, differential effects on immunoreactive atrial natriuretic factor (rat), **145**, 680

Polyphenylalanine

polymerization, effect of ribosome-inactivating proteins, **148**, 521; *erratum*, **149**, 1220

Polyphosphatidylinositol

hydrolysis, induction by prostaglandin $\text{F}_{2\alpha}$ in ovarian cells (swine), **149**, 112

Polyphosphoinositides

in brain, effect of BN 52021 after ischemia-reperfusion-induced injury (gerbil), **149**, 580

hydrolysis

in Friend erythroleukemia cells, stimulation by erythroid differentiation factor (mouse), **146**, 187

role in fibroblast growth factor-induced early and late mitogenic events in epithelial lens cells (bovine), **146**, 32

inhibition of phosphorylation of protein components I and II in photoreceptor rod outer segments (frog), **148**, 54

Polyphosphoinositols

interactions with AMP deaminase (chicken liver), **148**, 106

Polysaccharide K

inhibition of

HIV infection *in vitro*, **148**, 726

reverse transcriptase *in vitro*, **149**, 562

Polysaccharides

with antiviral activity, virus-promoted entry into cells, **146**, 1303

group A streptococcal, amide hydrogen exchange rates in water, ^1H NMR measurements, **143**, 685

O-specific, acylation and glycosylation sites, assay using $^1\text{H}/^{13}\text{C}$ inversely correlated NMR spectroscopy (*Hafnia alvei* 1187), **146**, 1283

from *Physarum polycephalum*, selective inhibition of DNA polymerase α , **146**, 61

Polysialic acid

α -2,8-linked, detection in multiple oligosaccharide chains in voltage-sensitive Na channels (*Electrophorus electricus*), **148**, 817

Polythiopeptides

mean geometry of thiopeptide unit and conformational features, **145**, 834; *erratum*, **146**, 1531

Poly-ubiquitin

cDNA, cloning and sequence analysis (human ovarian granulosa cells), **147**, 581

Polyuridylylate

inhibition of 2':3'-cyclic nucleotide 3'-phosphodiesterase (bovine, human brain), **145**, 686

Porphyria

hepatic, induction by polycyclic aromatic hydrocarbons (Fe-loaded mouse), **146**, 13

Porphyrins

interaction with rhodamine 110, 123, and peptidic side-chain derivatives, **146**, 107

Potassium

Ca^{2+} -induced closure of outward currents in isolated patches of atrial myocyte sarcolemma, inhibition by acetylcholine (dog), **142**, 1039

Subject Index

- effect on
 Ca^{2+} -dependent synthesis and secretion of peptides by neuroendocrine cells (bovine chromaffin cells, rat pituitary), **146**, 495
 interactions of mitochondrial ribosomes and subunits (bovine), **147**, 1077
 -Na pump in 3T3 cells, effect of heparin-binding growth factors (mouse), **144**, 115
 transport in heavy gastric membranes enriched with H^+ , K^+ -ATPase, effect of lysophosphatidylcholine (rat), **146**, 840
- Potassium channels
 ATP-modulated, in insulin-secreting cells, inhibition by glibenclamid (rat), **146**, 21
 in axonal membranes, effects of plant hormones (*Myxicola infundibulum*), **143**, 1085
 Ca^{2+} -dependent, detection in Friend erythroleukemia cell plasma membranes (mouse), **146**, 1450
 gating and conductance in sarcoplasmic reticulum, effect of ryanodine, **148**, 1137
 in guard cell protoplasts, effect of abscisic acid (*Vicia faba*), **145**, 284
- Precipitation
 DNA from dilute solutions, carrier RNA-enhanced, **144**, 271
- Pregnancy
 effect on lipid peroxidation in kidney (rat), **145**, 134
- Preprorenin
 gene in mammalian expression vector, cloning, requirement for *Escherichia coli* bacteriophage transcription terminator (human), **143**, 593
- Proapolipoprotein A-I
 antibody to, development as probe of apolipoprotein A-I biosynthesis and processing (human), **149**, 289
- Procarboxypeptidases
 pancreatic, activation segment, conformational predictive studies (pig, rat), **149**, 729
- Procollagen
 cysteine-rich domain, comparison with thrombospondin and von Willebrand factor, **144**, 876
 mRNA, detection of various types in hepatoma cell lines (human), **148**, 869
 types I and III, mRNA, steady-state levels in normal dermal fibroblasts, effect of prostaglandin E_2 (human), **147**, 1282
- Procollagenase
 interleukin 1β - and phorbol ester-stimulated synthesis, correlation with cellular increases in procollagen mRNA levels (human articular chondrocytes), **144**, 583
- Proenkephalin
 peptides F, E, and B, tissue binding distribution (guinea pig, rabbit, rat), **146**, 1184
 processing carboxypeptidase, activation by cAMP-dependent protein kinase (bovine, rat striatum), **142**, 595
- Progastrin-17
 identification in duodenal ulcer disease (human), **146**, 884
- Progesterone
 effect on growth of breast cancer cells, **145**, 706
 formation by adrenocortical cells, role of microfilaments (*Rana ridibunda*), **148**, 1354
 luteinizing hormone-releasing hormone-stimulated production in granulosa cells, role of protein kinase C (rat), **146**, 939
 metabolism by cultured granulosa cells, time-dependent effects of follicle-stimulating hormone (rat), **144**, 67
- Progesterone receptors
 A and B forms, formation by alternate initiation of translation of unique mRNA (chicken), **149**, 493
 amino acid sequence, deduction from cloned cDNA (human), **143**, 740
 estradiol-stimulated synthesis, effect of phenol red (MCF-7 cells), **142**, 724
 phosphorylation by ligands activating protein kinases (human breast carcinoma cells), **146**, 1357
- Progesterone 5α -reductase
 solubilized from hepatic microsomes, specific stimulation by endogenous phosphatidylserine (rat), **149**, 482
- Progestin, *see* Progesterone
- Proinsulin
 -alkaline phosphatase conjugates prepared by gene fusion, in design of simple competitive ELISA, **149**, 607
 conversion to insulin, activation by prior glucose exposure in pancreatic islets, **148**, 1418
 gene expression in *Escherichia coli*, high-pressure infrared spectroscopy, **146**, 232
- Prolactin
 from buffalo and sheep, analysis for presence of sulfate, **149**, 515
 Ca^{2+} -dependent synthesis and secretion by neuroendocrine cells, effects of barium and potassium (rat pituitary), **146**, 495
 glycosylated, detection in pituitary and alteration of concentrations (mouse, rat), **148**, 505
 -like molecule, production by concanavalin A-stimulated splenocytes (mouse), **145**, 692
 synthesis by term placental explants, effects of insulin-like growth factor I and insulin (human), **144**, 674
- Prolactin-releasing factor
 purification and characterization (human placenta), **147**, 452
- Proline
 uptake in fibroblasts: evidence for high-affinity system in addition to system A (human), **142**, 221
- Prolyl hydroxylase
 induction in nonadherent leukocytes (human), **147**, 486
- Pro-natriodilatin
 mRNA levels in primary cardiocyte cultures, stimulation by thyroid hormone (rat), **146**, 1336
- Pro-octocin
 processing-related endoprotease, identification and characterization (bovine corpus luteum), **143**, 789; *erratum*, **144**, 1349
- Pro-opiomelanocortin
 mRNA levels in pituitary gland, physiologically induced changes (*Xenopus laevis*), **143**, 678
- Propranolol
 effect on glycogenolysis emergence during post-maturational aging (rat hepatocytes), **147**, 724

Subject Index

- Propyl gallate
inhibition of Ca^{2+} uptake and neurotransmitter release from synaptosomes (guinea pig brain), **146**, 603
- Prostacyclin
endothelial, dual regulatory role of GTP-binding proteins (bovine), **147**, 1113
histamine-induced release in umbilical vein endothelial cells, association with phosphoinositide metabolism (human), **144**, 438
synthesis by endothelial cells, stimulation by 13-hydroxy-octadecadienoic acid (bovine), **146**, 502
- Δ^7 -Prostaglandin A_1
inhibition of herpes simplex virus replication, mechanism (human embryonic fibroblasts), **146**, 1425
- Prostaglandin B_1
oligomers, Ca^{2+} ionophoretic activity in isolated hepatocytes (rat), **143**, 1024
- Prostaglandin D_2
production by peritoneal mast cells, effects of Ca^{2+} uptake (rat), **143**, 467
- Prostaglandin dehydrogenase
associated activity of hepatic 3α -hydroxysteroid dehydrogenase (rat), **148**, 646
- Prostaglandin E_1
effect on platelet-activating factor-mediated leukotriene biosynthesis (rat lung), **147**, 1213
- Prostaglandin E_2
A23187-induced production in glomeruli, role of protein kinase C (rat), **149**, 658
effect on steady-state levels of fibronectin and types I and III procollagen mRNAs in normal dermal fibroblasts (human), **147**, 1282
plasma levels, relationship to changes in hemoglobin proportions during bleeding-induced anemia (rat), **149**, 1017
production by osteoblast-like cells, stimulation by tumor necrosis factor type α (mouse), **145**, 323
release from
 ras-transformed NIH-3T3 cells, platelet-derived growth factor-stimulated, role of phospholipase C, **145**, 1254
 vascular smooth muscle cells, inhibition by cyclosporin A (rat aorta), **147**, 542
stimulation of cytosolic free Ca^{2+} and inositol phosphates *in vitro* (rat mesangial cells), **142**, 579
synthesis by monocytes, stimulation by interleukin 2 (human), **147**, 86
urinary levels, effect of mild hypoxia (human), **148**, 906
- Prostaglandin $\text{F}_{1\alpha}$
effect on platelet-activating factor-mediated leukotriene biosynthesis (rat lung), **147**, 1213
- Prostaglandin $\text{F}_{2\alpha}$
chain-shortening by hepatic peroxisomes (rat), **144**, 1206
enzymatic formation from prostaglandin H_2 , catalysis by glutathione transferase, **142**, 441
induction of polyphosphatidylinositol hydrolysis and membrane translocation of protein kinase C in ovarian cells (swine), **149**, 112
stimulation of cytosolic free Ca^{2+} and inositol phosphates *in vitro* (rat mesangial cells), **142**, 579
- Prostaglandin H_2
enzymatic transformation to prostaglandin $\text{F}_{2\alpha}$, catalysis by glutathione transferase, **142**, 441
- Prostaglandin H synthase
binding to arachidonic acid metabolite, analysis (pig), **148**, 539
- Δ^{12} -Prostaglandin J_2
inhibition of herpes simplex virus replication, mechanism (human embryonic fibroblasts), **146**, 1425
- Prostaglandins
basal and interleukin 1-induced production in calvaria, inhibition by interferon γ (neonatal mouse), **143**, 38
stimulation of cAMP synthesis in Ewing's sarcoma cells, **146**, 685
synthesis in
 brain, effect of neurotransmitters (guinea pig), **146**, 1256
 cultured thyroid cells, stimulation by epidermal growth factor and phorbol ester (swine), **143**, 880
 fibroblasts, phorbol ester-induced, relationship to ornithine decarboxylase induction (mouse), **139**, 186; *erratum*, **142**, 287
- Protamines
heart, analysis in obese rat, **146**, 589
protein kinase C phosphorylation sites *in vivo*, effect of cAMP-dependent protein kinase (fish), **144**, 1324; *erratum*, **148**, 898
- Protease inhibitor
calcium-activated neutral, purification and characterization (rabbit erythrocytes, liver), **146**, 630
calcium-dependent, isolation from myocardial sarcolemma and sarcoplasmic reticulum vesicles (bovine), **142**, 1025
- Protease nexin
comparison with fibroblast-derived urokinase inhibitor (human), **149**, 866
- Proteases
chelator-sensitive, localization in mitochondrial matrix (*Saccharomyces cerevisiae*), **144**, 277
degradation of proteins with blocked amino groups (rabbit reticulocytes), **146**, 1249
interleukin 1-mediated release from chondrocytes, enhancement by fibroblast growth factor (rabbit), **142**, 448
protein C-activating, isolation from venom (southern copperhead), **143**, 917
- Protein C
activating protease, isolation from venom (southern copperhead), **143**, 917
- Protein disulfide-isomerase
sequence homology with membrane-associated 3,5,3'-triiodo-L-thyronine-binding protein (bovine liver), **146**, 1485
- Protein kinase, *see also* Phosphorylation
activating ligands, effect on progesterone receptors (human breast carcinoma cells), **146**, 1357
in B cells, enhancement by 2,3,7,8-tetrachlorodibenzo-*p*-dioxin (murine spleen), **145**, 25

Subject Index

- Ca²⁺-activated calmodulin-dependent, plasma membrane-bound, autophosphorylation and modification of catalytic activity (*Pisum sativum*), **143**, 691
- calmodulin-dependent, detection in gastric parietal cells (rabbit), **148**, 1390
- cAMP-dependent
- activation of proenkephalin-processing carboxypeptidase (bovine, rat striatum), **142**, 595
 - phosphorylation of tyrosine 3-hydroxylase, prior and subsequent effects of spermine (bovine adrenal medulla), **148**, 1460
 - recognition of synthetic segments of β -adrenergic receptor (hamster), **147**, 168
 - role in phosphatidylinositol kinase inhibition by cAMP (murine liver), **146**, 561
 - type I regulatory subunit, molecular cloning, cDNA structure, and deduced amino acid sequence (human testis, rat brain), **146**, 878; **149**, 939
- cAMP-independent, inhibition by phosphatidylinositol (caprine spermatozoa), **146**, 422
- cross-reaction with antiserum to bovine brain protein kinase C regulatory subunit (*Amaranthus tricolor*), **145**, 1043
- cyclic nucleotide-dependent, inhibition by K-252 compounds (rabbit muscle), **142**, 436
- ecto- and basal-, in fibroblasts, effects of phorbol ester, retinoic acid, and diacylglycerol (human), **143**, 600
- F_A, type-1 protein phosphatase-activating, association with membranes (porcine brain, liver; rabbit heart, skeletal muscle), **142**, 38
- in gastric gland cytosol, identification and characterization (rabbit), **142**, 559
- neuronal type II calmodulin-dependent, amino acid sequence analysis by tandem mass spectrometry, **148**, 1104
- S6, activated, detection in regenerating liver (rat), **146**, 239
- Protein kinase C
- activation
 - and binding by diacylglycerols, structural requirements, **148**, 776
 - by chloroform (murine brain, rabbit platelets), **142**, 738
 - effect on interferon- γ receptor expression (mouse), **144**, 337
 - and inactivation of platelets, effects on Ca²⁺ transients, monitoring with aequorin, fura-2, and quin-2 (human), **145**, 66
 - induction of myotonia by lowering chloride conductance in muscle (mouse), **148**, 1383
 - by *cis*- and *trans*-octadecadienoic acids in intact platelets, potentiation by diacylglycerol (human), **149**, 762
 - by various diacylglycerols (rat brain), **144**, 598
 - activity and tissue levels, strain-specific postnatal changes (murine lung, spleen), **145**, 733
 - binding to isolated nuclei and activation by Ca²⁺/phospholipid-independent mechanism, **145**, 760
 - Ca²⁺-regulated, Ca²⁺-independent activation by unsaturated fatty acids (beet leaf), **147**, 1041
 - and calmodulin, role in activation of neutrophil respiratory burst, comparison (human), **142**, 53
 - cellular distribution, effects of caerulein or carbachol (rat pancreatic acinar cells), **144**, 551
 - distinct forms, differential response to unsaturated fatty acids (rat brain), **145**, 797
 - down-regulation in glioma cells, effects on β -adrenergic receptor-coupled adenylate cyclase (rat), **144**, 620
 - in hepatic nuclei and subnuclear fractions, immunochemical characterization (rat), **142**, 367
 - 5-hydroxyeicosatetraenoic acid-stimulated mobilization in neutrophils (human), **148**, 575
 - inhibition by
 - antineoplastic agents: implications for drug resistance in tumor cells, **148**, 718
 - K-252 compounds (rat brain), **142**, 436
 - Leishmania donovani* lipophosphoglycan, **148**, 653
 - long-chain acyl-CoA and counteraction by Mg-ATP in polymorphonuclear neutrophils (bovine), **147**, 428
 - sphingosine, mechanism (bovine brain), **146**, 203
 - isozymes
 - immunochemical identification as products of discrete genes (rat brain), **149**, 946
 - isolation from brain, comparison with single isoform from bovine adrenocortical tissue (rat), **147**, 382; *erratum*, **148**, 1550
 - mediation of feedback inhibition of Ca²⁺ response at epidermal growth factor receptor (A431 epidermoid carcinoma cells), **149**, 145
 - membrane-associated, regulation by guanine nucleotides (rabbit peritoneal neutrophils), **142**, 242
 - modulation by environmental chemical pollutants *in vitro* (murine, rat brain), **142**, 567
 - multiple forms, differential expression in central nervous tissue (rat), **147**, 911
 - and Na⁺/H⁺ exchanger, role in stimulation of leucine transport by phorbol ester (Chang liver cells), **144**, 900
 - from normal and *ras*-transformed fibroblasts, characterization (mouse), **146**, 140
 - phorbol-mediated redistribution in glioma cells, inhibition by concanavalin A (rat), **144**, 1265
 - phosphorylation in adrenal cortical plasma membrane, inhibition by cGMP-dependent and -independent mechanisms, **148**, 589
 - phosphorylation of
 - heptapeptide corresponding to histone fragment 103-109, role of lysine residue, **142**, 155
 - leukemia cell RNA polymerase II (chicken), **145**, 1376
 - poly(ADP ribose) synthetase *in vitro* (bovine thymus), **148**, 709
 - ras* oncogene product, **145**, 782
 - 16-kDa protein substrate in aortic myocytes after stimulation of vasopressin receptors (rat), **143**, 517
 - protamine phosphorylation sites *in vivo*, effect of cAMP-dependent protein kinase (fish), **144**, 1324; *erratum*, **148**, 898
 - recognition of synthetic segments of β -adrenergic receptor (hamster), **147**, 168

Subject Index

- redistribution in mast cells, association with agonist activation (rat), **142**, 645
- regulatory subunit, antiserum to, cross-reaction with plant protein kinase (bovine brain), **145**, 1043
- role in
- A23187-induced glomerular arachidonate release and prostaglandin E₂ production (rat), **149**, 658
 - adenylate cyclase inhibition by interleukin 2 in T cells (human), **145**, 176
 - insulin-like effects of human growth hormone in adipocytes (rat), **147**, 1232
 - interferon inhibition of DNA synthesis (Swiss-3T3 cells), **145**, 1026
 - lutinizing hormone-releasing hormone-stimulated progesterone production in granulosa cells (rat), **146**, 939
 - meiotic maturation of oocytes (*Spisula solidissima*), **142**, 1072
 - neutrophil cytotoxicity (human), **148**, 1290
 - parathyroid hormone degradation by osteoblast-like osteosarcoma cells (rat), **143**, 539
- subcellular distribution
- in adipocytes, effect of insulin, relationship to alterations of phorbol ester binding (rat), **145**, 1384
 - in parietal cells and role in acid formation (guinea pig), **149**, 720
- substrate-specific stimulation by polyvalent anions (bovine brain), **147**, 248
- translocation
- comparative effects of polymyxin B, phorbol ester, and bryostatin (HL-60 cells), **146**, 208
 - in mast cells, role in inhibition of antigen-induced increase of cytosolic Ca²⁺, **143**, 252
 - in ovarian cells, induction by prostaglandin F_{2α} (swine), **149**, 112
 - in polymorphonuclear leukocytes, induction by bacteria (human), **147**, 787
 - subcellular, and down-regulation in MCF-7 cells, induction by 12-*O*-tetradecanoylphorbol-13-acetate, **146**, 537
- Protein kinase inhibitors
- effect on B-lymphocyte activation by bacterial lipopolysaccharide (murine spleen), **145**, 1315
 - H7, effect on R59022-potentiated superoxide radical production induced by formyl-methionyl-leucyl-phenylalanine (rabbit neutrophils), **148**, 38
- Protein ligase
- ubiquitin system, component alterations during reticulocyte maturation to erythrocytes (rabbit), **145**, 658
- Protein methyltransferase
- inhibition by leupeptin and chymostatin (rat kidney), **142**, 603
- Protein phosphatase, *see* Phosphoprotein phosphatase
- Proteins
- abnormal metabolism *in vitro* in skin fibroblasts from patients with Duchenne muscular dystrophy, **145**, 1
 - actin-binding, induction of three-dimensional contraction, regulation by caldesmon, **144**, 936
 - adenylate cyclase stimulatory regulatory, effect of estradiol-induced lipolytic defect in adipocytes (hamster), **145**, 369
 - ADP-ribosylated G-like, multiple isoforms, detection (bovine, canine, porcine thyroid membranes), **144**, 536
 - Alzheimer's disease, residue peptide number required for amyloid fibril formation and characteristic X-ray diffraction pattern, **147**, 854
 - amyloid β
 - encoding gene on human chromosome 21, homolog localization on murine chromosome 16, **144**, 1069
 - precursor, isolation of cDNA for murine homolog (human), **149**, 665
 - androgen-binding, production by cultured Sertoli cells, effect of triiodothyronine (rat), **143**, 241
 - D-aspartic acid-containing, characterization (aged murine lens), **146**, 1432
 - B-48, carboxy-terminal sequence, comparison with B-100 protein (human), **149**, 1214
 - band 3
 - and ankyrin, homologs in eye lens: evidence for all major erythrocyte membrane components in same nonerythroid cells (human), **149**, 266
 - dephosphorylation, role of membrane-bound phosphotyrosyl-protein phosphatase (human), **142**, 587
 - monomers, detection of multisite allosteric interactions, **143**, 959
 - basic hemolymph-associated, identification in Noctuid species, **146**, 265
 - blue copper, interaction with copper nitrate reductase from *Achromobacter cycloclastes*, **145**, 563
 - cAMP-binding, degradation, inhibition by c-Ha-ras gene product (human), **146**, 731
 - Cap Z_(36/32), contamination and inhibition of actin network formation in actin preparations, **145**, 625
 - γ-carboxyglutamic acid-containing, effect on precipitation of insoluble salts, **142**, 113
 - chloroplast, nuclear-encoded, precursor, importation and processing by sycamore amyloplasts (spinach), **149**, 799
 - components I and II in photoreceptor rod outer segments, phosphatidylinositol-stimulated phosphorylation (frog), **148**, 54
 - core, tendon small proteoglycan, characterization and interactions (bovine), **148**, 658
 - crosslinked, detection in erythrocyte membranes of patient with Hb-Koln disease, **147**, 602
 - distinct, in HL-60 and K562 cells, phorbol ester-promoted phosphorylation, regulation by alkyllysophospholipid, **142**, 661
 - E1A, *fos*, and *myc*, evaluation as protein phosphatase inhibitors, **143**, 194
 - fatty acid-binding
 - cardiac, reaction with antibodies to mammary-derived growth inhibitor (bovine), **148**, 1425
 - from plasma membranes of myocardium and adipose tissue, isolation and partial characterization, relationship to analogous proteins in liver and gut (rat), **148**, 1370; *erratum*, **149**, 1222
 - role in transport and storage of retinoids, **147**, 899
 - α-fetoprotein gene-binding, detection in α-fetoprotein-producing hepatomas (rat), **143**, 110

Subject Index

- filamentous phage fd, interaction between gene 5 protein, gene 5 protein/single-stranded fd DNA complex, and gene 8 protein, **149**, 13
- fodrin-like, identification in hepatic basolateral membranes (rat), **145**, 1033
- 40-kDa, phosphorylation, inhibition by K252a in phorbol ester-stimulated platelets (rabbit), **144**, 35
- 43-kDa, phosphorylation in collagen-activated platelets, effect of collagen-derived octapeptide, **146**, 277
- 45-kDa, in lung tumor, decreased incorporation of $8N_3$ -[γ - ^{32}P]-GTP (mouse), **144**, 591
- 46-kDa, effect on enzyme activities in fibroblasts of patients with galactosialidosis, **144**, 138
- G-, pertussis/cholera toxin-sensitive, regulation of vasopressin-induced inositol phosphate formation in smooth muscle cells (rat aorta), **146**, 898
- G_{ai}, antibody recognition of 40-kDa G-protein (bovine brain), **148**, 838
- gap junctional
- cardiac, identification of tissue-specific cytoplasmic domain of M_r 17,000 at carboxy-terminus, **142**, 228
 - limited proteolysis, analysis in lens fiber plasma membranes (bovine eye), **147**, 846
- Gi, α subunit, role in ACTH-induced production of cAMP by cultured adrenal cells (bovine), **146**, 517
- glycine-rich, accumulation in auxin-deprived fruit (*Fragaria ananassa*), **147**, 885
- growth-inhibitory, characterization (rabbit serum), **148**, 1215
- GTP-binding
- amino-terminal attachment to brain and neutrophil plasma membranes (bovine, human), **148**, 1398
 - detection in green plant (*Lemna paucicostata*), **143**, 908
 - dual role in control of endothelial prostacyclin (bovine), **147**, 1113
 - in etiolated epicotyls, isolation and characterization (*Pisum sativum*), **148**, 133
 - from *Neurospora crassa*, characterization, **146**, 1178
 - stimulation of partially purified phospholipase C from platelet membranes (human), **146**, 861
 - 29-kDa, expressed in brain, kidney, lung, spleen, and transformed NIH3T3 cells, detection (mouse), **149**, 686
- guanine-binding G_o α , identification of hydroxylamine-stable covalent linkage of myristic acid (bovine brain), **146**, 1234
- guanine nucleotide-binding
- direct activation by nucleoside-diphosphate kinase through high-energy phosphate transfer, **148**, 300
 - dissociation in formyl-methionyl-leucyl-phenylalanine-stimulated neutrophils, effects of phorbol ester treatment (rabbit), **143**, 489
 - enzyme-associated, physiological correlation with nucleoside-diphosphate kinase (Ehrlich ascites tumor cells), **143**, 552
 - 40-kDa, recognition by G_{ai} antibodies (bovine brain), **148**, 838
 - role in cell-surface receptor coupling to breakdown of inositol-containing lipids during T-lymphocyte mitogenesis (human), **148**, 1223
 - stimulation of arachidonate release and inositol 1,4,5-triphosphate synthesis in platelets (human), **146**, 659
 - guanine stimulatory regulatory, reconstitution from melanoma clones into S49 CYC⁻ membranes, **147**, 443
 - HC, and complement component C8 γ , structural homology: identity of cysteine bond pattern (human plasma), **149**, 750
 - heat-shock, induction of phosphorylation in soybean seedlings, **148**, 762
 - high-affinity binding, for corticotropin-releasing hormone, detection in plasma (human), **143**, 411
 - high-mobility-group
 - binding to histone H3 in nucleosomes, photochemical crosslinking study (bovine thymus), **147**, 301
 - chromosomal identification of identical palindrome amino acid sequences (human), **146**, 725
 - I, 2, and E, *cis*-diamminedichloroplatinum(II)-induced selective crosslinks with DNA (chicken erythrocytes), **142**, 826
 - type I, binding to A • T-rich double-stranded DNA sequences (mouse), **143**, 260 - hypusine-containing, formation and stability in CHO cells, **145**, 1335
 - insulin-like growth factor-binding
 - production by vascular endothelial cells (bovine, human, rodent), **148**, 734
 - in serum, comparisons (human, rat), **147**, 408 - interleukin-2 receptor-related, tyrosine phosphorylation in phytohemagglutinin-activated lymphocytes (human), **144**, 160
 - junctional feet-ryanodine receptor complex, detection in sarcoplasmic reticulum (rabbit muscle), **143**, 704
 - Ki-ras, stimulation of cell proliferation via platelet-derived growth factor receptor (NRK cells), **148**, 376
 - L12, from chloroplast ribosomes, C-terminal domain model, molecular dynamics study, **148**, 954
 - λ GT11 fusion, identification with antibody to enkephalinase activity, **145**, 488
 - large T, from polyoma virus, high-affinity binding to murine genomic DNA sequence, **148**, 1053
 - lens fiber junction MP26, structural analysis by cyanogen bromide cleavage (bovine, chicken, human eye), **147**, 1013
 - Lon-SulA, regulatory function, effect on transposition efficiency of Tn5 from λ b221 cI857 Pam Oam to chromosome (*Escherichia coli*), **142**, 879
 - low-molecular-weight, pulmonary surfactant-associated, amino-terminal amino acid sequence (bovine), **148**, 1406
 - lysosomal enzyme-binding receptor, phosphorylation and associated tyrosine kinase activity (simian brain), **147**, 927
 - malonyl-CoA-binding, purification and characterization (rat liver), **147**, 234
 - membrane
 - effect of bile duct ligation (rat hepatic microsomes), **144**, 980
 - interferon β -induced, isolation and inhibition of cell growth (Daudi cells), **148**, 140

Subject Index

- phosphorylation, volume expansion-induced changes (rat kidney), **143**, 74
- 3,5,3'-triiodo-L-thyronine-binding, nucleotide sequence, homology with protein disulfide-isomerase (bovine liver), **146**, 1485
- v-Ha-ras-encoded, phosphorylation, stimulation by insulin, **144**, 19
- microtubule-associated
- binding to 30- and 60-kDa cerebral mitochondrial proteins, visualization by ligand blotting (rat), **149**, 776
 - and cytosynalin, induced microtubule formation, comparison (bovine brain), **146**, 711
 - mitogen-regulated, post-translational changes in expression during cell immortalization (murine embryo fibroblasts), **147**, 467
 - type 2, 28,000 M_r microtubule-binding domain, detection of neurofilament-binding site (bovine brain), **148**, 1453
- mitochondrial, 30- and 60-kDa, binding to microtubule-associated proteins, visualization by ligand blotting (rat brain), **149**, 776
- monosaccharide transport, D-glucose-induced increase in secondary structure (human erythrocytes), **145**, 1087
- myelin basic, *see* Myelin basic protein
- neutrophil, phosphorylation, inhibition by quercetin (human), **144**, 1229
- 19-kDa, related to phosphoprotein p19 from insulinoma cells, identification in brain (rat), **146**, 410
- nonhistone
- chromatin-associated, specific for transformed cells, purification and properties (rat), **149**, 1156
 - phosphorylation changes during differentiation (*Physarum polycephalum*), **142**, 188
- nuclear
- accumulation in mammary tumor cells, induction by 13-*cis*-retinal (human), **143**, 309
 - interaction with AT-cluster in first intron of α_2 -macroglobulin genes (rat), **147**, 824
 - transition TP2, isolation and characterization (rat spermatids), **147**, 437
- oligomycin sensitivity-conferring, fluorescent derivative, application in analysis of structural changes upon F₁-ATPase binding (bovine cardiac mitochondria), **142**, 31
- P-, glycine cleavage system-associated, phosphopyridoxyl peptide from, amino acid sequence (chicken liver), **149**, 621
- p56 from lymphoma LSTRA, N-terminal region, effect on associated tyrosine-protein kinase activity (mouse), **143**, 819
- and peptide mixtures, microbore HPLC with mass spectrometry using continuous flow interface, **146**, 291
- phosphate-translocating, from mesophyll chloroplasts, identification (maize), **143**, 164
- phospholipid transfer, amino-terminal sequence (rat lung), **145**, 1310
- phosphorylation
- auxin-regulated changes (pea epicotyls), **144**, 944
 - comparative effects of polymyxin B, phorbol ester, and bryostatin (HL-60 cells), **146**, 208
 - phosphotyrosine-containing, detection by ³²P and ¹²⁵I labeling (HeLa S3 cells), **142**, 389
- plasma
- stimulation of fatty acid uptake and triglyceride synthesis in cultured fibroblasts and adipocytes (human), **144**, 94
 - synthesis, transport, and N-linked glycosylation, effects of hydroxyorganoboranes (human hepatoma cells), **148**, 493
- platelet membrane, alkylated under conditions inhibitory for phospholipase A₂, identification (human), **146**, 582
- profiles in myopathic heart, effects of dietary selenium (hamster), **144**, 815
- pulmonary surfactant-associated, cDNA clone, isolation and sequence analysis (rat), **144**, 367
- R₁ cAMP-binding, induction in neurite-minus neuroblastoma cells (mouse), **148**, 350
- ras oncogene-encoded, phosphorylation, **145**, 782
- release from smooth muscle cells, induction by heparin (human intestine), **142**, 542
- replicative complex from diverse nuclear replicons, role in DNA synthesis (*Saccharomyces cerevisiae*), **142**, 1053
- retinoid-binding, conformational changes induced by retinoic acid binding (human serum), **143**, 418
- riboflavin-binding, tryptic phosphopeptides, phosphorylation heterogeneity (chicken), **147**, 115
- ribosomal
- localization on surface of 60 S ribosomal subunits using immobilized enzymes, correlation with chemical crosslinking data (rat liver), **149**, 1077
 - S1, functional regions in C-terminal domain, identification with monoclonal antibodies (*Escherichia coli*), **149**, 34
- ribosome-inactivating, effect on ribosomes from *Acanthamoeba castellanii* and *Tetrahymena pyriformis*, **148**, 521; *erratum*, **149**, 1220
- secondary structure: noncooperative mobile conformation, data bank analysis, **146**, 934
- 16-kDa, in aortic myocytes, phosphorylation by protein kinase C after stimulation of vasopressin receptors (rat), **143**, 517
- 67-kDa, amino acid sequence homology with p36 (bovine aorta), **145**, 961
- skeletal, interactions in membranes from polyanion-exposed and inositol hexaphosphate-incorporated erythrocytes, ESR studies (human), **144**, 779
- STOP-145, induction of microtubule super-stable state (bovine brain), **148**, 429
- streptococcal M, amino acid sequence, comparison with tropomyosin (human, rabbit), **142**, 813
- synaptosomal plasma membrane, phosphorylation *in vitro*, inhibition by 4-aminopyridine, effect of 2-amino-5-phosphonovalerate (rat hippocampus), **147**, 94
- 36-kDa Ca²⁺-dependent actin- and phospholipid-binding, isolation and characterization (human placenta membrane), **146**, 912
- thyroxine-binding globulin-related, levels in sera of adult and developing rats, **148**, 1165

Subject Index

- transformation-associated, induction by murine sarcoma virus, interaction with specific receptors on kidney cells (rat), **147**, 513
- tumor-derived adenylate cyclase-stimulating, N-terminal amino acid sequence: identification of parathyroid hormone-like and -unlike domains (human), **146**, 672
- 23-kDa, cAMP-dependent phosphorylation, stimulation by inositol 1,4,5-trisphosphate in platelet membrane vesicles (human), **145**, 139
- 240-kDa, phosphorylation in adrenal cortical plasma membrane, inhibition by cGMP-dependent and -independent mechanisms (bovine), **148**, 589
- uncoupling, in brown adipose tissue, mRNA levels, effect of environmental temperature (rat), **142**, 696
- urinary urokinase-related, identification in plasma (human), **142**, 162
- viral K-ras, effect on adenylate cyclase stimulation by cholera toxin in NRK cells, **147**, 596
- vitamin D-binding, conformational changes after complexing with actin (human), **146**, 611
- yellow fluorescent, purification and identification of flavin chromophore (*Vibrio fischeri*), **146**, 101
- Protein synthesis**
- extracellular matrix proteins in smooth muscle cells, suppression by herpes simplex virus type 1 (bovine), **143**, 145
- heat shock proteins in peripheral mononuclear cells from systemic lupus erythematosus patients, **148**, 1063
- in hemin-supplemented reticulocyte lysates inhibition by eukaryotic initiation factor 2-GDP phosphorothioated complex (rabbit), **147**, 772
- putative nuclease-sensitive control element in unfertilized eggs, analysis (*Lytechinus pictus*), **145**, 921
- role of poly(A) tail, **144**, 649
- stimulation by insulin-like growth factor I natural and synthetic forms and destripeptide derivative, comparison (L6 myoblasts), **149**, 398
- Protein-tyrosine kinase**
- associated activity of lysosomal enzyme-binding receptor protein (simian brain), **147**, 927
- associated with p56 from lymphoma LSTRA, effect of p56 N-terminal region (mouse), **143**, 819
- inhibition by synthetic 4-hydroxycinnamamide derivatives (human A-431 cells), **147**, 322
- insulin receptor-associated, stimulation by vanadium peroxides (rat adipocytes), **147**, 259
- P56^{lck}, correlation between phosphorylation and kinase activity (murine lymphoma cells), **149**, 56
- pp60^{src}, p36 substrate, amino acid sequence homology with 67-kDa protein (bovine aorta), **145**, 961
- Proteoglycans**
- chondroitin sulfate, occurrence of 3-sulfoglucuronic acid (goldfish, rat brain), **145**, 1142
- small, core protein, characterization and interactions (bovine tendon), **148**, 658
- Proteolipids**
- DM-20, protein deletion, identification by cDNA clone sequence (human), **146**, 666
- subunit 9 of mitochondrial ATPase, isolation of encoding cDNA clones (human liver), **144**, 1257
- Proteolysis**
- C-terminal, 1,25-dihydroxyvitamin D₃ receptor (chicken intestine), **147**, 479
- epidermal growth factor in endosomes (mouse), **143**, 710
- limited, gap junction protein, analysis in lens fiber plasma membranes (bovine eye), **147**, 846
- mitochondrial and cytosolic proteins, inhibition by 2,3-bisphosphoglycerate, **142**, 680
- Prothrombin**
- and fragment 1, relative binding affinities of Ca²⁺ and Mg²⁺ (bovine, human), **144**, 520
- Protocatechualdehyde**
- and glycine, enzymatic formation from L-threo-3,4-dihydroxyphenylserine (human brain), **143**, 482
- Proton pump**
- regulation by chromaffin granule ATPase, domination by internal anion-binding site and membrane potential (bovine adrenal gland), **149**, 140
- Protoplasts**
- controlled formation by glycine enhancement of alanine racemase inhibitors (*Bacillus subtilis*), **149**, 576
- guard cell, effect of abscisic acid on K⁺ channels (*Vicia faba*), **145**, 284
- PS-K**, see Polysaccharide K
- Putrescine**
- effect on
- diadenosine 5',5'''-P¹,P⁴-tetraphosphate base stacking, ¹H magnetic resonance study, **144**, 922
- ornithine decarboxylase activity and mRNA levels (murine kidney, transformed fibroblasts), **143**, 424
- embryonal, fetal, and maternal tissue levels, effects of maternal ethanol consumption (rat), **142**, 843
- hepatic biosynthesis, induction by ornithine decarboxylase (rat), **148**, 422
- interactions with pectic substances *in vitro*, **148**, 1259
- Pyridine derivatives**
- inhibition of NADH oxidation (rat liver), **146**, 53
- Pyridoxal 5'-phosphate**
- binding site on β -cystathionase and cystathionine γ -synthase, sequence comparison (*Escherichia coli*), **147**, 565
- Pyrimidines**
- effect of methyl group at 5-position, **148**, 790
- N(3)-H, role in interaction of 5-fluoro-4-thio-2'-deoxyuridine 5'-phosphate with thymidylate synthase (mammalian tumor cells), **149**, 1200
- Pyrophosphate**
- activation of exogenous phosphatidylinositol 4,5-bisphosphate hydrolysis in plasma membranes (rat liver), **147**, 1088
- Pyrroloquinoline quinone**
- detection in nitrile hydratase: activation of H₂O in enzymatic hydration reaction (*Brevibacterium* R312), **147**, 701
- Pyruvate**
- oxidation, inhibition by acetoin synthesized by tumoral pyruvate dehydrogenase (rat liver), **145**, 153
- Pyruvate carboxylase**
- encoding gene, isolation (*Saccharomyces cerevisiae*), **145**, 390

Subject Index

- Pyruvate dehydrogenase
 tumoral, synthesis of acetonin (rat liver), **145**, 153
- Pyruvate dehydrogenase activator
 insulin-independent release from adipocyte plasma membranes, effect of *S*-adenosylhomocysteine (rat), **143**, 832
- Pyruvate dehydrogenase complex
 dihydrolipoamide acetyltransferase component, cDNA clone, isolation (human liver), **145**, 903
- Pyruvate kinase
 cDNA cloning and chromosomal assignment (human liver), **143**, 431
 effect of insulin-like phospho-oligosaccharide (rat hepatocytes), **147**, 765
 interaction with tubulin, demonstration by gel electrophoresis (rabbit muscle), **146**, 827

Q

- Quercetin
 inhibition of neutrophil degranulation, superoxide production, and neutrophil protein phosphorylation (human), **144**, 1229
- Quin 2
 in measurement of Ca^{2+} mobilization by muscarinic receptors in astrocytoma cells (human), **147**, 182
 monitoring of Ca^{2+} transients in platelets, effects of protein kinase C activation and inhibition (human), **145**, 66

R

- R 59022
 effect on superoxide generation from neutrophils stimulated with formyl-methionyl-leucyl-phenylalanine, IgG, and C3b (human), **143**, 630
 potentiation of formyl-methionyl-leucyl-phenylalanine-induced superoxide production by neutrophils, effects of leupeptin and H-7 (rabbit), **148**, 38
- Racemization
 L-aspartate and L-serine in myelin basic protein, comparison (human), **146**, 1342
- Radiation killing
Escherichia coli, and thymine release from thymidine, role of superoxide radicals, **147**, 778
- Radioimmunoassay
 direct, for T-kininogen (rat), **144**, 1090
 ^{125}I -labeled fibroblast growth factor, role of enzymatic degradation by serum (human), **145**, 775
- Radiolabeling
 cholecystokinin receptor, affinity reagent development, **147**, 346
 DNA/polypeptide complexes in isolated bulk DNA and residual nuclear matrix DNA by nick-translation, **147**, 340
 metabolic, glycosphingolipids with ^3H , effect of retinoic acid (human fibroblasts), **143**, 525

- multiple binding sites in synaptosomal membranes with 2- ^{125}I iodomelatonin (hamster brain), **147**, 949
- Reduction
 NAD-dependent hydrogenase, in analysis of regulatory redox center role in enzyme activation (*Alcaligenes eutrophus* Z1), **142**, 297
- Relaxin
 augmentation of cAMP levels in cultured anterior pituitary cells (rat), **148**, 1246
 purification and characterization (skate), **143**, 273
- Relaxing factor
 endothelium-derived, induction by xanthine oxidase (rat aorta), **147**, 682
- Renin
 gene expression, regulation by follicle-stimulating hormone (rat ovary), **146**, 989
 inhibition by angiotensinogen analogs (human), **143**, 44
 mRNA, identification in ovary and uterus (rat), **142**, 169
 plasma levels, effect of mild hypoxia (human), **148**, 906
- Renin inhibitors
 dipeptide glycol, enhanced potency: studies *in vitro* and in conscious monkey, **146**, 959
- Reoviruses
 serotype 1 Lang strain, s2 mRNA encoding virion core polypeptide σ_2 , cDNA cloning and nucleotide sequence (human), **147**, 1153
- Replication
 arrest and run-off techniques, in mapping of DNA structurally perturbed sites, **146**, 1523
 human immunodeficiency virus, inhibition by 3'-azido-2',3'-dideoxyguanosine, **145**, 1080
 2',3'-dideoxythymidine and 2',3'-unsaturated derivative, **142**, 128
 mitochondrial DNA *in vitro*, role of DNA polymerase γ (human), **146**, 1146
- Replicons
 nuclear, diverse, isolation of single replicative complex, role in DNA synthesis (*Saccharomyces cerevisiae*), **142**, 1053
- Respiration
 mitochondrial, inhibition by analogs of 4-phenylpyridine and 1-methyl-4-phenylpyridinium cation (rat liver), **148**, 684; *erratum*, **149**, 1220
- Reticulocyte lysates
 hemin-supplemented, protein synthesis, inhibition by eukaryotic initiation factor 2-GDP phosphorothioated complex (rabbit), **147**, 772
 mRNA translation, inhibition by histone H1 (rat muscle), **144**, 329
- Reticulocytes
 eukaryotic initiation factor-2 ternary complex formation, inhibition by Mg^{2+} (rabbit), **146**, 114
 macrocytic, chloride-dependent volume reduction (sheep), **144**, 849
 maturation to erythrocytes, alterations in components of ubiquitin-protein ligase system (rabbit), **145**, 658
- Retina
 acidic and basic fibroblast growth factors, characterization (chicken embryo), **146**, 478

Subject Index

- mechanical responses to brief light pulses (*bullfrog*, toad), **143**, 93
- 13-*cis*-Retinal
effect on mammary tumor cell proliferation and intranuclear protein synthesis (human), **143**, 309
- Retinoic acid
binding to retinol-binding protein, induced conformational changes (human serum), **143**, 418
effect on
ecto- and basal-protein kinases in fibroblasts (human), **143**, 600
metabolic ^3H -labeling of glycosphingolipids (human fibroblasts), **143**, 525
enhancement of nerve growth factor gene expression (murine L cells), **149**, 510
induction of HL-60 cell differentiation, effect on PSL levels, **147**, 993
inhibition of diferric transferrin reductase (rat liver), **146**, 976
interaction with binding protein, effect of omega-6 fatty acids, **147**, 25
- Retinoids
transport and storage, role of fatty acid-binding proteins, **147**, 899
- Retinol
binding protein, conformational changes induced by retinoic acid binding (human serum), **143**, 418
- Retrothiorphan
and thiorphan enantiomers, relationship between inhibitory potencies on thermolysin and neutral endopeptidase 24.11 and interaction with thermolysin active site, computer model, **147**, 1034
- Retroviruses
type C, expression in nondifferentiating myoblasts, relationship to neoplastic progression (rat), **142**, 1111
- Reverse hemolytic plaque assay
calcitonin secretion by pituitary cells (rat), **146**, 1350
- Reverse transcriptase, *see* RNA-directed DNA polymerase
- Rhodamine
type 123, inhibition of hepatic mitochondrial transhydrogenase import (rat), **144**, 477
types 110, 123, and peptidic side-chain derivatives, interaction with tetrapyrrolic rings, **146**, 107
- Rhodotorucine A
inhibition of membrane Ca^{2+} -ATPase *in vitro* (*Rhodospiridium toruloides*), **143**, 893
- Riboflavin
binding proteins, tryptic phosphopeptides, phosphorylation heterogeneity (chicken), **147**, 115
- Ribonuclease
from cobra venom, purification and characterization: specificity towards cytidylic acid, **145**, 740
- Ribonuclease A, *see* Pancreatic ribonuclease
- Ribonucleoproteins
messenger, in analysis of mRNA stability *in vitro* (Friend erythroleukemia cells), **144**, 560
- Ribonucleotide reductase
activity decline, association with reversion in hydroxyurea resistance (CHO mutants), **145**, 1276
- Ribosomes
from *Acanthamoeba castellanii* and *Tetrahymena pyriformis*, effect of ribosome-inactivating proteins, **148**, 521; *erratum*, **149**, 1220
mitochondrial, and subunits, effects of cations and heterologous dissociation factors (bovine), **147**, 1077
S1 protein, functional regions in C-terminal domain, identification with monoclonal antibodies (*Escherichia coli*), **149**, 34
60 S subunits, surface localization of ribosomal proteins with immobilized enzymes, correlation with chemical crosslinking data (rat liver), **149**, 1077
- Ribulose 1,5-bisphosphate
carboxylation adduct intermediate, reaction pathway during photosynthesis, **142**, 732
- Ribulose-bisphosphate carboxylase
functional role of Glu-48, analysis by site-directed mutagenesis (*Rhodospirillum rubrum*), **145**, 1158
- Ribulose-bisphosphate carboxylase/oxygenase, *see* Ribulose-bisphosphate carboxylase
- Rice
white, lectin detection by immunoblotting, **142**, 717
- Ricin A
depletion of mannose receptor-bearing cells *in vivo*, effect on clearance of β -glucuronidase (rat liver), **146**, 849
recombinant, depurination of yeast 26 S ribosomal RNA, **149**, 588
- Rifamycin
binding site in β subunit of RNA polymerase, generation through subunit interactions (*Escherichia coli*), **147**, 1129
- RNA
adduct formation after reaction with 7-hydroxymethyl- and 7-sulfooxymethyl-12-methylbenz[a]anthracene (murine, rat liver), **144**, 576
antisense, to *c-fos* gene; restoration of density-dependent growth arrest in transformed fibroblasts (mouse), **147**, 288
carrier, enhancement of DNA recovery from dilute solutions, **144**, 271
-containing particles, association with glucocorticoid receptors *in vivo* (HeLa S_3 cells), **147**, 1188
messenger
adrenodoxin oxidoreductase, cDNA cloning and sequence analysis (bovine adrenal cortex), **145**, 1239
androgen-repressed, characterization and cloning (rat prostate), **147**, 196
angiogenin, distribution in tumor and normal cells (human), **146**, 1240
antithrombin III, hepatic and renal levels during development (rat), **142**, 417
apolipoprotein B
cloning and regulation (rat), **142**, 92
in-frame translational stop codon, identification (human intestine), **148**, 279
apolipoproteins A-IV and C, *in vitro* translation in hepatic and intestinal cells, analysis (lean, obese Zucker rats), **142**, 78
atrial natriuretic factor, and encoded protein levels in heart, simultaneous determination (spontaneously hypertensive rat), **148**, 239

Subject Index

- calcitonin and calcitonin gene-related peptide, in cultured thyroid C cells, effects of 1,25-dihydroxyvitamin D₃ (human), **149**, 239
- carbamoyl-phosphate synthase II, increased levels in hepatoma cells (rat), **147**, 494
- c-fos*, induction by
 reperfusion after oxygen deficiency stress (human fibroblasts), **149**, 1093
- 12-*O*-tetradecanoylphorbol-13-acetate during cell cycle (human fibroblasts), **147**, 716
- cytochrome *P*-450, identification by conserved consensus oligomer (rabbit, rat), **149**, 326
- cytochrome *P*-450IIC4 cDNA-related, induction by phenobarbital (rabbit), **146**, 224
- encoding intestinal membranous and secreted alkaline phosphatase, stimulation by fat feeding (rat), **145**, 363
- fibronectin
 analysis in peripheral blood granulocytes (human), **146**, 1132
 and procollagen types I and III, levels in normal dermal fibroblasts, effects of prostaglandin E₂ (human), **147**, 1282
- highly abundant, encoding submandibular gland statherin and basic histidine-rich peptide, derivation from common ancestral sequence (human), **149**, 784
- 3-hydroxy-3-methylglutaryl CoA reductase, turnover rates: role of pituitary and thyroid hormones (rat), **146**, 1033
- insulin and epidermal growth factor receptor transcripts, effects of hepatocarcinogens (rat liver), **146**, 87
- interleukin 2 and interferon γ , induction by phorbol esters and Ca²⁺ ionophore (human leukocytes), **146**, 927
- metallothionein, ontogenic regulation (chicken liver), **147**, 226
- Na⁺, K⁺-ATPase α isoforms and β subunit, tissue distribution (rat), **145**, 52
- ornithine decarboxylase
 effect of polyamine administration (murine kidney, transformed fibroblasts), **143**, 424
 induction by 12-*O*-tetradecanoylphorbol-13-acetate (murine fibroblasts; rat hepatoma cells), **147**, 219, 809
- ornithine transcarbamylase-deficient mutants, analysis (mouse), **146**, 1064
- oxytocin, *in situ* hybridization: macroscopic distribution and assay in hypothalamic cell groups (rat), **145**, 10
- procollagenase, cellular levels, interleukin β - or phorbol ester-induced increases, correlation with stimulation of procollagenase synthesis (human articular chondrocytes), **144**, 583
- procollagen, detection of various types in hepatoma cell lines (human), **148**, 869
- pro-natriodilatin, in primary cardiocyte cultures, stimulation by thyroid hormone (rat), **146**, 1336
- pro-opiomelanocortin, levels in pituitary gland, physiologically induced changes (*Xenopus laevis*), **143**, 678
- renin, identification in ovary and uterus (rat), **142**, 169
- reovirus serotype 1 Lang strain s2 encoding core polypeptide σ_2 , cDNA cloning and nucleotide sequence (human), **147**, 1153
- salivary gland, primary translation products, characterization (rat, sheep), **149**, 244
- serum and hepatic α_1 -antitrypsin, hormonal regulation (rat), **147**, 936
- single transcript, alternate translation initiation resulting in A and B forms of chicken progesterone receptor, **149**, 493
- stability analysis *in vitro* with messenger ribonucleoprotein particles derived from Friend erythroleukemia cells, **144**, 560
- sucrase-isomaltase, transcription: evidence for control of enzyme biosynthesis (human embryonic intestine), **149**, 830
- thermogenin, perinatal increase in brown adipose tissue, role of euthyroid status (rat pup), **148**, 9
- thyrotropin-releasing hormone, ontogenesis (rat pancreas), **146**, 354
- translation
 7-methylguanosine 5'-phosphate inhibition, reversion by polysomal and soluble factors (*Saccharomyces cerevisiae*), **146**, 1093
 by reticulocyte lysates, inhibition by histone H1 (rat muscle), **144**, 329
- uncoupling protein, brown adipose tissue levels, effect of environmental temperature (rat), **142**, 696
- vinculin, cDNA cloning and characterization (chicken), **147**, 637
- ribosomal, 26 S, depurination by recombinant ricin A chain (*Saccharomyces cerevisiae*), **149**, 588
- transfer
 clustered genes, transcriptional efficiency, effect of position within cluster (mouse), **149**, 1118
 individual pools, estimation method (*Bombyx mori*), **142**, 334
 phenylalanine, expressed minor variant, detection in yeast, **142**, 183
- translation inhibitory, isolation and characterization (barley embryo), **142**, 383
- U3 small nucleolar, gene localization in nucleoplasm (HeLa cells), **143**, 658
- RNA-directed DNA polymerase
 avian myeloblastosis virus, inhibition by 2',5'-oligoadenylates, **145**, 291
 PS-K *in vitro*, **149**, 562
- human immunodeficiency virus
 3'-azido-3'-deoxy-thymidine inhibitor, low-energy conformations, **145**, 1356
 inhibition by sugar-modified derivatives of thymidine 5'-triphosphate, comparison with cellular DNA polymerases α and β , **148**, 78
- murine leukemia virus virion-associated, inhibition by hemin, **149**, 628
- stimulation by 4,4'-diacetyldiphenylurea bis(guanyldiazotone), effect of spermine, **142**, 422
- RNA polymerase
 DNA-dependent, guanosine 3'-diphosphate-5'-diphosphate-binding site, characterization (*Escherichia coli*), **142**, 964

Subject Index

- rifamycin-binding site in β subunit, generation through subunit interactions (*Escherichia coli*), **147**, 1129
- RNA polymerase I
autoantibodies, detection in sera from scleroderma and Sjögren's syndrome patients, **144**, 1296; *erratum*, **145**, 1404
- RNA polymerase II
DNA-binding domain, identification in 180-kDa polypeptide (chicken leukemia cells), **145**, 73
leukemia cell, phosphorylation by protein kinase C (chicken), **145**, 1376
- RU 26752 receptors
and aldosterone receptors, detection in kidney (rat), **143**, 398
- Ryanodine
effect on potassium channel gating and conductance in sarcoplasmic reticulum, **148**, 1137
induced Ca^{2+} release, modulation in skeletal muscle (amphibian sp.), **142**, 674
- Ryanodine receptors
-junctional feet protein complex, detection in sarcoplasmic reticulum (rabbit muscle), **143**, 704
- S**
- Saccharomyces cerevisiae*
and *Bacillus subtilis*, secretion of human lysozyme, comparison, **145**, 712
binding to murine peritoneal macrophages, inhibition by wheat germ agglutinin (mouse), **148**, 1202
and *Escherichia coli*, DNA sequences capable of directing gene transcription in both organisms, isolation method, **149**, 846
expression of cytochrome P-450 lanosterol 14 α -methylase gene from *Candida tropicalis*, **146**, 1311
gel-entrapped, production of leucine-lysine-specific peptidase, **145**, 316
glutathione peroxidase, detection and induction by oxidation, **147**, 1200
signal sequence hydrophobic segment for efficient secretion of human lysozyme, construction, **149**, 431
squalene epoxidase *in vitro* assay, **147**, 556
- Salivary gland
mRNA primary translation products, characterization (rat, sheep), **149**, 244
- Salmonella typhimurium*
tester strains sensitive to mutagenic nitroarenes, identification and characterization, **147**, 974
- Salts
alkali and tetraalkylammonium, DNA B-to-Z transition in, correlation with cation effects on solvent structure, **148**, 609
- Sanocrisin, *see* Cyclofenil
- Sarcolemma
atrial myocyte, Ca^{2+} -induced closure of outward K^{+} currents, inhibition by acetylcholine (dog), **142**, 1039
myocardial vesicles, isolation of Ca^{2+} -dependent protease inhibitor (bovine), **142**, 1025
- Sarcoplasmic reticulum
 Ca^{2+} -transporting microsomes, Ca^{2+} binding, analysis (bovine uterus), **147**, 13
detection of junctional feet-ryanodine receptor complex (rabbit muscle), **143**, 704
myocardial vesicles, isolation of Ca^{2+} -dependent protease inhibitor (bovine), **142**, 1025
potassium channel gating and conductance, effect of ryanodine, **148**, 1137
- Schizosaccharomyces pombe*
revertant strain, with modified α subunits of mitochondrial ATPase-ATP synthase: impaired nucleotide interactions with soluble and membrane-bound enzyme, **148**, 1182
- Scleroderma
RNA polymerase I autoantibodies, detection in serum (human), **144**, 1296; *erratum*, **145**, 1404
- Selenate
inhibition of molting, relationship to inhibition of heparin sulfate and chondroitin sulfate synthesis (*Rhodnius prolixus*), **146**, 652
- Selenium
dietary, effects on lipid peroxidation, mitochondrial function, and protein profiles in myopathic heart (hamster), **144**, 815
- Sendai virus
and extracellular ATP, induced permeabilization of 3T6 cells, comparative analysis, **148**, 560
- Sensory cells
isolated auditory, fast motility (guinea pig cochlea), **149**, 304
- Sepiapterin reductase
assay in amniotic fibroblasts and mononuclear blood cells (human), **148**, 1475
- Serine
epidermal growth factor-induced phosphorylation in 59-kDa protein in purified plasma membranes (rat liver), **145**, 982
peptides, hydrogen bonding to cytosine, implications for evolution of genetic code, **148**, 456
- L-Serine
and L-aspartate, differential racemization in myelin basic protein (human), **146**, 1342
- Serine esterase
release from cytotoxic T lymphocytes, regulation by phorbol ester (mouse), **146**, 1262
- Serine kinase
purification and characterization (bovine liver), **144**, 891
- Serine proteases
charge transfer systems, mechanistic consequences: semiempirical calculations, **145**, 1349
requirement in lymphocyte granule-mediated cytolysis (rat), **149**, 882
- Serotonin
effect on polyamine and DNA synthesis in parotid gland (mouse), **144**, 1161
induction of
actin polymerization and association with cytoskeletal elements in cultured endothelial cells (bovine aorta), **143**, 152

Subject Index

- cytosolic free Ca^{2+} transients in vascular smooth muscle cells (rat), **143**, 532
- release from phorbol ester-stimulated platelets, inhibition by K252a (rabbit), **144**, 35
- Serratia marcescens*
- lipid-like product, cytotoxicity, analysis, **149**, 1033
- Sertoli cells
- production of androgen-binding protein *in vitro*, effect of triiodothyronine (rat), **143**, 241
- Serum, *see also* Blood; Plasma
- effect on inositol glycerophospholipid metabolism in cultured adrenocortical cells, **145**, 241
- enzymatic degradation of ^{125}I -labeled fibroblast growth factor, role in radioimmunoassay (human), **145**, 775
- growth-inhibitory protein, characterization (rabbit), **148**, 1215
- high-molecular-weight Alzheimer's disease amyloid peptide, identification as IgG (human), **145**, 241
- insulin-like growth factor-binding proteins, comparisons (human, rat), **147**, 408
- regulation of collagen biosynthesis in fibroblasts (human), **145**, 639
- RNA polymerase I autoantibodies, in scleroderma and Sjögren's syndrome patients, detection, **144**, 1296; *erratum*, **145**, 1404
- seropositive, detection of factor enhancing human immunodeficiency virus type 1 infection (human), **149**, 693
- thyroxine-binding globulin-like protein levels in adult and developing rats, analysis, **148**, 1165
- Serum albumin
- associated erythropoietin-like factor, N-terminal amino acid sequence, comparison with insulin-like growth factor II (bovine), **149**, 1026
- degradation by cytoplasmic proteases, effect of blocked amino groups (bovine), **146**, 1249
- effect on tumor necrosis factor- α cytotoxicity in L929 cells (bovine), **149**, 815
- insulin-stimulating peptide, inhibition of tyrosine autophosphorylation of solubilized insulin receptor (bovine), **144**, 11
- radiolabeling with *N*-hydroxysuccinimide-hippuran ester (human), **144**, 323
- structural analysis by FT-IR spectroscopy using attenuated total internal reflectance cell with infrared fibers (bovine), **142**, 1059
- Serum amyloid P
- Ca^{2+} -dependent binding to DNA (human), **148**, 308
- Seryl-AMP
- DNA treated with 4-hydroxyaminoquinoline 1-oxide in presence of, formation of 8-hydroxyguanine residues (bovine thymus), **149**, 1141
- Shikonin, *see* Alkannin
- Sialic acid
- binding to achatinin_H (*Achatina fulica*), **148**, 795
- inhibition of acetyl-CoA carboxylase (*Zea mays*), **148**, 1039
- Sialic acid *O*-acetyl esterase
- membrane-bound and cytosolic, assay and characterization (rat liver), **144**, 1099
- Sialidase
- effect on synaptosome binding of *Clostridium botulinum* neurotoxin (rat brain), **143**, 928
- in fibroblasts of patients with galactosialidosis, effect of 46-kDa protein, **144**, 138
- photoreactive competitive inhibitor, synthesis (human fibroblasts), **148**, 1323
- Sickle cell anemia
- effect on membrane-associated phorbol-12,13 dibutyrate receptor binding, **147**, 56
- Signal peptidase
- processing sites, computer-assisted predictions, **146**, 870
- Signal transduction
- in plants, roles of calcium and inositol phospholipid turnover (*Zea mays*), **149**, 334
- Sincalide
- regulation of free cytosolic Ca^{2+} in isolated gastric chief cells (guinea pig), **142**, 865
- Sitosterol
- synthesis in plant cells, inhibition by paclobutrazol (*Apium graveolens*), **146**, 510
- Sjögren's syndrome
- RNA polymerase I autoantibodies, detection in serum (human), **144**, 1296; *erratum*, **145**, 1404
- Sodium
- bile salt cotransport system, photoaffinity labeling studies (rat kidney), **143**, 1018
- Ca^{2+} exchanger in cardiac sarcolemma, identification with specific antibodies (bovine), **145**, 1059
- dependent transport system in renal brush border membranes, inhibition by *N,N'*-dicyclohexylcarbodiimide (rat), **147**, 375
- H^{+} antiporter, stimulation by diferric transferrin reduction (HeLa cells), **145**, 467
- H^{+} exchange, protein kinase C-independent activation by platelet-derived growth factor and vanadate, inhibition by cyclosporin A (Swiss 3T3 fibroblasts), **145**, 111
- H^{+} exchangers
- and protein kinase C, role in stimulation of leucine transport by phorbol ester (Chang liver cells), **144**, 900
- species differences (rabbit, rat kidney), **144**, 869
- K^{+} pump in 3T3 cells, effect of heparin-binding growth factors (mouse), **144**, 115
- Mg^{2+} antiport, characterization by simultaneous $^{28}\text{Mg}^{2+}$ influx (chicken erythrocytes), **148**, 1069
- tissue levels, effects of spinal cord impact trauma (rat), **147**, 1170
- Sodium benzoate
- potentiation of ammonia toxicity, inhibition by L-carnitine (mouse), **145**, 817
- Sodium butyrate
- effect on HIV long terminal repeat-directed expression, **148**, 899
- stimulation of DNA synthesis in cultured hepatocytes (rat), **147**, 78
- Sodium channels
- in axonal membranes, effects of plant hormones (*Myxicola infundibulum*), **143**, 1085

Subject Index

- voltage-sensitive, multiple oligosaccharide chains, detection of α -2,8-linked polysialic acid (*Electrophorus electricus*), **148**, 817
- Sodium 3,5-dibromo-4-nitrosobenzenesulfonate
spin trapping of sulfite radical anion, **142**, 410
- Sodium fluoride
effect on
adenylate cyclase activation in v-Ki-ras-transformed fibroblasts (mouse), **146**, 47
arachidonic acid release and 1,2-diacylglycerol formation by saponin-permeabilized platelets (human), **148**, 971
- Sodium nitroprusside
inactivation of angiotensin I-converting enzyme, **145**, 1048
- Sodium propionate
effect on cytoskeletal actin levels in neutrophils (rabbit), **145**, 934
- Sodium pump
Na⁺/K⁺-ATPase-associated, early inhibition during acetaminophen-induced hepatotoxicity (rat), **149**, 203
- Solganol
inhibition of neutrophil collagenase (human), **144**, 101
- Somatomedin C
-insulin-like growth factor I-like material from Sertoli cells, characterization and regulation (pig), **146**, 1009
plasma levels, effects of bovine growth hormone, potentiation by monoclonal antibodies to hormone (hypophysectomized rat), **149**, 187
- Somatomedin receptors
type 2, growth regulation of erythroleukemia cells stimulated by insulin-like growth factor II (human), **148**, 811
- Somatostatin receptors
acinar carcinoma cell, effect of dexamethasone (rat pancreas), **147**, 942
- Somatotropin
effect on serum and hepatic α_1 -antitrypsin mRNA levels (rat), **147**, 936
glycosylated, detection in pituitary gland and evidence of physiological fluctuations (mouse), **145**, 1368
insulin-like effects in adipocytes, role of protein kinase C (rat), **147**, 1232
monoclonal antibodies, potentiation of hormone effects on somatomedin C levels and growth (hypophysectomized rat), **149**, 187
regulation of cytochrome P-450_{15 β} expression at pretranslational level (rat liver), **143**, 782
20-kDa form, synthesis and secretion, splicing model (rat pituitary), **147**, 650
- Spectroscopy
¹H NMR, plasma, for detection of malignancy (human), **145**, 1397
polarized attenuated total reflectance, oriented purple membranes (*Halobacterium cutirubrum*), **145**, 298
- Spermidine
biosynthesis, induction by ornithine decarboxylase (rat liver), **148**, 422
effect on
diadenosine 5',5'''-P¹,P⁴-tetrphosphate base stacking, ¹H magnetic resonance study, **144**, 922
ornithine decarboxylase activity and mRNA levels (transformed murine fibroblasts), **143**, 424
embryonal, fetal, and maternal tissue levels, effects of maternal ethanol consumption (rat), **142**, 843
interactions with pectic substances *in vitro*, **148**, 1259
stimulation of ornithine carbamoyltransferase transport into hepatic mitochondria (rat), **149**, 21
- Spermine
antagonism of 4,4'-diacetyldiphenylurea bis(guanyldihydrazone) antileukemic and reverse transcriptase stimulatory activities, **142**, 422
biosynthesis, effect of ornithine decarboxylase (rat liver), **148**, 422
effect on
diadenosine 5',5'''-P¹,P⁴-tetrphosphate base stacking, ¹H magnetic resonance study, **144**, 922
ornithine decarboxylase activity and mRNA levels (transformed murine fibroblasts), **143**, 424
tyrosine hydroxylase activity before and after phosphorylation by cAMP-dependent protein kinase (bovine adrenal medulla), **148**, 1460
embryonal, fetal, and maternal tissue levels, effects of maternal ethanol consumption (rat), **142**, 843
interactions with pectic substances *in vitro*, **148**, 1259
stimulation of ornithine carbamoyltransferase transport into hepatic mitochondria (rat), **149**, 21
- Sphingosine
inhibition of protein kinase C, mechanism (bovine brain), **146**, 203
- Spinal cord
atrial natriuretic factor levels (rat), **145**, 196
edema, effect of impact trauma (rat), **147**, 1170
- Spin trapping
artifacts, detection in alkaline aqueous dimethyl sulfoxide solutions, **143**, 941
- Spiroperidol
³H-labeled, binding sites in blood platelets (human, rat), **146**, 983
- Spleen
atrial natriuretic factor receptors
in isolated cells, reduced number in spontaneously hypertensive rat, **149**, 1132
localization and characterization (rat), **145**, 789
concanavalin A-stimulated mononuclear cells, production of prolactin-like molecule (mouse), **145**, 692
29-kDa GTP-binding protein, detection (mouse), **149**, 686
- Squalene epoxidase, *see* Squalene monooxygenase
- Squalene monooxygenase
assay *in vitro* (*Saccharomyces cerevisiae*), **147**, 556
- Staphylococcus aureus*
induction of protein kinase C translocation in human polymorphonuclear leukocytes, **147**, 787
- Staphylococcus epidermidis*
induction of protein kinase C translocation in human polymorphonuclear leukocytes, **147**, 787
- Statherin
and basic histidine-rich peptide, encoding by highly abundant mRNAs derived from common ancestral sequence (human submandibular gland), **149**, 784

Subject Index

Statistical methods

- least squares analysis, in separation of constant and variable fluorescence of chlorophyll *a* (*Dunaliella tertiolecta*), **149**, 385

Staurosporine

- effect on 12-*O*-tetradecanoylphorbol-13-acetate-induced ornithine decarboxylase in epidermal cells (mouse), **148**, 740

Stelazine

- effect on agonist-induced Ca^{2+} mobilization and platelet activation (human), **148**, 768

Stem cells

- pluripotent hemopoietic, in G_0 phase, isolation (murine bone marrow), **147**, 687

Steroidogenesis

- in granulosa cells, effects of Bay k 8644 and CGP-28392 (chicken), **146**, 314
- Leydig's cells in primary culture, inhibition by transforming growth factor- β , **146**, 387

Steroid sulfatase

- cDNA, construction and application in analysis of genetic heterogeneity of enzyme deficiency (human), **144**, 1010

Stigmasterol

- synthesis in plant cells, inhibition by paclobutrazol (*Apium graveolens*), **146**, 510

Stomach

- fundus strip, spasmogenic effect of platelet-activating factor (rat), **146**, 855

Strain differences

- postnatal changes in protein kinase C activity and tissue levels (mouse), **145**, 733

Streptococcus pneumoniae

- wild-type and Celiptium-resistant mutants, relationship between drug uptake and cytotoxicity, **145**, 927

Submitochondrial particles

- dioxygen utilization, effect of nitrous oxide (bean seed, bovine heart), **144**, 643
- incorporation of reaction centers from *Rhodospirillum rubrum*, light-induced electron transfer, **148**, 170

Substance P

- and carbachol, comparative effects on inositol trisphosphate and Ca^{2+} levels in parotid acinar cells (rat), **148**, 1017
- concomitant regulation of hippocampal Ca^{2+} uptake and antagonist binding (rat), **144**, 1135
- C-terminal hexapeptide analogs, synthesis and biological activity: structure-activity studies, **145**, 942
- effects on
 - cerebral lipids involved in membrane fluidity (rat), **144**, 232
 - polyamine and DNA synthesis in parotid gland (mouse), **144**, 1161
- glycine-extended precursor, amidating enzyme, isolation and characterization (human cerebrospinal fluid), **148**, 24
- like immunoreactivity, effect of cisapride (rat gastrointestinal tract), **147**, 1162
- localization in eosinophils (human), **148**, 1440

- neurokinin-1 receptors, apparent molecular weight, determination with photoaffinity-labeled probe (rat brain), **149**, 297

Substrate cycles

- simple, experimental evidence for zero-order ultrasensitivity, **149**, 615

Succinate oxidase

- inactivation by adriamycin-iron complex, protective effect of coenzyme Q (bovine heart), **147**, 572

Succinate:ubiquinone reductase

- and β -cystathionase, pyridoxal 5'-phosphate-binding sites, sequence comparison (*Escherichia coli*), **147**, 565
- reconstituted, formation of stabilized ubiquisemiquinone, **144**, 315

O-Succinylhomoserine (thiol)-lyase

- and cystathionine β -lyase, pyridoxal 5'-phosphate-binding site, sequence comparison (*Escherichia coli*), **147**, 565

Sucrase-isomaltase

- intestinal biosynthesis, probable control at transcription level (human embryo), **149**, 830

Sucrose

- and alcohol diets, hypolipidemic effect of garlic oil extract, mechanism (rat), **142**, 1046

Sugars

- specific adhesion/deadhesion apparatus of marine bacterium, demonstration as sensorium that continuously monitors nutrient levels, **149**, 86

Sulfate

- intravesicular binding sites, effects on chromaffin granule ATPase regulation of proton pumping (bovine adrenal gland), **149**, 140
- substrate-specific stimulation of protein kinase C (bovine brain), **147**, 248

Sulfatides

- bilayers, contact activation activity in plasma (human), **149**, 1002

Sulfation

- oligosaccharides in lysosomal enzymes (human fibroblasts), **143**, 178
- prolactin from buffalo and sheep, analysis, **149**, 515

Sulfinyl radicals

- formation from reaction of cysteine and glutathione thiol radicals with oxygen, **144**, 1037

Sulfite radicals

- spin-trapping by sodium 3,5-dibromo-4-nitrosobenzenesulfonate, **142**, 410

Sulfobromophthalein glutathione

- hepatocellular uptake, enhancement by phenobarbital (rat), **149**, 921

3-Sulfoglucuronic acid

- occurrence in PC12 pheochromocytoma cells, chromaffin granule membranes, and chondroitin sulfate proteoglycans (goldfish, rat brain), **145**, 1142

7-Sulfooxymethyl-12-methylbenz[a]anthracene

- induction of DNA and RNA adduct formation (murine, rat liver), **144**, 576

Superoxide dismutase

- cerebral cortex and erythrocyte hemolysate levels, effects of ischemia/recirculation and hypoxia/recovery (rat), **149**, 568

Subject Index

- protection of cultured hepatocytes from acetaminophen cytotoxicity (rat), **149**, 889
- Superoxide radicals
- generation by neutrophils
 - formyl-methionyl-leucyl-phenylalanine-induced, potentiation by R 59022, effects of leupeptin and H-7 (rabbit), **148**, 38
 - induction by NADPH-cytochrome *c* reductase in presence of cytochrome *b*₅₅₉ and phospholipid (pig), **147**, 71
 - inhibition by quercetin (human), **144**, 1229
 - in intact and cell-free preparations, induction by saturated and *trans*-unsaturated fatty acids (human, pig), **144**, 606
 - stimulated with formyl-methionyl-leucyl-phenylalanine, IgG, and C3b, effect of R 59022 (human), **143**, 630
 - stimulation by palytoxin and thapsigargin (human, porcine blood), **143**, 672
 - induction of nucleobase liberation from nucleotides, enhancement by phosphate group, **142**, 1104
 - photogeneration from aqueous solutions of tetracycline antibiotics, **146**, 1191
 - production in growing and resting histiocytic leukemia cells, effects of protein kinase C inhibitor and calmodulin antagonist (human), **144**, 1317
 - release by granulocytes, chemotactic peptide-stimulated, enhancement by recombinant granulocyte colony-stimulating factor (human), **144**, 1143
 - role in
 - acetaldehyde-mediated lipid peroxidation (rat liver), **143**, 984
 - dopa and tyrosine oxidation to melanin, **142**, 265
 - thymine release from thymidine and radiation killing of *Escherichia coli*, **147**, 778
 - water-induced dismutation, generation of singlet molecular oxygen, **145**, 842
- Surfactants
- pulmonary, associated low-molecular-weight proteins, amino-terminal sequence (bovine), **148**, 1406
- Suspensions
- antiorthostatic hypokinetic, effect on atrial natriuretic factor synthesis and release (rat), **148**, 582
- Swainsonine
- effect on transformed phenotype of NIH3T3 cells transfected with human tumor DNA, **142**, 348
- Synaptosomes
- Ca²⁺ uptake and neurotransmitter release, inhibition by phenolic antioxidants (guinea pig brain), **146**, 603
 - enzyme-treated, binding of *Clostridium botulinum* neurotoxin, analysis (rat brain), **143**, 928
 - presynaptic Ca²⁺ channels, ω -conotoxin sensitivity, species differences (chicken, frog, rat brain), **145**, 1283
- Synovial cells
- arachidonic acid release and phospholipid metabolism, stimulation by recombinant interleukin 1 and tumor necrosis factor (human), **142**, 235
- Systemic lupus erythematosus
- peripheral blood mononuclear cells from patients, synthesis of heat-shock proteins, **148**, 1063
- T**
- Tamoxifen
- and DL- α -difluoromethylornithine, additive growth inhibitory effects on MCF-7 breast cancer cells, **148**, 1338
 - inhibitory effects on T-47D breast cancer cell growth, partial reversal by epidermal growth factor (human), **146**, 739
- Taxol
- resistant cells, associated membrane glycoproteins, analysis with polyclonal antibodies, **143**, 732
- Teeth
- fossil, extraction of osteocalcin (rodent), **149**, 712
- Teleocidin
- effects on hepatoma cell morphology and *c-myc* gene expression (human), **145**, 549
- Temperature
- low
 - effect on brown adipose tissue uncoupling protein mRNA levels (rat), **142**, 696
 - induction of apoptosis *in vitro*, role of cell growth phase (V79 fibroblasts), **145**, 876
- Terbium
- binding to tryptophan, *in vitro* analysis by ¹H NMR and fluorescence spectroscopy, **146**, 791
- Terminal deoxynucleotidyltransferase
- cDNA expressible in mammalian cells, isolation and sequence analysis (human), **144**, 185
- Testis
- inhibin immunohistochemical detection (rat), **142**, 23; *erratum*, **146**, 926
 - α -inhibin-31 immunochemical localization (mouse, rat), **145**, 81
- Testosterone
- cytochrome *P*-450-dependent metabolism (rat skin), **145**, 749
 - mediation of lipid metabolism in aortic smooth muscle (human), **144**, 284
 - production by perfused Leydig cells, effects of human chorionic gonadotropin and arginine vasopressin (mouse), **146**, 216
 - stimulation of atrial natriuretic factor synthesis and secretion by atrial myocytes (rat), **145**, 336
- 2,3,7,8-Tetrachlorodibenzo-*p*-dioxin
- enhancement of antibody production and protein kinase activity in B cells (murine spleen), **145**, 25
- Tetrachloroethane
- cytochrome *P*-450-catalyzed oxidative dehalogenation, inter- and intramolecular deuterium isotope effects (rat liver), **149**, 319
- Tetracycline
- aqueous solutions, photogeneration of superoxide radicals, **146**, 1191
- 12-*O*-Tetradecanoylphorbol 13-acetate
- and Ca²⁺ ionophore, effects on *c-fos* and *c-myc* gene expression and DNA synthesis in lymphocytes (human), **148**, 435
 - down-regulation of protein kinase C, effects on β -adrenergic receptor-coupled adenylate cyclase (rat glioma cells), **144**, 620

Subject Index

- effect on
 adenosine receptor-mediated cAMP accumulation in Jurkat cells (human), **145**, 344
 DNA replication and proliferation of primary adrenocortical cells in synthetic medium (rabbit), **148**, 1295
 phosphate readsorption by cultured renal tubular cells from mutant hypophosphatemic mouse, **144**, 763
 identification in parkinsonian and normal brain (human), **144**, 1084
 induced ornithine decarboxylase
 in epidermal cells, effect of staurosporine (mouse), **148**, 740
 inhibition by methylglyoxal bis(butylamidino)hydrazone (murine brain, liver, lung), **144**, 757
 induction of
 c-fos mRNA during cell cycle (human fibroblasts), **147**, 716
 mitotic activity independent of DNA synthesis in keratinocyte monolayer cultures (rat), **146**, 777
 ornithine decarboxylase mRNA (murine fibroblasts; rat hepatoma cells), **147**, 219, 809
 prostaglandin biosynthesis in fibroblasts, relationship to ornithine decarboxylase induction (mouse), **139**, 186; *erratum*, **142**, 287
 protein kinase C and β -adrenergic receptor redistribution in glioma cells, inhibition by concanavalin A (rat), **144**, 1265
 protein phosphorylation in HL-60 and K562 cells and differentiation of HL-60 cells, regulation by alkyllysophospholipid, **142**, 661
 subcellular translocation and down-regulation of phorbol ester binding and protein kinase C activities in MCF-7 cells, **146**, 537
 vascular contraction, effect of extracellular Ca^{2+} (rat aorta), **145**, 494
 zinc redistribution in subcellular fractions of thymocytes, X-ray fluorescence study (rabbit), **144**, 863
 phosphorylation of progesterone receptors (human breast carcinoma cells), **146**, 1357
 and polymyxin B and bryostatin, comparative effects on HL-60 cells, **146**, 208
 stimulated platelets, 40-kDa protein phosphorylation and serotonin secretion, inhibition by K252a (rabbit), **144**, 35
 stimulation of
 diacylglycerol kinase translocation in neutrophils (guinea pig), **144**, 1025
 leucine transport by activation of protein kinase C and Na^+/H^+ exchanger (Chang liver cells), **144**, 900
 prostaglandin synthesis and thymidine incorporation in cultured thyroid cells (swine), **143**, 880
 and thrombin, at subthreshold levels, synergism in platelet activation (human), **148**, 1025
Thapsigargin
 effect on platelet cytoplasmic free Ca^{2+} levels: mechanism for tumor promotion (human blood), **142**, 654
 stimulation of superoxide anion formation in neutrophils (human, porcine blood), **143**, 672
Thermogenin
 mRNA, perinatal increase in brown adipose tissue, role of euthyroid status (rat pup), **148**, 9
Thermolysin
 inhibitory potencies of thiorphan and retrothiorphan enantiomers and interaction with thermolysin active site, computer model, **147**, 1034
Thermotolerance
 acquisition during development of *Blastocladiella emersonii*, **144**, 491
2-(2-Thienyl)allylamine hydrochloride
 metabolism to 2-(2-thienyl)propionic acid, analysis (rat), **145**, 575
2-(2-Thienyl)propionic acid
 formation from 2-(2-thienyl)allylamine hydrochloride, analysis (rat), **145**, 575
Thiobacillus ferrooxidans
 ornithine lipid, occurrence, identification, and possible role, **142**, 925
Thiol protease
 Ca^{2+} -dependent, cleaving on carboxyl side of paired basic residues, purification and characterization (*Saccharomyces cerevisiae* α -cells), **144**, 807
Thiol proteinase
 effects of synthetic inhibitor derivatives, **143**, 749
Thiols
 glyceraldehyde 3-phosphate dehydrogenase, in lung carcinoma cells, reversible oxidation by hydrogen peroxide (human), **148**, 120
 lymphocyte surface, accessibility, alteration by ionophores or OKT-3 antibodies (human), **140**, 999; *erratum*, **147**, 1300
Thiopeptide unit
 dithiopeptides and polythiopeptides, mean geometry, **145**, 834; *erratum*, **146**, 1531
Thiorphan
 and retrothiorphan enantiomers, relationship between inhibitory potencies on thermolysin and neutral endopeptidase 24.11 and interaction with thermolysin active site, computer model, **147**, 1034
L-Threo-3,4-dihydroxyphenylserine
 cleavage into protocatechualdehyde and glycine by L-threo-3,4-dihydroxyphenylserine aldolase (human brain), **143**, 482
L-Threo-3,4-dihydroxyphenylserine aldolase
 cleavage of L-threo-3,4-dihydroxyphenylserine into protocatechualdehyde and glycine (human brain), **143**, 482
Threonine
 peptides, hydrogen bonding to cytosine, implications for evolution of genetic code, **148**, 456
Thrombin
 activation of
 phospholipase C in platelets, enhancement by guanosine 5'-O-(2-thiodiphosphate), evidence for inhibitory GTP-binding protein role (human), **144**, 1188
 platelets, mechanism, comparison with monoclonal antibody CD9 (human), **146**, 1397
 effect on platelet cytoplasmic free Ca^{2+} levels: mechanism for tumor promotion (human blood), **142**, 654
 induction of
 arachidonic acid transfer in platelets, trifluoperazine effects (human), **144**, 821

Subject Index

- Ca^{2+} mobilization and platelet activation, stelazine effects (human), **148**, 768
polyphosphoinositide metabolism in platelets, neomycin effects (human), **144**, 454
inhibition by heparin cofactor II, enhancement by carboxylate polyanions (human plasma), **148**, 362
stimulated endothelial cells, mitogenic activity and inositolide metabolism (porcine aorta), **145**, 1302
stimulated platelets, response to arachidonate, role of Ca^{2+} movement (human), **149**, 1193
and 12-*O*-tetradecanoylphorbol 13-acetate, at subthreshold levels, synergism in platelet activation (human), **148**, 1025
- Thrombolamban**
partial purification and characterization (human platelets), **149**, 700
- Thrombospondin**
cysteine-rich domain, comparison with procollagen and von Willebrand factor, **144**, 876
synthesis by smooth muscle cells, effect of heparin (human), **148**, 1264
- Thromboxane A_2**
histamine-induced release in umbilical vein endothelial cells, association with phosphoinositide metabolism (human), **144**, 438
synthesis in platelets, inhibition by 13-hydroxyoctadeca-9,11-dienoic acid (human), **148**, 528
- Thromboxane B_2 synthesis**
by monocytes, stimulation by interleukin 2 (human), **147**, 86
regulation by distinct G-proteins in platelets (human), **146**, 659
- Thymidine**
bromohydrins, repair by sunlight or heat: model for damage and repair of nucleic acids, **148**, 995
incorporation in cultured thyroid cells, stimulation by epidermal growth factor and phorbol ester (swine), **143**, 880
release of thymine, and radiation killing of *Escherichia coli*, role of superoxide radicals, **147**, 778
- Thymidine 5'-triphosphate**
hepatic, deoxythymidine incorporation: evidence for nucleoside channeling *in vivo* (rat), **149**, 27
sugar-modified derivatives, inhibition of HIV-associated reverse transcriptase, comparison with cellular DNA polymerases α and β , **148**, 78
- Thymidylate synthase**
interaction with 5-fluoro-4-thio-2'-deoxyuridine 5'-phosphate, role of pyrimidine N(3)-H dissociation (mammalian tumor cells), **149**, 1200
- Thymine**
dithiothreitol-induced oxidative damage in solution, **144**, 432
release from thymidine, and radiation killing of *Escherichia coli*, role of superoxide radicals, **147**, 778
- Thymine glycol**
-releasing DNA glycosylase with AP endonuclease activity, identification in human CEM-C1 lymphoblasts: analog of *Escherichia coli* endonuclease III, **149**, 93
- Thymocytes**
atrial natriuretic factor receptors
localization and characterization (rat), **145**, 789
reduced number in spontaneously hypertensive rat, **149**, 1132
12-*O*-tetradecanoylphorbol-13-acetate-induced redistribution of zinc in subcellular fractions, X-ray fluorescence study (rabbit), **144**, 863
- Thymosin α_1**
amino acid homology with peptide T from human immunodeficiency virus envelope, **145**, 884
- Thyroid**
cellular hydrogen peroxide production, regulation by cytoplasmic free Ca^{2+} (swine), **148**, 1527
isolated cells and whole thyroid, glycosphingolipids, comparative phytosphinganine content (human), **143**, 827
membranes, detection of ADP-ribosylated G-like protein multiple isoforms (bovine, dog, pig), **144**, 536
primary cell cultures, thyrotropin as potent growth factor (human), **149**, 707
status, role in thermogenin mRNA perinatal increase in brown adipose tissue (rat pup), **148**, 9
- Thyroid hormone receptors**
antibody preparation (rat liver), **144**, 178
multiple, detection on nuclear matrices (rat liver), **148**, 1496
- Thyroid hormones**
role in regulation of 3-hydroxy-3-methylglutaryl CoA reductase mRNA levels (rat), **146**, 1033
- Thyroid-stimulating hormone**, *see* Thyrotropin
- Thyrotropin**
demonstration as potent growth factor for normal human thyroid cells in primary culture, **149**, 707
human, production in Chinese hamster ovary cells, **149**, 1149
interaction with thyrotropin receptor on FRTL-5 thyroid cells (rat), **143**, 266
stimulating autoantibody from Graves' patients, interaction with thyrotropin receptor on FRTL-5 thyroid cells (rat), **143**, 266
- Thyrotropin receptors**
interaction with thyrotropin and thyrotropin-stimulating autoantibody from Graves' patients (rat FRTL-5 thyroid cells), **143**, 266
- Thyrotropin-releasing hormone**
mRNA, ontogenesis (rat pancreas), **146**, 354
- Thyroxine**
binding globulin, related protein, levels in sera of adult and developing rats, **148**, 1165
effect on serum and hepatic α_1 -antitrypsin mRNA levels (rat), **147**, 936
- L-Thyroxine**
uptake by isolated adipocytes (rat), **145**, 105
- Tin-protoporphyrin**
support of carbon monoxide production by tissue homogenates (rat), **148**, 417
- Tissues**
macrophage-rich, glucose utilization enhancement *in vivo* by tumor necrosis factor (rat), **149**, 1
- Titin**
skeletal muscle, phosphorylation *in vivo* (frog), **147**, 986

Subject Index

- α -Tocopherol, *see* Vitamin E
- Topoisomerase II, *see* DNA topoisomerase (ATP hydrolyzing)
- Toxicity
enzymatically-oxidized low-density lipoproteins, evaluation (rabbit), **148**, 260
- Toxins, *see also specific toxins*
Bacillus sphaericus 1593M, larvicidal, purification and characterization, **143**, 901
botulinum type C1 and D, ADP-ribosylation, effects of guanine nucleotides and guanidino-containing compounds (murine brain), **142**, 1032
Clostridium botulinum, binding to enzyme-treated synaptosomes, analysis (rat brain), **143**, 928
killer
secretion signal on pGKL1, use in yeast secretion system for foreign proteins (*Saccharomyces cerevisiae*), **144**, 613
from *Ustilago maydis* virus P4, synthesis and processing, **149**, 391
- Transcobalamin-II receptors
distribution on microvilli of leukemic L1210 cells, **146**, 1102
- Transcription
clustered tRNA genes, efficiency, effect of position within cluster (mouse), **149**, 1118
DNA, enhancement by dimethyl sulfoxide, role of induced conformational changes (*Escherichia coli*), **146**, 1458
embryonic, homeobox-containing gene, analysis (*Brachydanio rerio*), **149**, 1165
fos gene in human and murine cell lines, induction by herpes simplex virus type 2, **143**, 1055
in mitochondrial lysates from Ehrlich ascites cells, stimulation by aurin tricarboxylic acid, **145**, 1149
nitrate reductase, regulation (soybean), **146**, 1160
sucrase-isomaltase mRNA: evidence for control of enzyme biosynthesis (human embryonic intestine), **149**, 830
- Transcription factor
adenovirus, affinity purification and characterization, **147**, 65
- Transfection
in *in vivo* selection assay for transforming genes in acute leukemia cells (human), **147**, 108
- Transferrin
diferric, reduction, stimulation of Na^+/H^+ antiporter (HeLa cells), **145**, 467
- Transferrin receptors
distribution on microvilli of leukemic L1210 cells, **146**, 1102
- Transferrin reductase
diferric, inhibition by retinoic acid (rat liver), **146**, 976
- Transformation
associated proteins, induction by murine sarcoma virus, interaction with specific receptors on kidney cells (rat), **147**, 513
Escherichia coli, effect of polymyxin B nonapeptide, **143**, 923
neoplastic, relationship to C-type retrovirus expression in nondifferentiating myoblasts (rat), **142**, 1111
NIH3T3 cells transfected with human tumor DNA, phenotypic expression, inhibition by swainsonine, **142**, 348
target cells by adsorption of plasmid to pH-sensitive liposomes, **147**, 980
- Transforming growth factor α
immunoreactive, detection in urine of patients with disseminated breast carcinoma, **144**, 1059
- Transforming growth factor β
bone-derived and recombinant, inhibition of tumor cell growth (bovine), **148**, 783
detection in urine (human), **148**, 1503
effect on
differentiation of rat granulosa cells (pig), **146**, 1405
proliferation and differentiation of intestinal epithelial cell line (rat), **142**, 775
inhibition of
DNA synthesis in isolated hepatocytes from normal and regenerating liver (rat), **145**, 436
epidermal growth factor-induced *c-myc* proto-oncogene expression in breast cancer cells (human), **144**, 1197
hepatic epithelial cell proliferation at specific cell cycle stages *in vitro* (rat), **143**, 26
Leydig's cell steroidogenesis in primary culture, **146**, 387, 575
- Transhydrogenase, *see* NAD(P)^+ transhydrogenase
- Translation
inhibitor RNA, isolation and characterization (barley embryo), **142**, 383
7-methylguanosine 5'-phosphate inhibition, reversion by polysomal and soluble factors (*Saccharomyces cerevisiae*), **146**, 1093
in mitochondrial lysates from Ehrlich ascites cells, stimulation by aurin tricarboxylic acid, **145**, 1149
nick, *see* Nick-translation
in reticulocyte lysates with relative RNA selectivity (rat muscle), **144**, 329
salivary gland mRNAs, primary products, characterization (rat, sheep), **149**, 244
single transcript, alternate initiation resulting in A and B forms of chicken progesterone receptor, **149**, 493
zein cloned in yeast under inducible GAL promoter, regulation of expression, **146**, 809
- Transposition
Tn5 from λ b221 cI857 Pam Oam to chromosome, effect of Lon-SulA regulatory function (*Escherichia coli*), **142**, 879
- Transthyretin
analysis by ^{13}C NMR (human), **143**, 116
variant, isolation and characterization (human), **148**, 471
- Trehalase
effects of D-glucose anomers (yeast), **143**, 212
- Triacylglycerol lipase
chemical modification with activated magnetic modifier, **145**, 908
hormone-sensitive, immunological detection in non-adipose tissues (rat), **148**, 99
interesterification and synthesis reactions, analysis in microemulsions (*Candida cylindracea*), **146**, 361

Subject Index

- magnetic, dispersed in organic solvents, synthesis and activity, **142**, 291
- Triazolam
and alprazolam, competitive inhibition of platelet-activating factor binding to platelets (human), **144**, 359
- 1,1,1-Trichloroethane
with dispersed magnetic lipase, enzymatic activity, **142**, 291
- Trifluoperazine
effect on thrombin-induced arachidonic acid transfer in platelets (human), **144**, 821
inhibition of NADPH-oxidase activation by arachidonate in cell-free system (guinea pig macrophages), **148**, 112
- Trifluoromethyl-ketones
reversible slow tight-binding inhibition of leukocyte elastase (human), **145**, 509
- Triglycerides
in microemulsions, interesterification by *Candida cylindracea* lipase, **146**, 361
synthesis by cultured fibroblasts and adipocytes, stimulation by serum protein (human), **144**, 94
- Triiodothyronine
and betamethasone, effect of simultaneous administration on development of pulmonary maturation (fetal rabbit), **146**, 524
binding protein, membrane-associated, nucleotide sequence, homology with protein disulfide-isomerase (bovine liver), **146**, 1485
effect on androgen-binding protein production by cultured Sertoli cells (rat), **143**, 241
nuclear binding in cultured fibroblasts, inhibition by antimycin (human), **147**, 1241
stimulation of
atrial natriuretic factor synthesis and secretion by atrial myocytes (rat), **145**, 336
pro-natriodilatin mRNA levels in primary cardiocyte cultures (rat), **146**, 1336
uptake by isolated adipocytes (rat), **145**, 105
- 1,1'-Trimethylene-bis-(5-fluoro) uracil
derivatives, internal [2 + 2] photodimers, structural analysis, **146**, 1270
- Triose-phosphate isomerase
inhibition by (*S*)-3-chlorolactaldehyde (porcine sperm), **145**, 1054
- Trioxifene
and DL- α -difluoromethylornithine, additive growth inhibitory effects on MCF-7 breast cancer cells, **148**, 1338
- Tropoelastin
multiple polypeptides, identification in lung (chicken), **146**, 1291
- Tropomyosin
cardiac, amino acid sequence, comparison with streptococcal M protein (human), **142**, 813
enhanced actomyosin system in platelets, inhibition by caldesmon (porcine blood), **143**, 475
- Troponin C
binding to Ca²⁺, effects of association and positive inotropic drugs (bovine heart), **145**, 1390
- Trypsin
effect on synaptosome binding of *Clostridium botulinum* neurotoxin (rat brain), **143**, 928
- Trypsin inhibitors
pancreatic secretory, encoding gene, primary structure (human), **149**, 635
- Tryptamine
degradation product in brain homogenates, isolation and characterization (swine), **148**, 1045
- Tryptophan
binding to terbium, *in vitro* analysis by ¹H NMR and fluorescence spectroscopy, **146**, 791
- Tubercidin
effect on nucleoside permeation in erythrocytes infected with *Plasmodium yoelii* (mouse), **145**, 1134
- Tubulin
interactions with
glycolytic enzymes, demonstration by gel electrophoresis (bovine brain), **146**, 827
octyl Sepharose, **145**, 949
intestinal expression, regulation by 1,25-dihydroxyvitamin D₃ (chicken), **148**, 1270
microtubules, dynamic properties at steady state of polymerization (bovine brain), **149**, 461
polymerization into microtubules by sperm 19S dynein (bovine brain), **148**, 218
- Tumor cells, *see also* Cell lines
astrocytoma, Ca²⁺ mobilization by muscarinic receptors, measurement with quin-2 fluorescence (human), **147**, 182
brain, phosphorus metabolism, analysis by ³¹P NMR spectroscopy (mouse), **144**, 53
breast, additive growth inhibitory effects of DL- α -difluoromethylornithine and antiestrogens, **148**, 1338
Burkitt lymphoma Jijoye, high-affinity binding of human interleukin 4, **149**, 995
carcinosarcoma, induction of platelet aggregation, role of platelet cyclooxygenase and lipoxygenase (rat), **145**, 384
cervical, DNA samples, detection of E6 and E7 regions of human papillomavirus types 16 and 18, **143**, 837
chondrosarcoma, insulin-stimulated secretion of collagenase inhibitor (rat), **147**, 550
colonic adenocarcinoma, angiogenin mRNA, characterization (human), **146**, 1240
Daudi, interferon β -induced membrane protein, isolation and inhibition of cell growth, **148**, 140
Ehrlich ascites
mitochondrial lysates, stimulation of transcription and translation by aurin tricarboxylic acid, **145**, 1149
nuclear ADP-ribosyltransferase, suppression by 5-azacytidine and analogs, **142**, 468
erythroid, avian erythroblastosis virus-transformed, secretion of autocrine factors promoting soft agar growth and blocking cell differentiation (chicken), **143**, 775
erythroleukemia
expression of hybrid genes, role of human globin gene promoters, **143**, 1099
insulin-like growth factor II-stimulated growth, regulation by somatomedin type 2 receptor (human), **148**, 811

Subject Index

- phorbol ester-promoted protein phosphorylation, regulation by alkyllysophospholipid, **142**, 661
- Ewing's sarcoma, regulation of cAMP levels by β -adrenergic agonists and prostaglandin, **146**, 685
- fibrosarcoma
- adhesion to plastic substrates, effects of crude and purified glycosaminoglycan lyases (mouse), **144**, 986
 - L929, tumor necrosis factor- α cytotoxicity, modulation by bacterial toxins, hydrocortisone, and arachidonic acid metabolic inhibitors (mouse), **149**, 815
- Friend erythroleukemia
- derived messenger ribonucleoprotein particles, in analysis of mRNA stability *in vitro*, **144**, 560
 - plasma membrane, detection of multiple ion channels (mouse), **146**, 1450
 - polyphosphoinositide hydrolysis, stimulation by erythroid differentiation factor (mouse), **146**, 187
- gastric
- adenocarcinoma, DNA synthesis, effect of α_1 -antichymotrypsin (human), **144**, 409
 - point mutation at codon 13 of N-ras oncogene, detection (human), **146**, 247
 - production of epidermal growth factor-like immunoreactive factor, effect of differentiation state (human), **145**, 1019
- gastrointestinal, expression of c-myc gene (human), **146**, 699
- glioma
- inositol phosphate formation, differential effects of phorbol ester and diacylglycerols, **148**, 701
 - protein kinase C and β -adrenergic receptors, phorbol-mediated redistribution, inhibition by concanavalin A (rat), **144**, 1265
- growth inhibition by recombinant and bovine bone-derived transforming growth factor β (human, mink, mouse), **148**, 783
- HeLa
- expression of hybrid genes, role of human globin gene promoters, **143**, 1099
 - Na^+/H^+ antiporter, stimulation by diferric transferrin reduction, **145**, 467
 - nuclear matrix-bound DNA, enrichment of autonomously replicating sequences, **144**, 1018
- hepatoma
- carbamoyl-phosphate synthase II mRNA levels (rat), **147**, 494
 - detection of procollagen mRNAs (human), **148**, 869
 - α -fetoprotein gene expression, relationship to DNA methylation, **143**, 447
 - α -fetoprotein-producing, detection of α -fetoprotein gene-binding protein (rat), **143**, 110
 - hemopexin and cysteine protease inhibitor synthesis, regulation by hepatocyte-stimulating factor and interferon- β_2 (rat), **146**, 1218
 - Hep G2, cytochrome P-450-mediated drug metabolism, analysis (human), **143**, 52
 - morphology and expression of c-myc, effects of teleocidin (human), **145**, 549
 - Morris, expression of oncogenes and liver-specific genes (rat), **143**, 624
 - oncogene expression (human), **142**, 932
 - ornithine decarboxylase mRNA, transient induction by 12-O-tetradecanoylphorbol-13-acetate (rat), **147**, 809
 - recombinant human phenylalanine hydroxylase production, effect of *para*-chlorophenylalanine (mouse), **142**, 302
 - histiocytic leukemic, growing and resting, superoxide production, effects of protein kinase C inhibitor and calmodulin antagonist (human), **144**, 1317
- insulinoma
- ATP-modulated K^+ channels, inhibition by glibenclamide (rat), **146**, 21
 - phosphoprotein p19-related 19-kDa protein, identification in brain (rat), **146**, 410
- Jurkat, adenosine receptor-mediated cAMP accumulation, effects of lectin and phorbol esters (human), **145**, 344
- leukemic
- N-ras oncogene activation mechanism, detection by synthetic oligonucleotide probes (human), **147**, 870
 - phosphorylation of RNA polymerase II by protein kinase C (chicken), **145**, 1376
 - polyamine oxidase isozymes, separation and characterization (mouse), **144**, 528
 - transforming genes, detection by transfection using *in vivo* selection assays (human), **147**, 108
- lymphocytic leukemic L-1210
- L-buthionine sulfoximine-treated, reduced thiol levels, effect on DNA crosslinking by melphalan, **144**, 47
 - distribution of transferrin and transcobalamin II receptors on microvilli, **146**, 1102
 - proliferation in culture, dependence on extracellular Ca^{2+} , **145**, 556
- lymphoid, ^{31}P NMR spectra, fluoride effects (mouse), **147**, 519
- lymphoma, gene transfer for expression of glycosphingolipid antigen in murine cells by transfection with cosmid genomic library prepared from human Burkitt lymphoma cells (mouse), **143**, 716
- malignant, detection by ^1H NMR spectroscopy (human), **145**, 1397
- mammary
- adenocarcinoma, clones, response to tumor-derived cytokines (rat), **146**, 996
- carcinoma
- detection of immunoreactive transforming growth factor α in urine (human), **144**, 1059
 - growth in tissue culture, inhibition by antibody to insulin-like growth factor I receptor (human), **149**, 276
 - ZR-75-1, secretion of growth inhibitory factor, **149**, 642
- deoxyadenosine-induced death, mechanism: induction of deoxyribonucleoside-triphosphate imbalance and DNA double strand breaks (mouse), **146**, 258
- epidermal growth factor-induced c-myc proto-oncogene expression, inhibition by transforming growth factor β (human), **144**, 1197
- free radical generation, enhancement by polyunsaturated fatty acids (human), **145**, 15
- growth, effects of progestin (human), **145**, 706

Subject Index

- growth inhibitory effects of antiestrogens, partial reversal by epidermal growth factor (human), **146**, 739
- isolation of myofibroblast growth factor (human), **149**, 1125
- MCF-7, proliferation and intranuclear protein synthesis, effect of 13-*cis*-retinal (human), **143**, 309
- mitogenic effect of growth factors, inhibition by antiestrogens in absence of estrogens (human), **146**, 1502
- medullary thyroid carcinoma, calcitonin and calcitonin gene-related peptide mRNA levels, effects of 1,25-dihydroxyvitamin D₃ (human), **149**, 239
- melanoma**
- A-375/2, derived angiogenic factor, purification and characterization (human), **146**, 945
 - adhesion to plastic substrates, effects of crude and purified glycosaminoglycan lyases (mouse), **144**, 986
 - clones, reconstitution of guanine stimulatory regulatory proteins into S49 CYC⁻ membranes, **147**, 443
 - derived melanocyte growth factor, purification and characterization (human), **146**, 1204
 - MSH binding capacity and responsiveness to MSH, stimulation by L-dopa phosphorylated isomers (mouse), **145**, 719
 - stimulated motility, inhibition by pertussis toxin (human), **146**, 339
- monocytic leukemic JOSK-1, interleukin-1 role as autocrine growth factor (human), **147**, 39
- monocytic leukemic THP-1
- induction of acetylated low-density lipoprotein receptors and inhibition of low-density lipoprotein receptors (human), **146**, 802
 - purification and characterization of erythroid differentiation factor (human), **142**, 1095; *erratum*, **144**, 1349
- myeloblastic leukemic ML-1, differentiation, synergistic induction by tumor necrosis factor and interferon γ (human), **145**, 514
- myeloid leukemic, tumor necrosis factor function as interleukin 1-dependent differentiation-inducing factor (mouse), **143**, 390
- myeloma, with acquired resistance to 2-difluoromethylornithine, characterization (human), **144**, 132
- neuroblastoma**
- expression of growth factor (bovine), **144**, 81
 - N1A-103 neurite-minus, induction of R₁ cAMP-binding protein (mouse), **148**, 350
- osteosarcoma**
- identification of activated c-Ki-ras oncogene (human), **146**, 395
 - osteoblast-like, degradation of parathyroid hormone, role of protein kinase C (rat), **143**, 539
- pancreatic acinar**
- bombesin binding and induction of amylase release (rat), **144**, 463
 - somatostatin receptors, effect of dexamethasone (rat), **147**, 942
- pheochromocytoma**
- identification of atrial natriuretic factor receptors (human), **148**, 286
- PC12**
- noradrenaline release, induction by *Clostridium perfringens* type A enterotoxin, **144**, 217
 - occurrence of 3-sulfoglucuronic acid, **145**, 1142
 - secretion of dopamine, effect of myosin light-chain kinase inhibitor (rat), **143**, 1045
- promyelocytic leukemia HL-60**
- adriamycin-induced interphase death, prevention with 3-aminobenzamide and nicotinamide, **144**, 1031
 - comparative effects of polymyxin B, phorbol ester, and bryostatins, **146**, 208
 - differentiation-specific expression of cytosolic cofactor activity for activation of phagocyte NADPH-oxidase, **145**, 1198
 - expression of poly(ADP-ribose) polymerase cDNA during differentiation, **146**, 403; *erratum*, **148**, 1549
 - membranes, reversible activation of NADPH oxidase, **146**, 1296
 - P-glycoprotein-deficient, demonstration of adriamycin resistance, **145**, 1171
 - phorbol ester-promoted differentiation and protein phosphorylation, regulation by alkyllysophospholipid, **142**, 661
 - retinoic acid-induced differentiation, effect on PSL levels, **147**, 993
 - sensitivity to cytotoxic effects of drugs, implications of interactions between topoisomerase II, exogenous DNA, and 4'-(9-acridinylamino) methanesulfon-*m*-anisidide or 4-(4,6-*O*-ethylidene- β -D-glucopyranoside), **144**, 787
 - specific binding of phorbol esters to nuclei, **144**, 393
 - specific membrane binding sites for [³H]inositol-(1,3,4,5)tetrakisphosphate, identification, **149**, 680
- pulmonary**
- cytosolic Ca²⁺ levels, effects of bombesin-like peptides, **147**, 189
 - 45-kDa protein, decreased incorporation of 8N₃-[γ -³²P]-GTP (mouse), **144**, 591
- teratocarcinoma**, glycoprotein processing, associated transient expression of sialylated glycans (mouse), **142**, 489
- topoisomerase II-mediated formation of 4'-(9-acridinylamino)methanesulfon-*m*-anisidide-induced cleavable complex**, comparative effects of N¹,N⁸-bis(ethyl)spermidine and difluoromethylornithine (human), **149**, 194
- urinary bladder**, invasive, cell-surface hyaluronate binding sites, detection (human), **149**, 249
- Tumor necrosis factor**
- cytotoxicity
 - enhancement by increase in basicity of N-terminal region, **148**, 629
 - reduction by inhibitors of arachidonic acid metabolism (murine L929 cells), **149**, 735 - effect on proliferation of cultured capillary endothelial cells (bovine adrenal cortex, brain), **143**, 997
 - function as interleukin 1-dependent differentiation-inducing factor for myeloid leukemic cells (mouse), **143**, 390
 - and interferon γ , synergistic induction of myeloblastic leukemic ML-1 cell differentiation (human), **145**, 514
 - recombinant
 - enhancement of *in vivo* glucose utilization in macrophage-rich rat tissues (human), **149**, 1

Subject Index

- stimulation of arachidonic acid release and phospholipid metabolism (human synovial cells), **142**, 235
- stimulation of gelatinase and collagenase production by granulation tissue (rat), **142**, 791
- type α
- cytotoxicity, modulation by bacterial toxins, hydrocortisone, and arachidonic acid metabolism inhibitors (L929 cells), **149**, 815
 - induction of macrophage colony-stimulating activity and prostaglandin E_2 production by osteoblast-like cells (mouse), **145**, 323
 - recombinant, dissociation, analysis by gel permeation chromatography, **147**, 740
- Tungsten
- containing formate dehydrogenase from *Clostridium thermoceticum*, EPR analysis, **149**, 424
- Tunicamycin
- effect on lipoprotein lipase secretion by peritoneal macrophages (mouse), **142**, 1
- Tyrosine
- epidermal growth factor-induced phosphorylation in 59-kDa protein in purified plasma membranes (rat liver), **145**, 982
 - glucocorticoid receptor, phosphorylation, stimulation by epidermal growth factor (human epithelial cells), **144**, 512
 - insulin receptor, autophosphorylation, inhibition by insulin-stimulating peptide derived from serum albumin (bovine), **144**, 11
 - interleukin-2 receptor-related proteins, phosphorylation in phytohemagglutinin-activated lymphocytes (human), **144**, 160
 - oxidation to melanin, role of reactive oxygen species, **142**, 265
- Tyrosine aminotransferase
- carboxy-terminal segment, integrity, analysis with anti-peptide serum, **144**, 801
 - and gene 33, similarity in hormonal regulation, correlation with developmental regulation (rat liver), **144**, 1182
 - induction by glucocorticoids, inhibition by 1-(5-isquinolinesulfonyl)-2-methylpiperazine (rat liver), **144**, 152
- Tyrosine 3-hydroxylase, *see* Tyrosine 3-monooxygenase
- Tyrosine kinase, *see* Protein-tyrosine kinase
- Tyrosine 3-monooxygenase
- activation by Ca^{2+} in digitonin-permeabilized adrenal medullary cells (bovine), **146**, 530
 - activity before and after phosphorylation by cAMP-dependent protein kinase, effect of spermine (bovine adrenal medulla), **148**, 1460
 - cDNA cloning and sequence analysis (human), **146**, 971
 - reversible conversion to inactive form by antipain (rat striatum), **146**, 1375
- Tyrosine-protein kinase, *see* Protein-tyrosine kinase
- U**
- U50-488H
- inhibition of [3H]nimodipine binding to Ca^{2+} channel receptor protein (rat brain), **149**, 1042
- U-46619
- stimulated platelets, response to arachidonate, role of Ca^{2+} movement (human), **149**, 1193
 - stimulation of cytosolic free Ca^{2+} and inositol phosphates *in vitro* (rat mesangial cells), **142**, 579
- Ubiquinol-cytochrome-*c* oxidoreductase
- incorporation into submitochondrial particles and demonstration of light-induced electron transfer (*Rhodospirillum rubrum*), **148**, 170
- Ubiquitin
- protein ligase system, component alterations during reticulocyte maturation to erythrocytes (rabbit), **145**, 658
- Ubisemiquinone
- stabilized, formation in reconstituted succinate ubiquinone reductase, **144**, 315
- UDP-*N*-acetylglucosamine: α -mannoside β (1,6)-*N*-acetyl glucosaminyltransferase
- assay in cultured cells with synthetic trisaccharide acceptor, **146**, 679
- Ultraviolet irradiation
- immobilization of phospholipid bilayers, **146**, 1116
 - transient induction of photolyase in arrested cells (frog), **145**, 604
- Unspecific monooxygenase
- induction by vitamins E and K in tumor-derived cell lines (human), **143**, 863
- Urea
- effect on resynthesis of insulin from A and B chains (bovine), **146**, 437
- Uremia
- chronic, effects on fructose 2,6-bisphosphate glycolytic and gluconeogenic enzymes (rat liver), **144**, 352
- Urine
- detection of transforming growth factor type β (human), **148**, 1503
 - endotoxin receptor-binding assay (human), **142**, 1013
 - immunoreactive transforming growth factor α , detection in patients with disseminated breast carcinoma, **144**, 1059
- Urokinase, *see* Plasminogen activator
- Uroporphyrinogen I
- oxidation by hepatic extracts from 3-methylcholanthrene-treated embryo, role of cytochrome *P*-450 (chicken), **146**, 1324
- Uroporphyrinogen decarboxylase
- hepatic, inhibition by polycyclic aromatic hydrocarbons (Fe-loaded mouse), **146**, 13
 - isoenzymes, detection in erythrocytes (human), **146**, 1196
- Ustilago maydis* virus
- killer toxin from strain P4, synthesis and processing, **149**, 391
- Uteroferrin
- sequence homology with purple acid phosphatase from bovine spleen (porcine uterus), **144**, 1154
- Uterus
- renin mRNA identification (rat), **142**, 169

Subject Index

V

- Vaccinia virus**
 recombinant, co-expression of two independent domains of factor VIII with procoagulant activity (human), **145**, 234
- Vanadate**
 effect on mitogen-induced lymphocyte proliferation (old, young humans), **142**, 836; *erratum*, **144**, 1348
 protein kinase C-independent activation of Na^+/H^+ exchanger, inhibition by cyclosporin A (Swiss 3T3 fibroblasts), **145**, 111
- Vanadium**
 stimulation of insulin receptor kinase (rat adipocytes), **147**, 259
- Vanadyl(IV) ions**
 in ascidian blood cells, EPR characterization, **149**, 411
- Vasoactive intestinal peptide**
 and α_1 -adrenergic receptor, concurrent regulation of pinealocyte cGMP levels (rat), **146**, 1478
 localization in eosinophils (human), **148**, 1440
 and phenylephrine, stimulation of pineal cAMP and cGMP, effect of ethanol (rat), **147**, 145
 receptor binding and cAMP stimulation in prostatic epithelial cells, interference by tumor-promoting phorbol esters (rat), **149**, 221
- Vasopressin**
 arginine, *see* Arginine vasopressin
 converting aminopeptidase, measurement and distribution in brain (rat), **144**, 726
 and depolarization, stimulation of Ca^{2+} uptake by vascular smooth muscle cells, comparison (rat aorta), **148**, 225
 and glucagon, synergistic action on hepatic Ca^{2+} uptake, mechanism (rat), **142**, 745
 induction of ^{45}Ca influx in aortic smooth muscle cells (rat), **148**, 273
- Vasopressin receptors**
 in aortic myocytes, stimulation-induced phosphorylation of 16-kDa protein by protein kinase (rat), **143**, 517
- Vasorelaxation**
 parathyroid hormone-like, by synthetic tumor-derived hypercalcemic factor (rabbit renal artery), **149**, 227
- Vasotocin**
 associated neurophysin, isolation and sequencing (*Rana esculenta*), **149**, 538
- Veins**
 pulmonary and vena cava, detection of atrial natriuretic factor (bovine, pig, rat), **146**, 1465
- Venom**
 orb weaver spider, synaptic antagonists, structure and biological activity (*Argiope aurantia*), **148**, 678
- Vesicles**
 glycolipid, with reconstituted tissue-type plasminogen activator, properties (porcine heart), **146**, 94
 myocardial sarcolemma and sarcoplasmic reticulum, isolation of Ca^{2+} -dependent protease inhibitor (bovine), **142**, 1025
 phosphatidylserine, induction of synaptosomal adenylate cyclase (rat brain), **145**, 631
 phospholipid
 fusion induced by glyceraldehyde-3-phosphate dehydrogenase, characterization (rabbit muscle), **143**, 403
 with reconstituted tissue-type plasminogen activator, properties (porcine heart), **146**, 94
 reconstitution of acyl-CoA:estradiol-17 β acyltransferase (bovine placenta), **144**, 569
 reconstituted, Cl^- influx, stimulation by γ -aminobutyric acid-benzodiazepine receptor complex (bovine brain), **146**, 1471
 renal brush border membrane, fluidity, age-related changes (rat), **142**, 849
 sinusoidal membrane, glutathione transport, characterization (rat liver), **143**, 377
- Vibrio parahemolyticus**
 extracellular AMP, utilization mechanism, **144**, 382
- Vimentin**
 monoclonal antibody directed against head region, synthesis and characterization (Ehrlich ascites cells), **146**, 1366
- Vinblastine**
 resistant cells, associated membrane glycoproteins, analysis with polyclonal antibodies, **143**, 732
- Vinculin**
 mRNA, cDNA cloning and characterization (chicken), **147**, 637
 specific interaction with α -actinin (chicken gizzard), **146**, 554
- Viruses, *see also specific viruses***
 promotion of entry of polysaccharides with antiviral activity into cells, **146**, 1303
- Vitamin C, *see* Ascorbic acid**
- Vitamin D**
 binding protein, conformational changes after complexing with actin (human), **146**, 611
- Vitamin D₃**
 25-hydroxylation, role of mitochondrial and microsomal cytochrome P-450 (rat liver), **142**, 999
- Vitamin E**
 induction of aryl hydrocarbon hydroxylase in tumor-derived cell lines (human), **143**, 863
 inhibition of protein fragmentation by free radicals in lipid environments (rat liver), **148**, 1277
 interaction with phospholipids in bilayer liposomes, **146**, 1413
 radical, reaction with vitamin C in solution, stopped-flow study, **146**, 134
- Vitamin K**
 adsorption and metabolism in Swiss 3T3 fibroblasts (mouse), **147**, 731
 dependent carboxylase and oxygenase, differential inactivation by sulfhydryl reagents, **148**, 184
 induction of aryl hydrocarbon hydroxylase in tumor-derived cell lines (human), **143**, 863
- Vitreous humor**
 acidic and basic fibroblast growth factors, characterization (chicken embryo), **146**, 478
- Volume expansion**
 induction of changes in membrane protein phosphorylation (rat kidney), **143**, 74

Subject Index

Von Willebrand factor

cysteine-rich domain, comparison with procollagen and thrombospondin, **144**, 876

evolution: cDNA sequence polymorphisms, repeated domains, and relationship to von Willebrand antigen II (human), **144**, 657

W

W-7, *see* N-(6-Aminohexyl)-5-chloro-1-naphthalenesulfonamide

Water

amide hydrogen exchange rates of group A streptococcal polysaccharide, ^1H NMR measurements, **143**, 685

induced dismutation of superoxide anion, generation of singlet molecular oxygen, **145**, 842

Weightlessness

simulated with antiorthostatic hypokinetic suspension, effect on atrial natriuretic factor synthesis and release (rat), **148**, 582

Werner's syndrome

associated reduction in fibroblast sensitivity to catecholamines (human), **145**, 183

Western blotting

for detection of monoclonal antibodies, procedural improvements, **146**, 1509

Wheat germ agglutinin

inhibition of yeast binding to peritoneal macrophages (mouse), **148**, 1202

X

Xanthine

metabolism in Duchenne muscular dystrophy, effect of chronic allopurinol therapy (human), **147**, 152

Xanthine oxidase

commercial grade, impurities, inhibition of Ca^{2+} uptake and arterial contraction (porcine heart), **143**, 575

induction of endothelium-dependent relaxation (bovine milk), **147**, 682

pancreatic, effect of caerulein-induced acute pancreatitis (mouse), **149**, 841

Xanthine oxidase inhibitors

role as free radical scavenger, mechanism (porcine heart), **148**, 314; *erratum*, **148**, 1550

Xanthosine

metabolism in Duchenne muscular dystrophy, effect of chronic allopurinol therapy (human), **147**, 152

X-ray absorption near edge structure

analysis of oxygen bonding to hemoglobin and isolated subunits (human), **147**, 31

X-ray diffraction

residue peptides of Alzheimer's disease protein, **147**, 854

X rays

induced chromosomal aberrations, cell cycle-dependent potentiation by 3-aminobenzamide (human lymphocytes), **143**, 372

 β -Xyloside

effect on synthesis of type IX collagen (rabbit chondrocytes), **146**, 1040

Z

Zein

cloned in yeast under inducible GAL promoter, translational regulation of expression (*Saccharomyces cerevisiae*), **146**, 809

encoding genes, adenine methylation (maize), **147**, 1082

Zinc

binding to β -D-fructose 2,6-bisphosphate, **143**, 206

in cytochrome-c oxidase, relationship to polypeptide subunits III, VII, a, and b (bovine heart), **148**, 1520

displacement from bovine cardiac cytochrome oxidase by fluorescein mercuric acetate, **143**, 1030

effect on diadenosine 5',5'''- P^1 , P^4 -tetrakisphosphate base stacking, ^1H magnetic resonance study, **144**, 922

-insulin hexamer, analysis by ^{13}C NMR (bovine), **143**, 116
subcellular redistribution in thymocytes, 12-O-tetradecanoyl-phorbol-13-acetate-induced, X-ray fluorescence study (rabbit), **144**, 863

Zinc-protoporphyrin

support of carbon monoxide production by tissue homogenates (rat), **148**, 417

Zymosan

opsonized, stimulation of neutrophil superoxide generation, effect of R 59022 (human), **143**, 630

10018