

CUMULATIVE SUBJECT INDEX FOR VOLUMES 126-133

A

- 2-5A, see 2',5'-Oligoadenylate
- Acetaldehyde
-dependent glutathione oxidation (rat hepatic cytosol), 129, 949
- Acetaminophen
hepatotoxicity in vivo, relationship to oxidant stress (rat), 133, 329
lethal injury to cultured hepatocytes, role of activated oxygen species (rat), 126, 1129
- 2-Acetylaminofluorene, see N-2-Fluor-enylacetamide
- Acetylation
lens crystallins, by aspirin: implications for prevention of cataract formation (bovine eye), 128, 1125
- Acetylcholine
effect on intracellular calcium concentration (canine thyroid), 131, 1041
- Acetylcholinesterase
hydrophobic membrane-binding domain, detection of covalently attached fatty acids (human erythrocytes), 133, 621
inositol (Torpedo californica), 129, 312
- Acetylcholine receptors
nicotinic, sequence α 235-242, structural localization (Torpedo), 128, 864
- Acetyl-CoA carboxylase
and [acetyl-CoA carboxylase]-phosphatase, association in vivo and in tissue culture, insulin effects (rat), 130, 814
phosphorylated by cAMP-dependent protein kinase and casein kinases I and II, active protein phosphatases, purification and characterization (rat liver), 130, 1132
subcellular distribution, dietary dependence (rat liver), 129, 453
- [Acetyl-CoA carboxylase]-phosphatase and acetyl-CoA carboxylase, association in vivo and in tissue culture, insulin effects (rat), 130, 814
- N-Acetyl- β -D-glucosaminidase
binding to mannose-6-phosphate receptors, effect of chloroquine (rat liver), 131, 634
- Acetyl glyceryl ether phosphorylcholine generation in moxibustion-stimulated skin and muscle tissues (rat), 127, 629
- β -N-Acetylhexosaminidase
hepatic, monokine effects (rat peritoneal leukocytes), 130, 30
isozyme B, deficiency in cultured skin fibroblasts from patient with progressive motor neuron disease, 130, 1185
- N'-Acetylspermine
effect on microtubule formation (calf brain), 132, 147
- Acetyl transacylase, see [Acyl-carrier protein] acetyltransferase
- α_1 -Acid glycoprotein
serum, monokine effects (rat peritoneal leukocytes), 130, 30
- Acid phosphatase
repressible, dephosphorylation in vitro of phosphorylated peptides and proteins (yeast), 129, 350; erratum, 133, 368
- Acinetobacter calcoaceticus
solubilization in organic solvents via reverse micelles, 127, 911
- 4'-(9-Acridinylamino)-methanesulfon-m-anisidide
cytotoxic effects on doxorubicin-resistant leukemia cells, enhancement by trifluoperazine (mouse), 131, 912
- ACTH (adrenocorticotrophic hormone), see Adrenocorticotropin
- Actin
-activated myosin ATPase, and diphosphorylation of light chain myosin, linear relationship (chicken gizzard), 131, 987
-binding protein, interaction with isolated platelet membrane (human), 126, 566
F-, interaction with isolated platelet membrane (human), 126, 566
filaments, plasma gelsolin actions, Ca^{2+} dependency (bovine serum), 131, 1132
monomeric, binding to cytochalasin D, characterization (rabbit skeletal

*Underscored numbers indicate the appropriate volumes; numbers without underscores indicate pagination.

Subject Index

- muscle), 128, 1087
- myosin interaction, tropomyosin-enhanced, regulation by caldesmon (rabbit skeletal muscle), 132, 645
- polymerization, stimulated increase, cholera and pertussis toxin effects (rabbit neutrophils), 126, 1174
- N-(1-pyrenyl)iodoacetamide-labeled, polymerization: evaluation of fluorescence signal as measure of monomer incorporation into polymer, 128, 1058
- related sequences in fungal DNA, linkage with oncogene homologs, 133, 293
- thymus-derived, antibody inhibition of Epstein-Barr virus-transformed human B-cell proliferation, augmentation by cAMP (rabbit), 132, 837
- α -Actinin
- interaction with isolated platelet membrane (human), 126, 566
- Actinomycin D, see Dactinomycin
- Actomyosin ATPase, see Myosin ATPase
- 1-Acyl-2-acetyl-sn-glycerol-3-phosphorylcholine
- and platelet-activating factor, concomitant production by stimulated neutrophils (rabbit), 128, 1409
- [Acyl-carrier protein] acetyltransferase
- associated activity of fatty acid synthase, analysis with p-nitrophenylthiol acetate (yeast), 131, 786
- Acyl-CoA cholesterol acyl transferase, see Cholesterol acyltransferase
- Acyl-CoA oxidase
- deficiency in Zellweger syndrome patients, 126, 1269
- Acyl-CoA:retinol acyltransferase, see Retinol fatty-acyltransferase
- Acyl-dihydroxyacetone phosphate
- role in glucose-stimulated phospholipid *de novo* synthesis in pancreatic islets (neonatal rat), 132, 467
- Acyl groups
- microsomal arachidonoyl transacylase-catalyzed transfer between phospholipids (canine heart), 129, 381
- Acylpeptide hydrolase
- isolation and characterization (human erythrocytes), 126, 933
- Acyltransferase
- catalyzed mucus glycoprotein formation in patients with cystic fibrosis: effect on glycoprotein viscosity, 132, 299
- Adenine nucleotides
- translocation, role in mitochondrial inner membrane energization in ρ^+ and ρ^0 strains (*Saccharomyces cerevisiae*), 132, 1116
- Adenine nucleotide translocator
- reconstituted mitochondrial, inorganic pyrophosphate exchange, characterization (bovine heart), 127, 129
- Adenosine
- analogs, antiviral potency, correlation with S-adenosylhomocysteine hydrolase inhibition, 129, 306
- Adenosine 5'-(β , γ -imino)triphosphate
- non-purified, effect on prostaglandin E_1 stimulation of adenylate cyclase (human platelets), 126, 983
- Adenosine kinase
- role in formycin B phosphorylation (Chinese hamster ovary cells), 130, 910
- Adenosine receptors
- inhibitory, photoaffinity labeling with N⁶(L-phenylisopropyl)adenosine and N⁶(3-iodo-4-azidobenzyl)adenosine (chick cerebellar synaptic membrane), 131, 115
- Adenosinetriphosphatase, see ATPase
- Adenosylhomocysteinase
- inhibition by adenosine analogs, correlation with analog antiviral potency, 129, 306
- S-Adenosylhomocysteine
- S-adenosylmethionine ratio, effect on cytosolic thiopurine methyltransferase and microsomal thiol methyltransferase (rat liver), 128, 965
- S-Adenosylhomocysteine hydrolase, see Adenosylhomocysteinase
- S-Adenosylmethionine
- N-acetyl decarboxylated, isolation and characterization (rat prostate), 133, 546
- S-adenosylhomocysteine ratio, effect on cytosolic thiopurine methyltransferase and microsomal thiol methyltransferase (rat liver), 128, 965
- effect on *in vitro* expression of *metB*, *metL*, and *metJ* genes (*Escherichia coli*), 133, 731
- microsomal phosphatidylethanolamine methylation (rat brain), 128, 411
- Adenosylmethionine decarboxylase
- inhibition by 1-aminooxy-3-aminopropane (rat liver), 130, 596
- Adenovirus
- replication inhibition by cGMP analog, 128, 1329
- Adenylate
- energy charge, stabilization by depletion of adenylates without glycolytic stimulation (yeast), 129, 287

Subject Index

Adenylate cyclase

- activation by GRF in pituitary, somatostatin effect (bovine, human, rat), 127, 977
- atrial natriuretic factor-mediated inhibition, attenuation by ninhibin: role of inhibitory guanine nucleotide regulatory protein (rat), 129, 171
- attenuation by muscarinic receptors, induction by pertussis toxin (chick heart), 126, 622
- cAMP system, analysis in adrenocortical cells from inner and outer zones (guinea pig), 129, 664
- GRF-stimulated, inhibition by somatostatin in GH₃ cells (rat), 127, 986
- GTP-sensitive, hormone- and cholera toxin-induced, differential susceptibility to GTP formed from added GDP via membrane-associated nucleoside-diphosphate kinase (rat liver), 131, 199
- inhibition by vanadyl (rat adrenal membranes), 130, 945
- inhibitory guanine nucleotide-binding regulatory subunit
 - independent modulatory effect on ACTH secretion from pituitary tumor cells (mouse), 126, 941
 - interactions with guanyl nucleotides, pertussis toxin-catalyzed ADP-ribosylation effects (NG108-15 cells), 127, 999
- and membrane fatty acids and lipid peroxidation, relationship (murine neuroblastoma clone N1E-115), 132, 757
- modulation by guanine nucleotides, and Kirsten sarcoma virus-mediated transformation, relationship (murine fibroblasts), 127, 318
- response to
 - β -adrenergic agonists, inhibition by cellular transformation with EJ/T24/H-RAS oncogene (BALB/3T3 cells), 132, 900
 - parathyroid hormone, prostaglandin E₂, and guanine nucleotide, gold effects (chick osteoblast membranes), 130, 580
- stimulation by
 - calcitonin and calcitonin gene-related peptide (porcine LLC-PK₁ cells), 131, 537
 - K1-ras protein p21 during early G₁ phase (NRK cells), 132, 780
 - prostaglandin E₁, effects of non-purified adenosine 5'-(β , γ -imino)triphosphate and guanosine 5'-O-(2-thiodiphosphate) (human

platelets), 126, 983p1-[Adenylyl/5'-2'/adenylyl/5'-2'/adenos-5'-yl]P³-n-decylaminotriphosphatephosphatase-resistant, effect on RNase L activation (interferon-treated HeLa cell extract), 128, 695

Adipocytes

antilipolytic effect of insulin with forskolin, reversal by pertussis toxin, role of cAMP (rat), 130, 1059carbohydrate metabolism, effect of hypoglycemic agent-supplemented diet (db/db mouse), 126, 471

glucose transport

effect of N-(4-pyridylcarbonyl amino)-1,2,3,6-tetrahydropyridine in vitro (rat), 130, 194insulin-like stimulation by fatty acids (rat), 128, 1358insulin binding and basal and insulin-stimulated D-glucose transport, effect of phorbol esters (rat), 128, 824p422 protein expression and function as lipid carrier (mouse), 132, 850plasma membrane, ⁴⁵Ca²⁺ binding, effect of ascochlorin derivative AS-6 (db/db mice), 127, 247white, isolated from BRL 26830-treated obese mice, increased insulin binding and glucose transport, 133, 457Adipokinetic hormone, see Lipotropic hormone

ADP (adenosine 5'-diphosphate)

intracellular diffusion, role in phosphocreatine energy transport in heart, theoretical support, 133, 1035platelet activation, effect on cytosolic free Ca²⁺ and phosphatidylinositol-4,5-bisphosphate hydrolysis (human), 129, 958-stimulated fibrinogen binding to platelets, effect of type III collagen-derived octapeptide (human), 128, 547

ADP-ribosylation

chromosomal proteins in intact and broken cells, comparison (HeLa cells), 127, 896histone, enzymatic reversal in vitro (murine fibroblasts), 126, 136

nuclear

analysis during embryonic development (chick lens), 126, 859scaffold proteins, variations during cell cycle (HeLa cells), 126, 840

Subject Index

- pertussis toxin-catalyzed
 effects on interactions of transducin and inhibitory GTP-binding protein of adenylate cyclase with guanyl nucleotides (NG108-15 cells), 127, 999
 substrate: peptide copurified with N_S (rabbit cardiac membranes), 128, 809
- Adrenal gland
 catecholamine levels, 3-deazaadenosine effects (rat), 127, 924
 cortex
 identification of high-density lipoprotein-binding protein in plasma membranes (sheep), 129, 759
 inner and outer zones, adenylate cyclase activity and cAMP production (guinea pig), 129, 664
 rhodanese synthesis, characterization (bovine), 130, 407
- Adrenaline, see Epinephrine
- β -Adrenergic agonists
 adenylate cyclase response, inhibition by cellular transformation with EJ/T24/H-RAS oncogene (BALB/3T3 cells), 132, 900
- α_1 -Adrenergic receptors
 activation of calcium mobilization and influx (hamster DDT₁ cells), 130, 627
 BE 2254 binding, thermodynamics (guinea pig cerebral membranes), 128, 816
 expression on myocytes cultured in serum-free and -supplemented media, comparison (rat heart), 128, 376
 number and binding affinity, reserpine effects (rat seminal vesicles), 132, 844
- α_2 -Adrenergic receptors
 purification and characterization (rat adrenocortical carcinoma), 130, 58
- β -Adrenergic receptors
 agonist-stimulated, activation of dolichylmonophosphate-linked glycosyltransferases in protein N-glycosylation pathway (rat parotid acinar cells), 126, 123
 carbachol-induced desensitization, mediation by M₁ muscarinic receptors (rat cardiac myocytes), 128, 699
 expression on myocytes cultured in serum-free and -supplemented media, comparison (rat heart), 128, 376
 role in thrombin-induced phosphoinositide metabolism (rat platelets), 132, 1051
- Adrenocorticotrophic hormone, see Adrenocorticotropin
- Adrenocorticotropin
 immunohistochemical colocalization with corticotropin-releasing factor in duodenal perikarya (rat), 128, 402
- peptides, inhibition of γ -endorphin-generating endopeptidase, structure-activity relationship (rat brain), 133, 897
- regulation of
 cAMP and cGMP neuronal levels (chicken embryo), 133, 286
 NADPH-cytochrome P-450 reductase synthesis and activity (bovine adrenal cortex), 128, 650
 role in regulation of benzo[a]pyrene metabolism (human adrenocortical cell culture), 131, 167
 secretion from pituitary tumor cells, independent modulatory effect of adenylate cyclase inhibitory guanine nucleotide-binding regulatory subunit (mouse), 126, 941
- Adriamycin
 effects on nucleotide substrates, analysis with terbium probe (bovine thymus), 131, 1033
- Aequorin
 cDNA, cloning and expression (*Aequorea victoria*), 126, 1259
 detection of cytoplasmic calcium accumulation in phorbol ester- or diacylglycerol-stimulated platelets, 133, 98
- Aeromonas proteolytica* aminopeptidase
 zinc binding, effect of l-butaneboronic acid, 130, 1154
- Affinity chromatography
 pectinase, matrix evaluation (*Aspergillus niger*), 131, 666
 tyrosine-Sepharose, purification of epidermal growth factor receptors (human epidermoid carcinoma A431 cells), 131, 442
- Aflatoxin B₁
 alteration of protein phosphorylation (rat liver), 129, 342
 complexes with microsomal cytochrome P-450: fluorescence energy transfer measurements (rat liver), 129, 493
- African cassava latent virus
 coat protein, amino acid sequence, homology with tomato golden mosaic and maize streak viruses, 130, 892
- Agarose
 1,1'-carbonyldiimidazole-activated, coupled to insulin, insulin receptor purification (human placenta), 132, 1059
- Age
 perinatal period, changes in ornithine transcarbamylase activity and level: actinomycin D effects (rat

Subject Index

- liver), 129, 780
- Agglutinins**
- sialic acid-binding, purification and characterization (rat uterus), 130, 1301
 - wheat germ
 - in gluten, identification as source of lectin activity (human erythrocytes), 130, 867
 - platelet protein phosphorylation and activation (human), 132, 313
- Alamethicin**
- regulation of respiration in sonicated cytochrome oxidase-containing proteoliposomes (bovine heart), 128, 1025
- D-Alanine**
- cellular uptake, pinocytosis role (rat visceral yolk sac), 127, 733
- L-Alanine**
- cellular uptake, pinocytosis role (rat visceral yolk sac), 127, 733
- [D-Alanine², D-leucine⁵]enkephalin
- binding parameters in central and peripheral nervous system, modification by zwitterionic buffers (bovine, rat), 129, 328
 - chronic treatment, induction of opioid-dependent GTPase desensitization (NG108-15 cells), 128, 1342
- Albumin**
- mRNA, and malic enzyme mRNA, insulin-mediated asynchronous accumulation (rat liver), 130, 317
 - nonenzymatically glucosylated, antibody identification in diabetic and non-diabetic subjects (human serum), 131, 720
 - serum, see Serum albumin
- Alcohol dehydrogenase**
- [2-¹³C]ethanol in vitro metabolism, ¹H NMR spectroscopy using ¹³C decoupling with reverse DEPT polarization-transfer pulse sequence, 128, 107
 - expression in hepatocyte monolayer cultures, androgen and estrogen effects (rat), 128, 12
 - inhibition by Narcan, role of naloxone and methyl- and propylparaben (human liver), 131, 299
- Aldehyde reductase inhibitors**
- binding to isolated renal glomeruli (rat), 129, 530
- Aldolase**, see Fructose-bisphosphate aldolase
- Aldose reductase inhibitors**, see Aldehyde reductase inhibitors
- Aldosterone**
- production
 - correlation with atrial natriuretic factor receptor affinity (bovine zona glomerulosa cells), 132, 360
 - inhibition by α -human atrial natriuretic polypeptide, association with cGMP production increase (rat adrenal), 127, 1052
- Aldrin**
- inhibition of γ -aminobutyric acid-dependent chloride uptake by brain vesicles (mouse), 133, 37
- Alkaline phosphatase**
- induction by retinoic acid and retinal in neutrophilic granulocytes (human bone marrow), 131, 1181
 - intestinal, adult and fetal, structural comparison (human), 126, 427
 - plasma membrane, pH-dependent conversion to serum-soluble form by *n*-butanol extraction (rat liver), 126, 89
 - tetrameric, plasma membrane-bound, molecular size determination (human liver), 131, 328
- 1-O-Alkenyl-sn-glycero-3-phosphoethanolamine**
- transacylation with docosahexaenoic acid (rabbit alveolar macrophages), 133, 574
- 1-O-Alkyl-2-O-acetyl-sn-glycerol-3-phosphocholine**, see Platelet-activating factor
- Alkylamine**
- controlled porous glass and silica gel affinity matrices for pectinase purification, evaluation (*Aspergillus niger*), 131, 666
- Alkylation**
- tubulin, inhibition by antitumor drug TN-16 (bovine brain), 129, 200
- O-Alkylation**
- DNA, damage repair by protein extracts from adult and fetal organs (human), 133, 589
- 1-O-Alkyl-sn-glycero-3-phosphocholine**
- arachidonic acid CoA-independent transfer from 1,2-diacyl-sn-glycerol-3-phosphocholine, stimulation by macrophage microsomes (rabbit), 127, 384
 - transacylation with docosahexaenoic acid (rabbit alveolar macrophages), 133, 574
- Allophycocyanins**
- resonance Raman spectra (*Anacystis nidulans*), 130, 358
- Alzheimer's disease**
- fibroblasts, DNA repair defects (human), 129, 733
 - neuritic plaques, identification of neuropeptide Y-like immunoreactivity (human), 126, 289
- Amastatin**
- effect on degradation of dermorphin

Subject Index

- and related peptides by soluble brain extract (rat), 130, 964
- Amelogenin
cDNA nucleotide sequence and deduced amino acid sequence (mouse), 129, 812
- Amidophosphonate
analog of platelet-activating factor, synthesis and biological activity, 133, 851
- Amiloride
and derivatives, inhibition of Na^+ - H^+ exchange in epithelial cell line (porcine kidney), 127, 759
-sensitive $\text{Na}^+/\text{Mg}^{2+}$ antiport, role in Mg^{2+} efflux (chicken erythrocytes), 130, 540
- Amine oxidase (flavin-containing)
reversible inhibition and mechanism-based irreversible inactivation by 1-methyl-4-phenyl-1,2,3,6-tetrahydropyridine (bovine liver, human placenta), 127, 707
- Amines
aromatic, activation by FAD-containing monooxygenase (*Mytilus edulis*), 127, 773
- Amino acid composition
amyloid protein associated with chronic hemodialysis and β_2 -microglobulin, comparison (human), 129, 701
antileukoprotease isolated from bronchial secretion (human), 128, 285
aortic elastin and tropoelastin, changes in spontaneously hypertensive rats, 129, 179
arginine vasopressin and oxytocin-like peptide (platypus) 127, 277
atrial natriuretic factor (rat cardiocytes), 130, 1217
basement membrane collagen (bovine lens), 130, 1
fibroblast growth factor (human placenta), 128, 554
heparin-binding growth factors, comparison (bovine, human brain), 131, 586
myelin protein (bovine brain), 127, 484
phenylalanine hydroxylase (rat liver), 126, 922
[phenylalanyl¹⁴⁰] relaxin (porcine ovary), 126, 130
prolactin, sexual dimorphism (mouse), 130, 1209
recombinant interleukin 2 produced in *Escherichia coli* (human), 130, 692
somatomedin-binding protein from hepatoma cell line and amniotic fluid, comparison (human), 128, 1071
- Amino acids
-derived sulfonate salts, human leukocyte elastase inhibition, 128, 90
-elliptinium adducts, structure, revision, 131, 614
nicotinic acetylcholine receptor sequence $\alpha 235$ -242, structural localization (*Torpedo*), 128, 864
- L-Amino acids
interaction with cognate tRNA, CD and fluorescence spectroscopy (*Escherichia coli*), 129, 679
- Amino acid sequence
acidic fibroblast growth factor (bovine brain), 133, 554
adipokinetic hormone, analysis by fast atom bombardment/tandem mass spectrometry (tobacco hornworm), 133, 337
African golden mosaic, tomato golden mosaic, and maize streak virus coat proteins, homology, 130, 892
amelogenin (mouse), 129, 812
 α -amylases, conserved domains (barley, *Bacillus* sp., mammals), 128, 470
amyloidogenic Bence Jones protein NIG-77 variable region (human), 126, 1228
aromatic-amino-acid aminotransferase (*Escherichia coli*), 133, 134
atrial natriuretic polypeptide precursors, comparison (dog, rabbit), 132, 892
 Ca^{2+} - and Na^+, K^+ -ATPase tryptic peptides labeled with fluorescein isothiocyanate, comparison (canine, ovine, rabbit, rat tissues), 130, 732
catalytic subunits of Na^+, K^+ -ATPase α and $\alpha(+)$ isozymes, evidence for production from different genes (rat brain axolemma, kidney), 132, 764
circulating form of atrial natriuretic factor (rat), 130, 981
Clostridium botulinum neurotoxin type-E heavy and light chains, 127, 768
cystatin B (human liver), 131, 1187
cytochrome *c552* (*Thermus thermophilus* HB8), 128, 781
fluorescein-labeled Na^+, K^+ -ATPase peptides (brine shrimp, electric ray), 130, 221
fructose-1,6-bisphosphatase in spinach chloroplasts and porcine kidney, homology, 133, 520
fructose-bisphosphate aldolase (*Drosophila melanogaster*), 126, 199
 β -globin chain digest, determination by FAB mass spectrometry (human), 130, 84
major acute-phase α_1 -protein

Subject Index

- (rat), 126, 719
- NADPH-cytochrome P-450 reductase C-terminal fragment (porcine hepatic microsomes), 127, 94
- neuromedins
- B-32 and B-30 (porcine brain, spinal cord), 130, 685
- U-8 and U-25 (porcine spinal cord), 130, 1078
- neuropeptide K (porcine brain), 128, 947
- nonspecific lipid transfer protein (bovine liver), 127, 333
- N-terminal
- antileukoprotease isolated from bronchial secretion (human), 128, 285
- bovine erythropoietin-like peptide, homology with Epstein-Barr virus protein and bovine low-density lipoprotein receptor sequences, 133, 404
- bovine leukemia virus post-envelope gene-encoded protein (FLK cells), 131, 347
- bovine serum erythropoietin and human insulin-like growth factor II, homology, 126, 653
- chromogranin A and parathyroid secretory protein, homology (bovine, human), 127, 380
- interleukin 2 (human peripheral blood leukocytes), 127, 182
- phenobarbital-induced cytochrome P-450 (rat liver), 129, 926
- procarboxypeptidases A and B, homology (porcine pancreas), 130, 97
- ribosome-inactivating protein (*Saponaia officinalis* seeds), 129, 934
- somatomedin-binding protein from hepatoma cell line and amniotic fluid, comparison (human), 128, 1071
- PDC-109 protein, comparison with bovine fibronectin gelatin-binding domain and human tissue-type plasminogen activator kringle domain (bovine seminal plasma), 130, 1010
- phosphoenolpyruvate carboxylases from *Anacystis nidulans* and *Escherichia coli*, comparison: identification of conserved and variable regions, 133, 436
- pituitary polypeptide GAWK (human), 126, 602
- trypsin inhibitors (cucumber, summer squash, squash, zucchini seeds), 126, 646
- urinary protein related to variable domain of λ -light chain from multiple myeloma patient with associated Fanconi syndrome, 126, 848
- vasoactive intestinal peptide from guinea pig, comparison with other mammals, 128, 1093
- Amino alcohols
- peptide-derived, design as transition-state analog inhibitors of angiotensin-converting enzyme, 126, 419
- 4-Aminobenzoic acid
- conversion to 4-hydroxyaniline, catalyzing enzyme, identification and characterization (*Agaricus bisporus*), 130, 633
- Aminobutyrate aminotransferase
- catalytic domain, binding of pyridoxal-5-phosphate analogs (porcine brain), 127, 346
- γ -Aminobutyric acid
- dependent chloride uptake by brain vesicles, inhibition by neurotoxic insecticides (mouse), 133, 37
- neuronal transport, effect of intestinal antisecretory factor (rabbit Deiter's cells), 130, 1032
- release in depolarized synaptosomes, mediatory role of polyamines (rat cerebral cortex), 133, 563
- 1-Aminocyclohexanecarboxylic acid
- incorporated into formyl-methionyl-leucyl-phenylalanine at position 2, biological activity, comparison with parent compound, 128, 339
- N^4 -Aminodeoxycytidine triphosphate
- induction of *in vitro* mutation in phage ϕ X174 *am3* (*Escherichia coli*), 131, 1277
- N-(6-Aminoethyl)-5-chloro-1-naphthalene-sulfonamide
- effect on phosphate transport inhibition by parathyroid hormone and 8-bromo-cyclic AMP (rabbit renal brush border membranes), 128, 278
- restorative effect on defective autologous lymphocyte cytotoxicity (ovarian cancer patients), 132, 620
- N-(6-Aminoethyl)-1-naphthalenesulfonamide
- restorative effect on defective autologous lymphocyte cytotoxicity (ovarian cancer patients), 132, 620
- δ -Aminolevulinate synthase, see 5-Aminolevulinate synthase
- 5-Aminolevulinate synthase
- effect of metalloporphyrins and heme liposomes (rat liver), 130, 306
- regulation by manganese (rat brain), 128, 18
- 4-Aminomethyl-1-[2,3-(di-*n*-decyloxy)-*n*-propyl]-4-phenylpiperidine dihydrochloride
- protein kinase C inhibition and pro-

Subject Index

- tein phosphorylation (human leukemic cells), 127, 590
- 2-Amino-3-methylimidazo[4,5-f]quinoline
-induced hepatocellular carcinoma,
identification of activated *c-raf*
gene (rat), 132, 186
- 1-Aminooxy-3-aminopropane
inhibition of adenosylmethionine de-
carboxylase, ornithine decarboxyl-
ase, and spermidine synthase (bo-
vine brain, murine kidney, rat
liver), 130, 596
- Amiodarone
effect on synaptic membrane fluidity
and Na^+ , K^+ -ATPase activity (rat
brain), 129, 148
- Ammonium
fatty acid oxidation inhibition in mi-
tochondria, role in Reye's syn-
drome and urea cycle defects (rat
liver), 127, 565
- Amniotic fluid
stimulation of acyl-CoA cholesterol
acyl transferase activity in fetal
aorta (rabbit), 131, 707
- AMP (adenosine 5'-monophosphate)
activation of cytosolic [hydroxymeth-
ylglutaryl-CoA reductase (NADPH)]
kinase (rat liver), 132, 497
- AMP deaminase
inhibition by P_i , role in fructose-
1,6-bisphosphatase regulation
(yeast), 128, 1020
- Amylase
secretagogue-induced secretion, mecha-
nism (murine pancreatic acini),
131, 284
secretion from isolated pancreatic ac-
inar cells
enteric and pancreatic hormone ef-
fects (rat), 129, 63
secretagogue effects (rat), 128, 872
- α -Amylase
active center, tryptophan residue
identification (*Bacillus amylolique-
faciens*), 126, 966
conserved amino acid sequence domains
(barley, *Bacillus* sp., mammals),
128, 470
secretion vector, for production of
Escherichia coli β -lactamase
(*Bacillus subtilis*), 128, 601
- Amyloid fibrils
formation *in vitro* from β_2 -micro-
globulin, 131, 1063
protein associated with chronic hemo-
dialysis, identification as β_2 -
microglobulin (human), 129, 701
- Amyloidosis
-associated Bence Jones protein NIG-
77, variable region, amino acid
sequence (human), 126, 1228
- Amyloplasts
DNA, sequence homology with chloro-
plast genes (sycamore cells),
133, 140
- Androgen receptors
photoaffinity labeling with 17 β -hy-
droxy-17 α -[^3H]methyl-4,9,11-
estratrien-3-one (bovine uterus,
rat prostate cytosol), 126, 163
- Androgens
-regulated genes, upstream sequence
homology (rat prostate, seminal
vesicles), 126, 948
- Androstadienol
synthesis from pregnenolone by homo-
geneous C_{21} side-chain-cleaving
cytochrome P_{-450} , effect of cyto-
chrome b_5 (porcine testis), 132,
708
- Androstadienone
synthesis from progesterone by homo-
geneous C_{21} side-chain-cleaving
cytochrome P_{-450} , effect of cyto-
chrome b_5 (porcine testis), 132,
708
- Androstenedione
6 α - and 6 β -hydroperoxy derivatives,
irreversible inactivation of pla-
cental aromatase (human), 128, 613
- Anesthesia
effect on
atrial natriuretic factor concentra-
tions in plasma (rat), 129, 651
fluctuations of serum immunoreactive
basic somatomedin (male rat), 128,
424
- Angiogenesis inhibitors
purification and characterization (bo-
vine vitreous humor), 133, 911
- Angioplasty
laser, for atherosclerotic plaque re-
moval, relevance of Nd-YAG laser
differential effects on collagen
and elastin synthesis *in vitro*
(chicken embryo aortae), 131, 462
- Angiotensin I
identification in renin granules:
intracellular formation mechanism
(rat kidney), 131, 628
- Angiotensin II
enhancement of isoproterenol- and va-
soactive intestinal peptide-in-
duced cAMP accumulation in smooth
muscle cells (rat aorta), 131, 30
identification in renin granules:
intracellular formation mechanism
(rat kidney), 131, 628
-induced prostaglandin synthesis, in-
hibition by calcium antagonists
and calmodulin inhibitors (isolat-

Subject Index

- ed canine renal arteries), 126, 464
- stimulation of atriopeptin release, correlation with right atrial pressure (rat), 133, 937
- Angiotensin-converting enzyme, see Dipeptidyl carboxypeptidase I
- Angiotensinogen
- mRNAs, responses to induction of acute inflammation (rat brain, liver), 129, 826
- 3-(1-Anilinoethylidene)-5-benzylpyrrolidine-2,4-dione
- inhibition of tubulin alkylation (bovine brain), 129, 200
- Anion flux
- effect on mitochondrial oxidative phosphorylation (rat liver), 127, 473
- Antibodies, see also Antiserum
- actin, inhibition of Epstein-Barr virus-transformed human B-cell proliferation, augmentation by cAMP (rabbit), 132, 837
 - auto-
 - 5'-m⁷GMP and m⁷G(5')ppp(5')N, detection in serum (human), 128, 1014
 - VIP, detection in plasma (human), 130, 479
 - Clq, precipitin ring-enhancing protein, isolation and purification from serum of rheumatoid arthritis patients, 128, 1288
 - cytochrome P-450 HPLa, analysis of cytochrome P-450 concentrations in various tissues (human fetus), 131, 1154
 - erythropoietin peptide, surface epitope identification (human), 129, 707
 - fibrinogen, conjugates with plasminogen activator, preparation and characterization (human), 130, 91
 - N-glycolyl neuraminic acid-containing GM₂ ganglioside, preparation and specificity (chicken), 129, 334
 - monoclonal, see Monoclonal antibodies
 - to murine myeloma helix-destabilizing protein 1, preparation and protein identification by Western blot probing (rabbit), 131, 362
 - to nonenzymatically glycosylated albumin, identification in diabetic and non-diabetic subjects (human serum), 131, 720
 - nuclear, RNA nucleo-cytoplasmic translocation inhibition (FL cells), 127, 864
 - polyclonal
 - anti-idiotypic, to opioid receptors, generation by monoclonal β -endorphin antibody 3-E7 (rabbit), 132, 658
 - caldesmon detection in muscle and non-muscle tissues (chicken gizzard), 127, 533
 - to interferon-induced human phosphoprotein P₁, production and partial characterization, 133, 168
 - site-directed, identification of plasma inactive renin as prorenin (human), 126, 641
 - skin proteodermatan sulfate core protein, immunoreactive cartilage proteoglycans, isolation and characterization (bovine), 129, 95
 - to synthetic peptides
 - detection of retrovirus transmembrane protein conserved region (baboon), 126, 672
 - recognition of inactive renin as prorenin (human), 132, 1038
 - to transforming growth factor- α synthetic fragment, preparation (rat), 129, 226
- Antibody response
- to muramyl dipeptide derivative coupled to malaria peptide-tetanus toxoid conjugate (mouse), 131, 70
 - to T cell-dependent antigen, suppression in vitro by 1,25- and 1,24-dihydroxyvitamin D₃ (mouse), 127, 753
- Antichymotrypsin, see Chymotrypsin inhibitors
- Antidiuretic hormone, see Vasopressin
- Antiestrogens, see also specific anti-estrogens
- binding sites, identification as histamine or histamine-like receptor (rat hepatic microsomes), 126, 905
- Antigenicity
- glycoprotein carbohydrate chains, determination, 132, 474
- Antigens
- binding by monoclonal antibodies, effect of SDS-polyacrylamide gel electrophoresis, 133, 1020
 - blood group Le^a and onco-developmental SSEA-1, binding specificity: recognition by monoclonal antibodies to milk-fat globule membranes (human), 131, 543
 - circulating human tumor-associated, with epitope shared by cytokeratins, monoclonal antibody definition (rat), 128, 34
 - class I HLA, phosphorylation enhancement by phorbol-12-myristate-13-acetate (human leukemic cells, lymphocytes, platelets), 126, 206
 - coupled pyrene, electrochemical luminescence, application in homogeneous immunoassay, 128, 987

Subject Index

- determinants, see Epitopes
- epidermolysis bullosa acquisita, synthesis by keratinocytes cultured in serum-free medium (human), 130, 1267
- I-A^k, turnover and fate on macrophage cell surface (mouse), 131, 216
- Lewis glycolipid, biosynthesis in cell-free extracts of intestinal tumor cells cultured in serum-free medium (human), 131, 736
- nonhistone, HeLa interphase chromatin, degree of conservation in metaphase and chromatin from avian and murine cells, 130, 275
- S-, coding by [poly A⁺]mRNA (bovine retina), 132, 934
- sites in myelin basic protein, conformation (rat), 131, 1269
- stimulation of arachidonic acid release
- and histamine release and lipoxigenase activity (cloned murine MC9 mast cells), 126, 517
 - in peritoneal mast cells (rat), 127, 726
- surface, hepatitis B virus
- monoclonal antibodies, secretion by human lymphocyte-murine myeloma hybridomas, 129, 26
 - production in yeast and characterization, 131, 160
- T cell-dependent, antibody response, suppression by 1,25- and 1,24-dihydroxyvitamin D₃ in vitro (mouse), 127, 753
- Antileukoprotease, see Leukoprotease inhibitors
- Antipain
- treated proliferating C3H 10T1/2 cells, reduced c-myc gene expression, 133, 830
- Antisecretory factor
- intestinal, effect on neuronal GABA transport (rabbit Deiter's cells), 130, 1032
- Antiserum, see also Antibodies
- atrial natriuretic factor, effect on urinary sodium excretion and plasma renin activity (rat), 132, 954
 - major intrinsic polypeptide, inhibition of peptide channel-forming activity after reconstitution into vesicles (bovine, human lens membranes), 128, 993
 - polyclonal IgG, inhibition of insulin and epidermal growth factor receptor autophosphorylation (rat), 132, 991
 - region-specific, identification and characterization of progastrin-like immunoreactivity (porcine antrum), 126, 72
 - rhodopsin, altered accessibility in retinal dystrophic mouse, 132, 804
 - to synthetic peptides of rhodopsin: as probes of disc membrane changes (retinal dystrophic dogs), 132, 438
- Antithrombin III, see Thrombin inhibitors
- α_1 -Antitrypsin, see α_1 -Trypsin inhibitors
- Aphidicolin
- inhibition of scheduled DNA synthesis and repair (murine neuronal cells), 132, 929
- Apolipoproteins
- A-I variant [Lys107→Q], fluorescence and spectral properties, interaction with high-density lipoproteins (human), 133, 856
 - A-IV
 - isoform heterogeneity and lipid affinity (human lymph, plasma), 129, 576
 - synthesis in fasted and fat-fed rats, comparison, 126, 373
- B-100
- gene localization on chromosome 2 (human), 131, 1003
 - highly polymorphic gene, mapping to chromosome 2 short arm (human), 133, 248
- E
- gene, variant allele, isolation and characterization (human), 130, 1261
 - mediated uptake and degradation of very-low-density lipoproteins by monocyte-derived macrophages (human), 126, 578
 - synthesis and secretion by monocytic leukemia cell line THP-1 (human), 126, 526
 - low-density, L-[4,5-³H]leucine incorporation, stimulation by oleic acid (isolated perfused rat liver), 132, 28
 - mRNA, in vitro translation (rat pulmonary surfactant), 127, 106
- Apomorphine
- affinity for dopamine receptors, reduction by guanine nucleotides and cholera and pertussis toxins (bovine retinal membranes), 133, 222
- Apple
- ingested, fecal volatiles, olfactory, gas chromatographic, and mass spectral analyses (human), 131, 339
- Arachidonic acid
- CoA-independent transfer from 1,2-di-

Subject Index

- acyl-*sn*-glycero-3-phosphocholine to 1-*O*-alkyl-*sn*-glycero-3-phosphocholine by macrophage microsomes (rabbit), 127, 384
- cyclooxygenase metabolite, identification (human HL-60 cells), 126, 143
- cytochrome P-450-dependent metabolism (bovine corneal epithelium), 132, 343
- endogenous and exogenous, metabolism in platelets, differential effects of external calcium (human), 130, 1109
- incorporation into phosphatidylinositol and phosphatidylcholine, stimulation by platelet-activating factor (guinea pig peritoneal neutrophils), 127, 1045
- inhibition of endotoxin-induced thromboplastin (human monocytes), 132, 67
- lipoxygenase metabolites, role in irreversible platelet aggregation (human), 131, 50
- metabolites
- interaction with protein kinase C, effect on neutrophil function (human), 127, 916
 - regulation of interleukin-1 production by peritoneal macrophages (mouse), 128, 892
- phorbol ester-stimulated release from mast cells, inhibition by hydrocortisone (rat peritoneum), 130, 640
- release
- and metabolism by cloned MC9 mast cells, antigenic stimulation (mouse), 126, 517
 - in neutrophils, ionophore A23187-stimulated, enhancement by phorbol 12-myristate 13-acetate (rabbit), 128, 594
 - in peritoneal mast cells, stimulation by antigen, ionophore A23187, and compound 48/80 (rat), 127, 726
- source for oxidative metabolism, use of lyso(bis)phosphatidic acid (rabbit alveolar macrophages), 130, 800
- Arachidonoyl transacylase
- microsomal, acyl group transfer between phospholipids (canine heart), 129, 381
- Arginine
- concomitant generation with somatostatin-14 and somatostatin-28 (1-12) by somatostatin-28 convertase (rat brain), 128, 1051
 - effect on glucose-enhanced insulin pool (rat pancreatic islets), 133, 696
 - lysine prohormone sequences, -cleaving protease, partial purification from chromaffin granules (bovine adrenal medulla), 128, 884
 - residue at glutamine synthetase active site, chemical modification, effect on enzymatic activity (*Escherichia coli*), 126, 412
- Arginine aminopeptidase
- isolation and characterization (*Dicystostelium discoideum*), 127, 962
- Arginine vasopressin
- identification in platypus (*Ornithorhynchus anatinus*), 127, 277
 - induction of inositol triphosphate production and calcium efflux in smooth muscle cells (rat), 131, 469
 - secretion from posterior pituitary, inhibition by atrial natriuretic factor (rat), 132, 1088
- Arginyl-bradykinin
- identification in high-molecular-weight kininogen (rat), 127, 289
- Aromatase
- irreversible inactivation by 6 α - and 6 β -hydroperoxyandrostenedione (human placenta), 128, 613
- Aromatic-amino-acid aminotransferase
- amino acid sequence and gene nucleotide sequence (*Escherichia coli*), 133, 134
- Aromatic azaheterocycle N-methyltransferase
- nicotine enantiomer substrate-inhibitor properties (guinea pig lung), 128, 312
- Arthritis
- adjuvant, association with increase in plasma total kininogen levels (rat), 129, 280
- Aryl hydrocarbon hydroxylase, see Unspecific monooxygenase
- Arylsulfatase
- inhibitory aromatic sulfonate, reduction of natural killer activity (human), 126, 540
- Arylsulfatase C, see Steryl-sulfatase
- Ascochlorin
- derivative AS-6, effect on $^{45}\text{Ca}^{2+}$ binding on adipocyte plasma membrane (db/db mice), 127, 247
- Ascorbate
- role in hydroperoxide removal (*Nostoc muscorum*, *Synechococcus*), 132, 533
- L-Ascorbate oxidase
- copper removal by anaerobic cyanide treatment (zucchini), 131, 1251
 - reduced form, oxidation characteristics, spectroscopic analyses (cucumber), 131, 647

Subject Index

Ascorbic acid

- and uric acid, vitamin E, and linoleate and oleate esters, ozonation rates, comparison, 133, 773
- and vitamin A, synergistic stimulation of plasminogen activator (bovine endothelial cells), 130, 182

Asialoglycoprotein receptors

- phosphorylation, analysis (rat hepatocytes), 126, 1054

Aspartame

- metabolite, angiotensin-converting enzyme inhibition (rabbit lung), 128, 960

Aspartate aminotransferase

- site-directed mutagenesis (*Escherichia coli*), 132, 915

L-Aspartyl-L-phenylalanine

- angiotensin-converting enzyme inhibition (rabbit lung), 128, 960

Aspirin

- acetylation of lens crystallins: implications for prevention of cataract formation (bovine eye), 128, 1125

Atherosclerotic plaques

- laser angioplastic removal, relevance of Nd-YAG laser differential effects on collagen and elastin synthesis *in vitro* (chicken embryo aortae), 131, 462

ATP (adenosine 5'-triphosphate)

- Ca²⁺- or phorbol ester-dependent effect on cAMP cell-surface subpopulation in membrane: protein kinase C role (*Dictyostelium discoideum*), 128, 185

- chromium complex, glutamine synthetase affinity labeling (*Escherichia coli*), 130, 418

- dependent H⁺ transport in microsomes, stimulation by platelet-activating factor (zucchini hypocotyls), 133, 1160

- depletion, effect on collagen-induced serotonin secretion (human platelets), 131, 620

- external, regulation of canalicular bile formation (isolated perfused rat liver), 131, 139

induction of

- cytosolic Ca²⁺ and K⁺ concentration changes (murine L cells), 132, 290
- protein conformational changes (sarcoplasmic reticulum membranes), 128, 1159

- synthesis after fast-twitch muscle contraction, role of leucine uptake (rat), 128, 1254

- turnover in quiescent 3T3 cells, stimulation by epidermal growth factor and/or insulin, relationship to

- extracellular pH and Na⁺-H⁺ exchange system, 133, 265

ATPase

Ca²⁺-

- activation by phospholipid N-methylation (rat cardiac sarcoplasmic reticulum), 130, 472

- homology of ATP-binding sites: fluorescein isothiocyanate-labeled peptides, amino acid sequence, comparison (canine, ovine, rabbit, rat tissues), 130, 732

- inhibition by 2-mercaptoethanol (rabbit sarcoplasmic reticulum), 126, 1196

- membrane-bound, limited proteolysis: characterization of calmodulin-binding fragments (human erythrocytes), 126, 214

- sarcoplasmic reticulum, ruthenium red and caffeine effects (rabbit skeletal muscle), 127, 836

Ca²⁺, Mg²⁺-

- activation by calcium-independent bacterial protein (human erythrocytes), 132, 591

- fluorescein-labeled, in reconstituted sarcoplasmic reticulum vesicles, fluorescence dependence on lipid/protein ratio (rabbit), 133, 176

DNA-dependent, isolation and characterization (calf thymus), 131, 355

- ectoCa²⁺-, stimulation by epidermal growth factor (human hepatoma cells), 126, 8

- F1 β -subunit, membrane binding properties (*Escherichia coli*), 128, 155

H⁺-

- decrease during late exponential growth (*Saccharomyces cerevisiae*), 133, 917

- mitochondrial activity, enhancement by diamide, 132, 985

- plasmalemma-associated, stimulation by fusicoccin *in vitro* (radish seedlings), 133, 280

H⁺, K⁺-

- acid-sensitive inhibition by 2-[(2-pyridylmethyl)sulfinyl]benzimidazoles in gastric parietal cells, mechanism, 128, 477

- enriched microsomal membranes, preparation of heavy and light forms (rat stomach), 131, 905

- irreversible inactivation *in vitro* by omeprazole (rat stomach), 126, 78

- mediated hydrolysis of nucleotide triphosphates, substrate concentration effects on phosphate-oxy-

Subject Index

- gen exchange, 131, 763
 mitochondrial F_1 -
 $-F_0$ complex, reconstitution, role
 of residual phospholipids and
 copurified proteins (bovine
 heart), 133, 807
 photolabeling with azido derivatives
 of oligomycin sensitivity-confer-
 ring protein (bovine heart), 129,
 819
 β -subunit precursor, uptake and
 processing (rat heart, kidney,
 liver, spleen), 129, 240
 Na^+, K^+ -
 fluorescein-labeled peptides, amino
 acid sequence (brine shrimp, elec-
 tric ray), 130, 221
 homology of ATP-binding sites: flu-
 orescein isothiocyanate-labeled
 peptides, amino acid sequence,
 comparison (canine, ovine, rab-
 bit, rat tissues), 130, 732
 inhibition by amiodarone (rat brain
 synaptic membranes), 129, 148
 isozymes α and $\alpha(+)$ catalytic sub-
 units, production from different
 genes (rat brain axolemma,
 kidney), 132, 764
 $-mediated$ $^{86}Rb^+$ uptake in bone
 marrow-derived macrophages, stim-
 ulation by colony stimulating
 factor (mouse), 132, 430
 modification by glucose-6-phosphate:
 model for diabetes-associated
 changes in human renal medulla
 (bovine kidney), 131, 1206
 phosphatidylinositol inhibitory ef-
 fect (rat cortical synaptic mem-
 branes), 126, 893
 right-side-out pumping liposomes,
 preparation for receptor function
 analyses, 129, 102
 sodium occlusion with oligomycin
 (*Squalus acanthias*), 127, 857
 ATP citrate (pro-3S)-lyase
 testicular activity, dexamethasone ef-
 fects *in vitro* (adrenalectomized
 prepubertal, adult rats), 131, 726
 ATP synthase, *see* ATPase
 Atrial natriuretic factor
 antisera, effect on urinary sodium ex-
 cretion and plasma renin activity
 (rat), 132, 954
 atrial, cerebral, and plasma levels,
 changes during hypertension pro-
 gression (rat), 133, 759
 binding, internalization, and degrada-
 tion in cultured vascular smooth
 muscle cells (rat aorta), 132, 976
 chain length modifications, effect on
 vascular contraction (rabbit
 aorta), 126, 178
 circulating forms, isolation and char-
 acterization (rat), 130, 981
 conformational properties, two-dimen-
 sional 1H NMR (rat), 131, 517
 effects on
 cAMP levels in single nephron seg-
 ments and glomerulus (rat), 127,
 943
 cGMP and cAMP production in renal
 papillary collecting tubules *in*
 vitro (rat), 130, 1147
 growth-stimulating activity in adrenal
 zona glomerulosa cells (bovine),
132, 261
 immunoreactive
 detection in human plasma, 128, 1350
 released from cultured atrial myo-
 cytes, molecular forms (newborn
 rat), 132, 1008
 inhibition of progesterone secretion
 and regulation of cyclic nucleo-
 tides (murine Leydig tumor cells),
133, 800
 linear fragment, synthesis and biolog-
 ical activity, 131, 1056
 $-mediated$ adenylate cyclase inhibi-
 tion, attenuation by ninhibin:
 role of inhibitory guanine nucleo-
 tide regulatory protein (rat),
 129, 171
 molecular forms
 analysis in hypothalamus and atrium
 (rat), 129, 671
 detection in mammalian heart and
 plasma, 129, 248
 plasma levels
 anesthesia effects (rat), 129, 651
 radioimmunoassay (human), 130, 553
 radioreceptor assay (human), 133,
 1201
 precursors, amino acid sequences, com-
 parison (dog, rabbit), 132, 892
 purification and characterization
 (rat cardiocytes), 130, 1217
 renal gluconeogenesis stimulation
 (rat), 129, 833
 secretion by isolated perfused heart,
 ionophore A23187 and/or phorbol
 ester effects (rat), 133, 581
 sodium ion-stimulated secretion (rat),
132, 375
 $-specific$ binding sites on cultured
 aortic smooth muscle and endothe-
 lial cells, comparison (bovine),
127, 433
 storage as high-molecular-weight pre-
 cursor before secretion of active
 form (rat heart), 129, 82
 synthesis and release, glucocorticoid
 regulation (rat atria), 131, 806
 synthetic
 effect on

Subject Index

- cGMP formation and receptor binding activities in rat aortic smooth muscle cells (human, rat), 128, 538
- rubidium uptake by erythrocytes (human), 130, 1066
- inhibition of immunoreactive arginine vasopressin secretion (rat posterior pituitary), 132, 1088
- α -Atrial natriuretic factor
- binding to renal cortical basolateral and brush border membranes (rat), 129, 773
- identification in kidney (rat), 128, 1281
- inhibition of aldosterone production in rat adrenal, association with cGMP production increase (human), 127, 1052
- polypeptides, identification and distribution in brain (rat), 127, 413
- release from heart and circulation in plasma (human), 129, 439
- Atrial natriuretic factor receptors
- affinity, correlation with aldosterone production activity (bovine zona glomerulosa cells), 132, 360
- binding activities and cyclic GMP responses (LLC-PK₁ cells), 132, 253
- detection in cultured mesenchymal non-myocardial cells: role in intracellular cGMP formation and prostaglandin I₂ synthesis (rat heart), 131, 222
- partial characterization and solubilization (rat glomeruli), 132, 666
- photoaffinity labeling (bovine, rat adrenal cortical membranes), 130, 994
- solubilization and size determination (bovine adrenal cortex), 130, 574
- synthetic peptide binding activities and down-regulation (rat aortic smooth muscle cells), 128, 538
- Atrial pressure
- right, correlation with atriopeptin release by vasoconstrictors or water immersion (rat), 133, 937
- Atriopeptin
- related peptides, natriuretic and renal vasodilator activities, differential structure-function relationships (dog), 128, 325
- release stimulation by vasoconstrictors or water immersion, correlation with right atrial pressure (rat), 133, 937
- Autophosphorylation
- calmodulin-dependent glycogen synthase kinase and protein kinase II (rabbit skeletal muscle, rat brain), 129, 213
- elongation factor 1, cAMP and cGMP effects (wheat embryo), 128, 53
- insulin receptors
- and epidermal growth factor receptors, inhibition by human polyclonal IgG (rat), 132, 991
- in nonketonic diabetes mellitus (rat liver), 129, 163
- regulation by thyroid hormones (rat adipocytes), 126, 1061
- phosphorylase kinase, stimulatory effects of acidic phospholipids (rabbit muscle), 131, 712
- Autoxidation
- free hemoglobin A, mechanism (human blood), 132, 742
- Avian myeloblastosis virus
- RNA-dependent DNA polymerase, inhibition by 5-(p-chlorobenzyl)-6-aminouracil, 126, 109
- Azaleucine
- resistant mutant with valine resistance, control of isoleucine-valine biosynthesis (*Escherichia coli*), 131, 994
- Azido phenacyclidine
- ³H-labeled, analysis of phenacyclidine receptor regional heterogeneity (rat brain), 131, 1117
- Azidosulpride
- ³H-labeled, synthesis and photoaffinity labeling of D-2 dopamine receptors (rat anterior pituitary, olfactory bulb, striatum), 130, 1086

B

Bacillomycins

- D- and L-, induction of ion-conducting pores in planar bilayers (*Bacillus subtilis*), 129, 965

Bacillus

- B. megaterium*, coat-lacking spores, germinability, role of calcium binding, 128, 728
- B. subtilis*
- α -amylase secretion vector, for production of *Escherichia coli* β -lactamase, 128, 601
- expression of cloned *Escherichia coli* D-xylose isomerase gene, 126, 1154
- identification of somatostatin-like material, 127, 713
- B. thuringiensis* subsp. *israelensis*
- cytolytic and mosquitocidal proteins, separation, 126, 961
- diversity of protein inclusion bod-

Subject Index

- ies and identification of mosquito-
toidal protein, 126, 953
- Bacillus thermoproteolyticus neutral
proteinase
and angiotensin-converting enzyme and
enkephalinase, comparison, 130,
372
- Bacitracin
effect on generation of insulin inter-
mediate products, HPLC (human
fibroblasts), 128, 163
- Bacteriophages
fd, single-stranded circular DNA syn-
thesis after microinjection into
Xenopus laevis eggs, 132, 871
filamentous, coat protein one- and
two-dimensional $^{15}\text{N}/^1\text{H}$ NMR in
solution, 127, 540
 λ , DNA transport into host cells,
role of ptsM/pel-encoded protein
(Escherichia coli), 130, 1093
MB78 and P22, hybrid formation (Sal-
monella typhimurium), 132, 42
 $\phi\text{X174 am3}$, mutation induction by
 N^4 -aminodeoxycytidine triphos-
phate, 131, 1277
T4, adsorption, membrane transient de-
polarization, role of calcium,
analysis with quin 2 (Escherichia
coli), 131, 856
- Bay k 8644
effect on
calcitonin secretion by medullary
thyroid carcinoma cells (rat),
130, 454
slow Ca^{2+} channels in skeletal
muscle: role of slow Ca^{2+} channel
in excitation contraction coupling
(Rana esculenta), 129, 904
-induced contraction of isolated por-
cine coronary artery, potentiation
by nitrendipine: identification of
functionally distinct dihydropyri-
dine receptor subtypes, 128, 1295
- BE 2254, see 2-[β -(4-Hydroxyphenyl)-
ethylaminomethyl]-tetralone
- Benzoate-4-hydroxylase
membrane-associated, characterization
(Rhodotorula graminis), 129, 485
- Benzo[a]pyrene
metabolism
catalysis by mitochondrial monooxy-
genase system (rat liver), 131,
935
hormonal regulation (human adreno-
cortical cell culture), 131, 167
microsomal, cytochrome b₅ role (ham-
ster liver), 128, 621
- Benzo[a]pyrene epoxides
differential interaction with gluta-
thione S-transferase isozymes
(rat, human lung), 133, 863
- Benzo[a]pyrene hydroxylase
cytochrome P-450-dependent, inhibition
by acetylenic and olefinic pyrenes
(rat hepatic microsomes), 129, 591
regulation by manganese (rat brain),
128, 18
- Benzoylarginine methyl ester
effect on insulin function (rat adipo-
cytes, hepatic particulate frac-
tions), 126, 489
- (+)-Bepridil
 ^3H -labeled, receptor binding, regu-
lating calcium coordination site,
characterization (rabbit skeletal
muscle), 132, 49
- BHK cells
simian virus 40-transformed, expres-
sion of c-sis gene and secretion
of platelet-derived growth factor-
like protein, 130, 753
- Bile acids
expanding pool, correlation with cho-
lesterol 7 α -hydroxylase (guinea
pig liver, gastrointestinal
tract), 132, 702
- Bile duct
ligation, effect on glucagon regula-
tion of gluconeogenesis (isolated
rat hepatocytes), 126, 1146
- Bile formation
canalicular, regulation by α -adren-
ergic action and external ATP
(isolated perfused rat liver),
131, 139
- Bilirubin UDP-glucuronyltransferase
hepatic microsomal, bile duct liga-
tion-induced alterations (rat),
130, 163
- Biliverdin reductase
regulation by manganese (rat brain),
128, 18
- Blopterin
synthesis and interferon- γ -control-
led release in peripheral blood
mononuclear cells during activa-
tion (human), 132, 404
- 2,3-Bisphosphoglycerate synthase-phos-
phatase
and phosphoglycerate mutase, in vitro
hybridization (porcine erythro-
cytes, skeletal muscle), 129, 658
- Bleomycin
effect on procollagen and fibronectin
mRNA levels after acute lung inju-
ry (rat), 131, 836
-vanadium(IV) complex with H_2O_2 , cleav-
age of pBR322 DNA, 129, 368
- Bleomycin A₂
-ruthenium(II), photo-induced nicking
of DNA in presence of air, 133,
1145

Subject Index

Blood pressure

increase by pressor factor in atrial extracts (rabbit, rat), 129, 472

BN 52021

inhibition of platelet-activating factor transmembrane movement and metabolism (rabbit platelets), 132, 460

Boc-[S-(3-nitro-2-pyridinesulfonyl)]-cysteine

N-hydroxysuccinimide ester, use as heterobifunctional crosslinking agent, 132, 1046

Bone marrow

mononuclear cells, macromolecule introduction with erythrocyte ghost-mediated system (human), 128, 193
purging of neuroblastoma cells, role of 6-hydroxydopamine-derived reactive oxygen compounds (human), 130, 168

Bones

-inductive proteins, comparison (rat, porcine bone matrix), 131, 37
metabolism, 23(S), 25(R)-1 α , 25-dihydroxyvitamin D₃-26, 23-lactone effects (MC3T3-E1 cells), 127, 693
resorption *in vitro*, collagenase inhibitor effects (mouse), 133, 483

Bovine leukemia virus

post-envelope gene-encoded protein, purification and N-terminal amino acid sequence: evidence for expression in natural infection (FLK cells), 131, 347
proviral DNA, methylation and expression, 129, 126

Bradykinin

inactivation by cathepsin G and mast cell chymase (human), 127, 443
liberation from high-molecular-weight kininogen by glandular kallikreins (rat), 127, 289
modulation of cytosolic Ca²⁺ concentration in cultured epithelial cells (MDCK cells), 130, 807

Brain

Ca²⁺-binding proteins, autoradiographic identification (bovine), 128, 1138
choroid plexus, prealbumin and transferrin mRNA levels (rat), 127, 890
distribution of cholecystokinin amino-terminal fragment (rat), 127, 720
high-affinity glutamate-binding site on synaptic membranes, molecular size determination (rat), 126, 227
identification and distribution of α -atrial natriuretic polypeptides (rat), 127, 413
microvessels, lipoxigenase detection (rat cerebral cortex), 127, 283

subcellular and regional distribution of γ -endorphin-generating endopeptidase (rat), 127, 44

transition metals, role in substantia nigra-specific vulnerability to 1-methyl-4-phenyl-1,2,3,6-tetrahydropyridine, 128, 25

BRL 26830

effect on

insulin sensitivity of soleus muscle (obese Zucker rat), 128, 928

whole-body glucose turnover (genetically obese mice), 130, 241

-treated obese mice: increased insulin binding and glucose transport in white adipocytes, 133, 457

Bromine ion

-dependent peroxidase-catalyzed oxidation of N-hydroxy-N-2-fluorenylacetamide, mechanism (bovine milk, rat uterus), 131, 174

8-Bromo-cyclic AMP

phosphate transport inhibition in brush border membranes, effects of intracellular Ca antagonists (rabbit kidney), 128, 278

Bromodeoxyuridine

effect on cultured hepatocyte metabolic conversion of exogenous ornithine (rat), 129, 746

Bromoperoxidase

purification and characterization (*Corallina pilulifera*), 131, 428

(E)-5-(2-Bromovinyl)-2'-deoxyuridine

carbocyclic analogs, selective antiherpetic activity, dependence on phosphorylation by viral thymidine kinase, 126, 397

1-(2-Bromovinyl)pyrene

cis- and *trans*-, inhibition of cytochrome P-450-dependent benzo[a]pyrene hydroxylase (rat hepatic microsomes), 129, 591

Bryostatins

activation of polymorphonuclear leukocytes and binding to phorbol ester receptor (human), 131, 1109

mitogenic effects, comparison with 12-O-decanoylphorbol-13-acetate (Swiss 3T3 cells), 132, 939

Buffers

zwitterionic, modification of opioid ligand binding parameters (bovine adrenal medulla, rat nervous system), 129, 328

1-Butaneboronic acid

effect on zinc binding by *Aeromonas* aminopeptidase, 130, 1154

n-Butanol

-treated plasma membranes, pH-dependent conversion of alkaline phosphatase to serum-soluble form

Subject Index

- (rat liver), 126, 89
- Q⁶-n-Butyl-guanine
effect on HeLa S3 cell sensitivity to cytotoxic effects of alkylating agents, 132, 178
- Butylphenyl deoxyguanosine triphosphate
differential effects on DNA polymerases α and δ (rabbit bone marrow), 132, 628
- C
- Cadmium
alteration of queuine-type tRNA, detection by reverse-phase 5 chromatography (*Drosophila melanogaster*), 123, 1027; erratum, 129, 318
growth stimulatory effects on prostatic epithelium, inhibition by selenium (human), 127, 871
and Hg²⁺ and Zn²⁺, phospholipid vesicle fusion induction, comparison, 128, 389
poisoning, resistance, relationship to metallothioneins (*Drosophila melanogaster*), 127, 143
- Caerulein, see Ceruletide
- Caffeine
effect on Ca²⁺-ATPase from sarcoplasmic reticulum (rabbit skeletal muscle), 127, 836
interaction with and inhibition of lactate dehydrogenase (rabbit muscle), 127, 1057
- Calcineurin
activity towards nonprotein components and phosphoenol pyruvate as substrate, 131, 1256
autoradiographic identification (bovine brain), 128, 1138
- Calcitonin
gene-related peptide, stimulation of adenylate cyclase and plasminogen activator production (porcine LLC-PK₁ cells), 131, 537
cAMP formation (rat aortic smooth muscle cells), 132, 88
genes, localization on chromosome 1 (rat), 131, 1175
glycosylation by oligosaccharyltransferase in vitro and in rat cultured thyroidal C cells, 130, 343
inhibition of synaptic membrane protein phosphorylation (rat brain), 130, 669
phorbol-induced secretion, synergism with A23187 and additivity with dibutyryl cAMP (rat C cells), 132, 424
- secretion by medullary thyroid carcinoma cells, Bay k 8644 effects (rat), 130, 454
stimulation of adenylate cyclase and plasminogen activator production (porcine LLC-PK₁ cells), 131, 537
- Calcium
binding to
Bacillus megaterium spore coat, role in germinability, 128, 728
calmodulin, characterization, 130, 426
factor IXa derivative lacking γ -carboxyglutamic acid: high-affinity binding sites, role of β -hydroxyaspartic acid (human), 130, 841
-binding proteins
associated with lymphocyte plasma membrane, relationship to porcine intestinal epithelial proteins and bovine hepatic calelectrins (human), 128, 571
autoradiographic identification (bovine brain), 128, 1138
high-affinity, identification in *Escherichia coli*, 127, 31
coordination site for binding regulation of channel inhibitors, characterization (rabbit skeletal muscle), 132, 49
cytoplasmic, accumulation in phorbol ester- or diacylglycerol-stimulated platelets, detection with aequorin, 133, 98
cytosolic
in cultured epithelial cells, modulation by bradykinin (MDCK cells), 130, 807
effect of carbachol and isoproterenol (rat parotid cells), 131, 1048
free, effect of cartilage-derived growth factors (chicken embryo chondrocytes), 132, 770
increase induced by muscarinic receptor activation, inhibition by phorbol 12-myristate 13-acetate (PC12 cells), 127, 310
dependence of
ATP effect on cAMP cell-surface subpopulation in membrane: protein kinase C role (*Dictyostellium discoideum*), 128, 185
competence induction in membranes, in vivo formation of nonbilayer lipid phase (*Escherichia coli*), 127, 464
ionophore A23187-calmodulin interactions, 130, 200
3-O-methylglucose transport induced by phorbol-12,13-dibutyrate (mu-

Subject Index

rine fibroblasts), 128, 127
 plasma gelsolin actions on actin filaments (bovine serum), 131, 1132
 effect on calmodulin regulation of cholinergic muscarinic receptor in synaptic membrane (rat brain), 133, 1193
 external, differential effects on metabolism of endogenous and exogenous arachidonic acid in platelets (human), 130, 1109
 fluxes in depolarized synaptosomes, mediatory role of polyamines (rat cerebral cortex), 133, 563
 high-affinity binding site, localization on oxidizing side of photosystem II (spinach chloroplasts), 128, 464
 induction of protein conformational changes (sarcoplasmic reticulum membranes), 128, 1159
 interconversion of Ca^{2+} channel-associated dihydropyridine and phenylalkylamine receptor high- and low-affinity states (chick heart), 129, 910
 intracellular
 effects of acetylcholine, thyrotropin, isoproterenol, phorbol ester, dibutyryl cGMP, and cAMP (canine thyroid), 131, 1041
 free
 changes in striated muscle fiber, measurement with Quin 2 (barnacle), 128, 1180
 effects of ATP, complement, and β -lipoprotein (murine L cells), 132, 290
 fluoride ion-induced increase (human neutrophils), 133, 161
 increases, calcium-independent inhibition by carbamylcholine (bovine adrenal chromaffin cells), 133, 147
 transient increase, effect on respiratory burst activation (human neutrophils), 132, 674
 measurement by Fura 2 and Quin 2, comparison (human platelets), 132, 652
 isotopic, binding on adipocyte plasma membrane, effect of ascochlorin derivative AS-6 (db/db mice), 127, 247
 membrane-bound, release from platelets, relationship to membrane molecular organization during aggregation, 126, 1048
 mitochondrial and extramitochondrial levels in *in situ* frozen cerebral cortex, electron probe X-ray

microanalysis (rat), 132, 1071
 mobilization
 and influx, activation by α_1 -adrenergic receptors (hamster DDT₁ cells), 130, 627
 by neutrophils, role of guanine nucleotide regulatory proteins (human), 127, 450
 platelet-activating factor-induced, effects of pertussis toxin and phorbol 12-myristate 13-acetate (rabbit neutrophils), 130, 677
 -Na exchange
 mitochondrial, inhibition by clozapepam and diltiazem (guinea pig heart), 128, 290; *erratum*, 130, 1325
 sarcolemmal, effect of genetically determined cardiomyopathy (hamster), 133, 491
 -phosphatidic acid-induced capacitive and ionic currents in bilayer lipid membrane, 133, 1098
 platelet cytosolic free
 effect of activation by ADP (human), 129, 958
 and platelet aggregation, independent effects of cAMP (human), 127, 339
 and/or protein kinase C activators, stimulation of prolactin secretion in permeable GH₃ pituitary cells *in vitro* (rat), 130, 524
 requirement for full expression of injury in Ca paradox (rat heart), 126, 901
 role in
 cytoplasmic membrane transient depolarization induced by phage adsorption, analysis with Quin 2 (*Escherichia coli*), 131, 856
 inhibition of heat shock response and synthesis of glucose-regulated proteins (rat hepatoma cells), 131, 868
 -ryanodine receptor complex in skeletal and cardiac muscle, identification and characterization (rabbit), 128, 449
 stimulation of protein phosphorylation in isolated nuclei (pea), 128, 1403
 Calcium antagonists
 inhibition of angiotensin II-induced prostaglandin synthesis (isolated canine renal arteries), 126, 464
 Calcium channels
 agonist and antagonist effects of dihydropyridine 202-791 stereoisomers (guinea pig papillary muscle; NG108-15, PC12 cells), 130, 141

Subject Index

- associated dihydropyridine and phenylalkylamine receptors, high- and low-affinity states and interconversion by divalent cations (chick heart), 129, 910
- 1,4-dihydropyridine receptor complex, purification (chick cardiac membranes), 126, 1
- dihydropyridine-sensitive, identification in aortic smooth muscle cells (rat), 127, 71
- slow, role in excitation contraction coupling in skeletal muscle: nifedipine and Bay k 8644 effects (*Rana esculenta*), 129, 904
- voltage-dependent
- number and binding affinity, reserpine effects (rat seminal vesicles), 132, 844
 - role in calcium entry into platelets (human), 127, 161
- Calcium transport
- into cultured smooth muscle cells, characterization (fetal rat aorta), 130, 447
 - from hypocotyl membranes, stimulation by inositol-1,4,5-trisphosphate (zucchini), 130, 1241
 - from intracellular storage sites in cultured vascular smooth muscle cells, induction by K^+ -depolarization (rat aorta), 129, 877
- mitochondrial
- characterization (cabbage, corn, rat liver), 129, 943
 - hexokinase role as modulator (rat brain), 131, 6
 - induction by divicine (rat liver), 129, 18
 - iron(III)-gluconate complex effects *in vitro* (rat liver), 130, 207
- from platelet membranes, inositol triphosphate-induced, kinetics (human), 128, 1274
- into protoplasts, stimulation by phytochrome (maize), 128, 1455
- into sarcoplasmic reticulum, effect of doxorubicin-enhanced hydrogen peroxide and hydroxyl radical formation (rat heart), 130, 739
- from sarcoplasmic reticulum microsomes, inositol-1,4,5-trisphosphate effects (lobster, rabbit skeletal muscle), 128, 1064
- from skinned cultured smooth muscle cells, induction by inositol-1,4,5-trisphosphate (rat), 130, 270
- from smooth muscle cells, induction by vasopressin (rat), 131, 469
- into smooth muscle, inhibition by phosphocitrate (rat aorta), 131, 793
- total, in striated muscle fiber, measurement with Quin 2 (barnacle), 128, 1180
- from transporting microsomes, induction by inositol trisphosphate (pregnant bovine uterine sarcoplasmic reticulum), 130, 1027
- Caldesmon
- detection in muscle and non-muscle tissues with polyclonal antibodies (chicken gizzard), 127, 533
 - phosphorylation by protein kinase C (chicken gizzard smooth muscle), 132, 56
 - regulation of tropomyosin-enhanced actin-myosin interaction (chicken gizzard smooth muscle), 132, 645
- Calelectrins
- like proteins, isolation from smooth muscle plasma membrane (porcine stomach), 132, 526
 - relationship to human lymphocyte plasma membrane-associated Ca^{2+} -binding protein (bovine liver), 128, 571
- Caligulin
- autoradiographic identification (bovine brain), 128, 1138
- Calmidazolium
- effect on plasma membrane redox system *in vitro* (carrot cells), 126, 262
- Calmodulin
- activation of calcium-dependent phosphorylase kinase (porcine uterine smooth muscle), 126, 544; erratum, 128, 486
 - association with hepatic subcellular fractions (rat), 127, 358
 - autoradiographic identification (bovine brain), 128, 1138
 - binding fragments, membrane-bound Ca^{2+} -ATPase, characterization (human erythrocytes), 126, 214
 - binding protein, isolation by affinity chromatography (bovine brain), 128, 1118
 - bioactivity and immunoreactivity, detection in interferon preparations (chicken, human, mouse), 133, 113
 - calcium binding, characterization, 130, 426
 - dependent protein kinase II, synaptosomal, endogenous dephosphorylation (bovine brain), 131, 1212
 - effect on
 - melittin hemolytic activity (rabbit erythrocytes), 130, 22
 - structure of photoreceptor membranes and rhodopsin-containing phospholipid vesicles (bovine eye), 129, 517

Subject Index

- ^{125}I -labeled, binding to rabbit hepatic glycogen phosphorylase and chicken gizzard myosin light chain kinase, quantitation and comparison, 126, 295
- interaction with
- arthropod and mammalian junctional membrane proteins, 126, 825
 - ionophore A23187, calcium dependence, 130, 200
- mitochondrial, localization on inner membrane and matrix space (rat liver), 132, 63
- purification by melittin-Sepharose chromatography (bovine brain, testis), 133, 256
- regulation of cholinergic muscarinic receptor in synaptic membrane: effects of calcium and phosphorylating states (rat brain), 133, 1193
- subcellular distribution, ischemia effects (rabbit heart), 130, 617
- Calmodulin inhibitors
- inhibition of angiotensin II-induced prostaglandin synthesis (isolated canine renal arteries), 126, 464
- Canadaphore
- isolation and purification (*Helminthosporium carbonum*), 129, 262
- n*-Capric acid
- β -oxidation, inhibition by valproic and 2-*n*-propyl-4-pentenoic acids *in vitro* (rat liver), 132, 245
- n*-Caproate
- effect on ethanol metabolism (perfused rat liver), 133, 44
- Caprylate
- effect on ethanol metabolism (perfused rat liver), 133, 44
- Captopril
- effect on degradation of dermorphin and related peptides by soluble brain extract (rat), 130, 964
- Carbachol
- effect on
 - cytosolic free calcium concentration (rat parotid cells), 131, 1048
 - secretion of digestive enzymes from isolated pancreatic acini (rat), 128, 872
- induction of
- β -adrenergic receptor desensitization, mediation by M_1 muscarinic receptors (rat cardiac myocytes), 128, 699
 - catecholamine secretion in cultured chromaffin cells, phorbol ester effects (bovine adrenal medulla), 129, 511
 - inositol triphosphate production and amylase secretion (murine pancreatic acini), 131, 284
 - phosphatidic acid synthesis, competitive inhibition by pirenzepine (rat cerebral cortical synaptosomes), 130, 282
- Carbamylcholine
- induced calcium-independent inhibition of free calcium increases and catecholamine release in chromaffin cells (bovine adrenal gland), 133, 147
- Carbamyl phosphate
- role in glycogen synthesis regulation (rat liver), 130, 229
- Carbohydrates
- activated, reaction with optically active S- and R- forms of dolichyl phosphate, 130, 460
 - chain types in glycoproteins, fast atom bombardment mass spectrometric determination, 132, 1
 - containing and free third domains of chicken ovomucoid, immunoreactivity with human IgE antibody to ovomucoid, 129, 505
 - insulin receptor, characterization by comparison of chemical and enzymatic deglycosylation (human IM-9 lymphocytes), 129, 789
 - metabolism in adipocytes, effect of hypoglycemic agent-supplemented diet (db/db mice), 126, 471
 - role in glycoprotein secretion by hepatoma cells (human), 128, 368
 - γ -seminoprotein, N-glycosidic units, occurrence of Y determinant (human), 131, 507
 - thyrotropin, role in hormone action (bovine), 133, 680
- Carbonate dehydratase
- inhibition by cyanogen (bovine, canine, human), 126, 457; erratum, 130, 1324
- Carbonic acid
- dissociation constants in presence of salts, pK calculation, 131, 1075
- Carbonic anhydrase, see Carbonate dehydratase
- Carbon monoxide
- complexes in chloroperoxidase, horseradish peroxidase, and lactoperoxidase, ^{13}C NMR, 131, 607
- 1,1'-Carbonyldiimidazole
- activated agarose coupled to insulin, insulin receptor purification (human placenta), 132, 1059
- Carbonyl groups
- α,β -unsaturated, requirement for tumor cell differentiation induction and growth inhibition by A series prostaglandins, 129, 34
- Carbonyl myoglobin
- and model complexes, ^{57}Fe chemical

Subject Index

- shifts, double resonance analysis (sperm whale), 128, 628
- γ -Carboxyglutamic acid
-domainless factor IXa derivative, calcium binding: high-affinity binding sites, role of β -hydroxy-aspartic acid (human), 130, 841
- 20-Carboxy-leukotriene B_4
NAD⁺-dependent conversion from 20-hydroxy-leukotriene B_4 by neutrophil cell-free system (human), 132, 864
- Carboxyl groups
ferredoxin, chemical modification, effect on interaction with ferredoxin-NADP⁺ reductase (spinach), 129, 467
- Carboxymethyltransferase
specific recognition of altered polypeptides (*Salmonella typhimurium*, *Xenopus laevis*), 132, 1144
- Carboxypeptidase A
apo- and zinc-, susceptibility to proteases, comparison, 133, 787
mixed-anhydride intermediate in ester and peptide hydrolysis, direct chemical evidence, 132, 681
- Carboxypeptidase B
-like enzyme and Met-enkephalin, nicotine-stimulated corelease from chromaffin cells (bovine), 128, 563
- Carcinogens
-binding proteins, purification with affinity chromatographic resin (murine liver), 129, 155
- Cardiodigin
interaction with digitoxin and digoxin antibodies (guinea pig heart), 129, 553
- Cardiolipin
-containing liposomes, incorporation of lipid-depleted FAD-dependent malate dehydrogenase: enzyme activation (*Mycobacterium smegmatis*), 133, 1
- Cardiomyopathy
genetically determined, effect on sarcolemmal Na⁺-Ca²⁺ exchange (hamster), 133, 491
- Carnitine
effect on energy-linked processes in mitochondria (rat liver), 131, 968; erratum, 133, 369
- Casein kinase I
-phosphorylated acetyl-CoA carboxylase, active protein phosphatase, purification and characterization (rat liver), 130, 1132
- Casein kinase II
-phosphorylated acetyl-CoA carboxylase, active protein phosphatase, purification and characterization (rat liver), 130, 1132
- Cataracts
experimental induction, associated phase separation of proteins, permanent suppression with amine modification agents (bovine lens), 133, 239
formation, preventive role of lens crystallin acetylation by aspirin (bovine eye), 128, 1125
- Catecholamines
A23187-, carbachol-, and high K⁺-induced secretion in cultured chromaffin cells, phorbol ester effects (bovine adrenal medulla), 129, 511
effect on thrombin-induced phosphoinositide metabolism (rat platelets), 132, 1051
permissive effect on glucocorticoid action on hepatic ornithine decarboxylase (rat), 129, 885
release
by cultured chromaffin cells, calcium-independent reduction by carbamylcholine (bovine adrenal gland), 133, 147
K⁺-stimulated, tetanus toxin effect (nerve growth factor-treated PC12 cells), 128, 249
- Catechol methyltransferase
-catalyzed dihydroxyphenylalanine O-methylation, kinetics, effect of substrate ring-fluorination: significance in development of ¹⁸F-PETT scanning agents, 130, 1123
- Cathepsin G
bradykinin and kallidin inactivation (human neutrophils), 127, 443
- Cathepsin L
stable high-molecular-weight form, secretion by mammary gland explants (rat), 131, 402
- Cell culture
intestinal tumor cells in serum-free medium, biosynthesis of Lewis antigenic glycolipid in cell-free extracts (human), 131, 736
myocytes in serum-free and -supplemented media, adrenergic receptor expression, comparison (rat heart), 128, 376
- Cellulolytic enzyme system
electron microscopy (*Clostridium thermocellum*), 130, 904
- Ceruletide
inhibition of somatostatin binding to isolated acinar cells (guinea pig pancreas), 128, 850
- Ceruloplasmin
synthesis *in vitro* by embryonic fibroblasts (murine 3T3 cells), 126, 15

Subject Index

CGP 28392

effects on electrical, ionic, and secretory changes in pancreatic β cells (mouse), 131, 980

Chemiluminescence

neutrophil

generation by hydrogen peroxide and hypochlorite cooxidation of luminol, 126, 482

inhibition by low mercury levels (human), 128, 1145

phospholipase C- and phorbol ester-induced, comparison (murine epidermal cells), 131, 1103

L-tyrosine- H_2O_2 -horseradish peroxidase system: tyrosine cation radical formation, 128, 936

Chloramphenicol

thioltransferase inhibition (rabbit neutrophils), 127, 458

Chlordiazepoxide

competitive antagonist for thyrotropin-releasing hormone receptor (GH₃ pituitary tumor cells), 127, 63

Chloride ion

γ -aminobutyric acid-dependent uptake by brain vesicles, inhibition by neurotoxic insecticides (mouse), 133, 37

2-Chloroadenosine

inhibition of complement-induced reactive oxygen metabolite production and recovery from attack by complement (human polymorphonuclear leukocytes), 126, 692

5-(p-Chlorobenzyl)-6-aminouracil

inhibition of RNA-dependent DNA polymerase (avian myeloblastosis virus), 126, 109

1-(2-Chloroethyl)-1-nitroso-3-cyclohexylurea

cytotoxic effects on HeLa S3 cells, effects of O^6 -methylguanine and O^6 -n-butyl-guanine, 132, 178

Chloroperoxidase

compounds II and III, optical absorption spectra, 128, 1

and horseradish peroxidase and lactoperoxidase, heme environments and proximal ligands, comparison by ^{13}C NMR of carbon monoxide complexes, 131, 607

Chlorophyll a

-containing protein antenna complexes, deficient mutants, characterization (clover), 131, 182

-plastocyanin nonfluorescent complex, preparation (spinach), 126, 610

Chlorophyll b

-containing protein antenna complexes, deficient mutants, characteriza-

tion (clover), 131, 182

Chloroplasts

genes, sequence homology with amyloplast DNA (sycamore cells), 133, 140

oriented in polyvinyl alcohol films, photophysical properties, analysis by polarized light spectroscopy (pea leaf), 126, 254

Chloroquine

effect on

N-acetyl- β -D-glucosaminidase binding to mannose-6-phosphate receptors (rat liver), 131, 634

generation of insulin intermediate products, HPLC (human fibroblasts), 128, 163

Chlorpromazine

electronically excited species, generation during enzymatic oxidation, 130, 952

elevation of ^{32}P -labeled polyphosphoinositide levels in platelets (human), 131, 370

inhibition of protein kinase C activation by 12-O-tetradecanoylphorbol-13-acetate, mechanism (rabbit platelets), 130, 654

3-[(3-Cholamidopropyl)-dimethylammonio]-1-propane sulfonate

leukotriene B₄ receptor solubilization from neutrophil membranes (human), 128, 878

Cholecystokinin

amino-terminal fragment, distribution and chromatographic characterization (rat brain), 127, 720

Cholecystokinin-octapeptide

effect on

amylase secretion from isolated acinar cells (rat pancreas), 129, 63

secretion of digestive enzymes from isolated pancreatic acini (rat), 128, 872

metabolism in central nervous system, monitoring by HPLC/push-pull perfusion technique (rat), 130, 37

Cholera toxin

effect on stimulated increase of actin polymerization (rabbit neutrophils), 126, 1174

free in solution or bound to ganglioside G_{M1}-containing liposomes, water-exposed area, comparison, 130, 835

induction of

cAMP production, enhancement by 12-O-tetradecanoylphorbol-13-acetate and other tumor promoters (murine thymocytes), 133, 904

GTP-sensitive adenylate cyclase: response to GTP formed from added

Subject Index

- GDP via membrane-associated nucleoside-diphosphate kinase (rat liver), 131, 199
- and ionophore A23187 and 1-oleoyl-2-acetylgllycerol, ornithine decarboxylase synergistic induction (guinea pig lymphocytes), 130, 389
- reduction of apomorphine affinity for dopamine receptors (bovine retinal membranes), 133, 222
- Cholestanetetrol**
formation from 3 α ,7 α ,12 α -trihydroxy-5 β -cholestane in hepatic peroxisomes (rat), 130, 708
- Cholestasis**
induction of bilirubin UDP-glucuronyltransferase alterations in hepatic microsomes (rat), 130, 163
- Cholesterol**
hepatic *de novo* synthesis, induction by lipoprotein lipase inhibition (rat), 131, 574
- metabolism in cultured fibroblasts, inhibition by epinephrine (human), 133, 958
- oxygenated metabolites, binding to antiestrogen binding sites (chicken liver), 127, 786
- synthesis in hepatocyte cultures, short-term stimulation by triiodothyronine (eu-, hypothyroid rat), 128, 525
- Cholesterol acyltransferase**
high levels in fetal aorta, role of stimulatory factors in amniotic fluid (rabbit), 131, 707
- Cholesterol 7 α -hydroxylase**, *see* Cholesterol 7 α -monooxygenase
- Cholesterol 7 α -monooxygenase**
ontogeny and activity, correlation with bile acid pool (guinea pig liver, gastrointestinal tract), 132, 702
- stimulation by human milk (rat liver), 128, 1133
- Cholesteryl esters**
accumulation in cultured monocyte-derived macrophages, suppression by lipoxigenase inhibitors (human), 127, 366
- Chromaffin cells**
A23187-, carbachol-, and high K⁺-induced catecholamine secretion, phorbol ester effects (bovine adrenal medulla), 129, 511
- carboxypeptidase B-like enzyme and Met-enkephalin corelease, stimulation by nicotine (bovine), 128, 563
- granule interaction with adrenal medullary plasma membranes, analysis with monoclonal antibodies (bovine), 133, 1006
- Chromatin**
active conformation in brain, analysis by nick-translation (young, old rats), 127, 604
- c-Ha-*ras* oncogene-associated, structural analysis (HeLa S3 cells), 128, 226
- HeLa interphase, nonhistone antigens, degree of conservation in metaphase and in chromatin from avian and murine cells, 130, 275
- internucleosome interactions, enhanced stability (*Allium cepa*), 129, 645
- reconstituted, non-histone HMGI4, binding to histones H2A, H2B, H1, and DNA (calf thymus, rat liver), 132, 1031
- Chromium**
-ATP complex, glutamine synthetase affinity labeling (*Escherichia coli*), 130, 418
- Chromogranin A**
and parathyroid secretory protein, amino-terminal sequences, homology (bovine, human), 127, 380
- Chromosomes**
1, localization of genes encoding insulin I and II, parathyroid hormone, and calcitonin (rat), 131, 1175
- 2
p23⁺pter region, localization of apolipoprotein B-100 gene (human), 131, 1003
- short arm, mapping of highly polymorphic apolipoprotein B-100 gene (human), 133, 248
- 18, prealbumin gene localization (human), 129, 753
- 21, trisomic, gene dosage effect on cystathionine β -synthase gene expression (human fibroblasts), 128, 40
- mini-, simian virus-40, interaction with coupled endo-exodeoxyribonuclease from HeLa cell nuclei, 126, 805
- Chymase**, *see* Chymosin
- Chymosin**
bradykinin and kallidin inactivation (human skin mast cells), 127, 443
- Chymotrypsin**
effect on erythrocyte membrane surface topology, reevaluation (human), 126, 50
- miniature organic model, synthesis and reactivity, 129, 727; *erratum*, 131, 515
- Chymotrypsin inhibitors**
reactive site, localization at C-ter-

Subject Index

- minal region (silkworm hemolymph),
 132, 320
- Chymotrypsinogen
 secretion from isolated pancreatic ac-
 ini, effect of various secreta-
 gogues (rat), 128, 872
- Chymotrypsinogen B
 pancreatic, activity and mRNA levels,
 regulation by food content (rat),
 127, 937
- Cigarette smoke
 effect on rate constant for porcine
 pancreatic elastase association
 with human plasma α_1 -proteinase
 inhibitor, 126, 275
- Cigarette tar
 aqueous extracts, metal-mediated for-
 mation of hydroxyl radical, 132,
 390
 induction of DNA single-strand breaks
 (phage PM2), 133, 780
- Cilastatin
 inhibition of leukotriene D₄-di-pep-
 tidase (human kidney), 131, 974
- Circular dichroism spectroscopy
 low-temperature magnetic circular,
 probe for optical transitions as-
 sociated with hydrogenase Ni(III)
 center (*Methanobacterium thermo-*
 autotrophicum), 128, 220
- Cisplatin
 binding to metallothionein (Ehrlich
 ascites tumor cells), 130, 786
 -related compounds, reaction with DNA
 in vitro, kinetics, 133, 347
- Clavulones
 effects on human fibroblasts, hepato-
 cytes, HeLa, and HL-60 cells
 (*Clavularia viridis*), 130, 515
- Clofibrate
 effect on epoxide hydrolase cytosolic
 levels (murine kidney, liver),
 133, 233
- Clonazepam
 and diltiazem, effect on mitochondrial
 Na-Ca exchange and muscular slow
 action potentials, comparison
 (guinea pig heart), 128, 290; *er-*
 ratum, 130, 1325
- Clostridium thermocellum*
 cellulolytic enzyme system, electron
 microscopy, 130, 904
- Cobalt
 Co(II)-thiolate derivative, formation
 from Cu(I)-thionein (yeast), 132,
 277
- Cocaine
 metabolites, electrochemistry, impli-
 cations for hepatotoxicity
 (mouse), 130, 1044
- Coenzyme F₄₂₀
 dependence of methylenetetrahydrometh-
 anopterin dehydrogenase (*Methano-*
 bacterium thermoautotrophicum),
 133, 884
- Coenzyme Q, *see* Ubiquinones
- Colchicine
 binding by tubulin, inhibition by re-
 duced glutathione (bovine brain),
 128, 506
- Collagen
 basement membrane, isolation and char-
 acterization (bovine lens), 130, 1
 -induced serotonin secretion, effect
 of ATP depletion by permeabiliza-
 tion with saponin (human plate-
 lets), 131, 620
 -stimulated fibrinogen binding to
 platelets, inhibition by type III
 collagen-derived octapeptide (hu-
 man), 128, 547
 synthesis
 differential effects of Nd-YAG laser
 in vitro: relevance to laser an-
 gioplasty for atherosclerotic
 plaque removal (chicken embryo
 aorta), 131, 462
 by fibroblasts, transcriptional reg-
 ulation by activated mononuclear
 cell supernatants (human), 131,
 1028
 stimulation *in vitro* by prostaglan-
 din E₂ (murine osteoblastic
 clone MC3T3-E1 cells), 126, 340
 type I, degradation, effect of human
 lung mast cell tryptase, 132, 453
 type IV, laminin-binding domain, iden-
 tification (murine EHS tumor),
 128, 45
 type IX, biosynthesis during limb
 development, analysis (chicken
 embryo), 130, 746
 types I, III, and IV, synthesis in
 cultured muscle cells, analysis
 during myogenesis (mouse), 130,
 440
- Collagenase
 synthesized in clonal odontoblast-like
 cells, purification and character-
 ization (rabbit), 133, 709
 type IV, regulation by cortisol during
 fibroblast growth (human skin),
 130, 588
- Collagenase inhibitors
 effect on bone resorption *in vitro*
 (mouse), 133, 483
 purification and characterization (bo-
 vine vitreous humor), 133, 911
- Colony stimulating factor
 stimulation of Na⁺, K⁺-ATPase-mediated
 ⁸⁶Rb⁺ uptake in bone marrow-de-
 rived macrophages (mouse), 132, 430

Subject Index

Complements

- attacked polymorphonuclear leukocytes, recovery inhibition by 2-chloroadenosine (human), 126, 692
- Cl, activation by monoclonal antibodies to Clq, 126, 785
- Clq, precipitin ring-enhancing protein, isolation and purification from serum of rheumatoid arthritis patients, 128, 1288
- C3c, inter-chain disulfide bonds, localization (human), 127, 264
- effect on cytosolic Ca^{2+} and K^{+} concentrations (murine L cells), 132, 290
- induced reactive oxygen metabolite production in polymorphonuclear leukocytes, inhibition by 2-chloroadenosine (human), 126, 692

Compound 48/80

- stimulation of
 - arachidonic acid release in peritoneal mast cells (rat), 127, 726
 - histamine secretion and polyphosphoinositide turnover, inhibition by phorbol myristate acetate (rat peritoneal mast cells), 132, 110

Concanavalin A

- binding to phosphatidylinositol-containing liposomes, inhibition by myo-inositol or α -methyl mannose, 130, 76
- induced lymphocyte mRNAs, cDNA cloning (human), 129, 619
- interaction with trimannosyl oligosaccharide fragment of complex and high-mannose-type glycopeptides, 127, 1066
- and phorbol myristate acetate, differential effects on protein kinase C subcellular distribution (human monocytes), 133, 1139
- stimulation of
 - p33 mRNA synthesis (H4IIE rat hepatoma cells), 133, 1168
 - superoxide anion production in neutrophils, islet-activating protein effects (guinea pig), 130, 939

Conductivity

- in serum albumin and dinitrophenylated derivative ultrathin films, direct current measurements (bovine), 133, 1152

Copper

- complexes with methyl 2-(2-aminoethyl)-aminomethyl-pyridine-6-carboxyl-histidinate, ESR, 126, 1036
- Cu(I)-thionein, conversion to Co(II) derivative (yeast), 132, 277
- heme relationship of cytochrome oxidase, analysis *in situ* (rat brain), 126, 1022

- high-affinity binding sites, identification in cytochrome c oxidase (bovine heart), 129, 840
- identification in ascorbate oxidase, spectroscopic analysis (cucumber), 131, 647
- light-dependent reduction, effect on cell-mediated thiol-dependent superoxide production (*Dunaliella tertiolecta*), 128, 1031
- redox active, signal detection by EPR (oxidized *Synechococcus* 6311 membranes), 129, 109
- removal from ascorbate oxidase (zucchini), 131, 1251

Cornea

- in vivo* metabolism of topically applied retinol and all-*trans*-retinoic acid (rabbit), 131, 320

Corticotropin-releasing factor

- immunohistochemical colocalization with adrenocorticotropin and β -endorphin in duodenal perikarya (rat), 128, 402

Cortisol, *see* Hydrocortisone

- CP-46,665-1, *see* 4-Aminomethyl-1-[2,3-(di-*n*-decyloxy)*n*-propyl]-4-phenylpiperidine dihydrochloride

18-Crown-6-ether

- assisted ferricytochrome c solubilization in methanol: absorption, circular dichroism, and EPR spectral properties (equine heart), 127, 828

Crypthecodinium cohnii

- polyadenylated small RNA identification and characterization, 127, 552

 α -Crystallin

- methylene blue- or riboflavin-sensitized photo-oxidation: thiol group microenvironmental change (bovine), 128, 1322

 γ -Crystallin

- quantitative analysis by cation-exchange HPLC (bovine lens), 127, 153

Crystallins

- lens, acetylation by aspirin: implications for prevention of cataract formation (bovine eye), 128, 1125

Cyanide

- removal of copper from ascorbate oxidase, 131, 1251

Cyanogen

- carbonic anhydrase inhibition (bovine, canine, human, rabbit), 126, 457; *erratum*, 130, 1324
- 3'-(3-Cyano-4-morpholinyl)-3'-deamino-adriamycin
- induction of DNA crosslinking in HT-29

Subject Index

colon carcinoma cells in vitro
(human), 131, 336

Cyclic AMP

accumulation in

anterior pituitary cells, basal and
growth hormone-releasing factor-
stimulated, enhancement by tumor
promoters (rat), 129, 404

GH₃ cells, modulation by phorbol
ester and thyroliberin (rat), 129,
898

isolated enterocytes, stimulation by
leucine-enkephalin (guinea pig),
126, 404

smooth muscle cells, isoproterenol-
and vasoactive intestinal peptide-
induced, enhancement by angioten-
sin II and phorbol ester (rat aor-
ta), 131, 30

-adenylate cyclase system, analysis in
adrenocortical cells from inner
and outer zones (guinea pig),
129, 664

analogs, inhibition of p21 ras protein
synthesis and phenotypic transfor-
mation of NIH/3T3 cells transfect-
ed with retroviral DNA, 130, 1193

augmentation of anti-rabbit thymic ac-
tin antibody inhibition of Ep-
stein-Barr virus-transformed human
B-cell proliferation (rabbit),
132, 837

effect on

elongation factor-1 autophosphoryla-
tion (wheat embryo), 128, 53

glucose-enhanced insulin pool (rat
pancreatic islets), 133, 696

intracellular calcium concentration
(canine thyroid), 131, 1041

independent effects on platelet aggre-
gation and cytosolic free Ca²⁺
(human), 127, 339

intracellular formation in aortic
smooth muscle cells

effect of vasoactive intestinal pep-
tide (rat), 132, 1079

stimulation by calcitonin gene-
related peptide (rat), 132, 88

isoproterenol-induced increase in nor-
mal and H-ras-transformed NIH/3T3
fibroblasts, phorbol ester dif-
ferential effects, 133, 702

levels in

Chinese hamster ovary cells, heat
shock effect, 126, 911

neurons, regulation by adrenocorti-
cotropic hormone (chicken embryo),
133, 286

single nephron segments and glomeru-
lus, atrial natriuretic factor ef-
fect (rat), 127, 943

production

induction by prostaglandin E₂,
isoproterenol, and cholera toxin,
differential effects of tumor pro-
moters (murine thymocytes), 133,
904

in renal papillary collecting tu-
bules, atrial natriuretic factor
effect in vitro (rat), 130, 1147
stimulation by vasoactive intesti-
nal peptide (bovine thyroid plas-
ma membranes), 128, 1336

regulation by atrial natriuretic fac-
tor (murine Leydig tumor cells),
133, 800

regulation of GTP binding to isolated
Dictyostelium discoideum mem-
branes: functional coupling be-
tween cell surface receptors and
G proteins, 129, 11

role in

osteoblast-like cell proliferation
(chick), 129, 918

pertussis toxin reversal of insulin
antilipolytic effect on adipocytes
in presence of forskolin (rat),
130, 1059

regulation of lutropin-induced ster-
oidogenesis (rat Leydig cells),
128, 1164

synthesis by mesenchymal cells, epi-
dermal growth factor effects (mu-
rine embryonic palate), 130, 1037
tyrosine aminotransferase induction,
inhibition by phorbol ester (Reu-
ber H35 hepatoma cells), 131, 815

Cyclic-AMP phosphodiesterase

differential stimulation by oncomodu-
lin (bovine brain, heart), 131,
500

Cyclic AMP receptor protein

allosteric activation mechanism (Esch-
erichia coli), 131, 780

Cyclic AMP receptors

surface subpopulation in membrane,
Ca²⁺- or phorbol ester-dependent
ATP effects: protein kinase C role
(Dictyostelium discoideum), 128,
185

Cyclic β 1-2 glucan

enzymatic formation (Agrobacterium tu-
mefaciens), 126, 352

Cyclic GMP

analog, inhibition of viral DNA repli-
cation, 128, 1329

-binding proteins, methylisobutylxan-
thine-stimulated, identification
in various tissues (rat), 127, 226

effect on elongation factor-1 auto-
phosphorylation (wheat embryo),
128, 53

Subject Index

- formation
 effect of synthetic human and rat atrial natriuretic factor (rat aortic smooth muscle cells), 128, 538
 induction by inositol 1,4,5-trisphosphate (slime mold), 130, 1115
 intracellular, role of atrial natriuretic factor receptors in cultured mesenchymal nonmyocardial cells (rat heart), 131, 222
 neuronal levels, regulation by adrenocorticotrophic hormone (chicken embryo), 133, 286
 neurotensin-induced increase in neuroblastoma N1E115 cells, 129, 117
 production
 increase, association with aldosterone production inhibition by α -human atrial natriuretic polypeptide (rat adrenal), 127, 1052
 in renal papillary collecting tubules, atrial natriuretic factor effect in vitro (rat), 130, 1147
 regulation by atrial natriuretic factor (murine Leydig tumor cells), 133, 800
 responses to atrial natriuretic polypeptide (LLC-PK₁ cells), 132, 253
 3'5'-Cyclic-GMP phosphodiesterase
 rod outer segment, and G protein, effects of fluoride (bovine retina), 131, 146
 Cyclic-nucleotide phosphodiesterase
 activation by calcium-independent bacterial protein (human brain), 132, 591
 orthophosphate-regulated, regulatory protein isolation and characterization (*Neurospora crassa*), 130, 1015
 Cycloheximide
 effect on expression of cell cycle-dependent genes, 132, 327
 -induced lymphocyte mRNAs, cDNA cloning (human), 129, 619
 superinduction of interferon- γ mRNA (human peripheral blood lymphocytes), 133, 274
 Cyclooxygenase
 arachidonate metabolite, identification (human HL-60 cells), 126, 143
 -associated activity of prostaglandin H synthase, symbiotic stimulation by peroxidase activity, 130, 918
 role in 12-O-tetradecanoylphorbol-13-acetate-stimulated glycogenolysis (perfused rat liver), 132, 204
 time-dependent inhibition by 12-hydroperoxy-5,8,10,14-eicosatetraenoic acid (human platelets), 130, 781
 Cyclosporin A
 inhibition of 12-O-tetradecanoylphorbol-13-acetate biological effects in vivo (murine ear, skin), 126, 327
 and ovine prolactin, independent binding to prolactin receptors (rabbit mammary gland), 133, 753
 Cyclosporine
 acid metabolite, isolation and characterization (rabbit, human bile), 133, 964
 Cystathionine β -synthase
 expression, gene dosage effect in trisomy 21 (human fibroblasts), 128, 40
 Cystatin
 inhibition of cysteine proteases and alteration of viral protein cleavage in infected HeLa and WISH cells (chicken), 127, 1072
 Cystatin B
 amino acid sequence (human liver), 131, 1187
 Cysteine
cys₁₅₄, lac Y gene, role in lac permease activity (*Escherichia coli*), 132, 162
 -cysteinyl derivative and parent microsomal protein, action as reducing cofactors for prolyl hydroxylase (L-929 microsomes), 131, 277
 detection at
 glutamine synthetase active site and catalytic role (spinach chloroplasts), 133, 527
 glycogen phosphorylase active site (rabbit muscle), 132, 1066
 fructose 1,6-bisphosphatase, relationship to fructose 2,6-bisphosphate allosteric site (porcine kidney), 127, 373
 Cysteine-conjugate β -lyase
 subcellular localization and relationship to hepatic enzyme (rat renal cortex), 129, 499
 Cysteinyl
 -cysteine derivative and parent microsomal protein, action as reducing cofactors for prolyl hydroxylase (L-929 microsomes), 131, 277
 heme-binding, cytochrome P-450 isozyme 2, identification (rabbit hepatic microsomes), 128, 82
 Cystic fibrosis
 mucus glycoprotein fatty acyltransferase in rectal mucosa, effect on glycoprotein viscosity (human), 132, 299
 Cytochalasin D
 binding to monomeric actin, character-

Subject Index

- ization (rabbit skeletal muscle), 128, 1087
- Cytochrome b
purification from mitochondrial complex III (bovine heart), 132, 1166
- Cytochrome b₅
effect on Δ^{16} -C₁₉ steroid synthesis by homogeneous C₂₁ side-chain-cleaving cytochrome P-450 (porcine testis), 132, 708
role in benzo[a]pyrene metabolism (hamster hepatic microsomes), 128, 621
- Cytochrome b₅₅₈
role in neutrophil respiratory burst inhibition by pyridine and imidazole (human, pig), 130, 621
- Cytochrome b₆-f
phospholipid-deficient, preparation and reconstitution (spinach chloroplasts), 131, 700
- Cytochrome c
dibromothymoquinone-mediated reduction in solution and complex formation (equine heart), 127, 578
-flavodoxin electron transfer complex formation, proton NMR (equine heart), 130, 1281
reduction for measurement of free radical oxygen generation in erythrocytes, requirement for cytochrome-c oxidase blockade (equine heart), 127, 354
- Cytochrome c₂
backside surface domain, role in binding to photosynthetic reaction center (*Rhodospirillum rubrum*), 128, 120
- Cytochrome c₃
interaction with ferredoxin I, ¹H NMR (*Desulfovibrio desulfuricans*), 130, 1102
- Cytochrome c₅₅₂
amino acid sequence (*Thermus thermophilus* HB8), 128, 781
- Cytochrome-c oxidase
blockade requirement in measurement of free radical oxygen generation by cytochrome c reduction (human erythrocytes), 127, 354
-containing sonicated proteoliposomes, respiration regulation by gated and ungated ionophores (bovine heart), 128, 1025
heme-copper relationship, analysis in situ (rat brain), 126, 1022
high-affinity binding sites for Cu, heme Fe, Mg, and Zn, identification (bovine heart), 129, 840
oxygen uptake, inhibition by nitrite (bovine heart), 133, 1104
subunits V and VII, synthesis regulation by heme (yeast), 128, 1447
- Cytochrome f
dibromothymoquinone-mediated reduction in solution and complex formation (spinach), 127, 578
post-illumination reduction by dibromothymoquinone, kinetics (spinach chloroplasts), 130, 16
- Cytochrome oxidase, see Cytochrome-c oxidase
- Cytochrome P-448
microsomal high-spin form
monoclonal antibodies, production and specificity (rat), 131, 600
selective induction by 3-methoxy-4-aminoazobenzene (rat liver), 133, 1072
- Cytochrome P-450
2-acetylaminofluorene-induced isozymes, quantitation and partial purification (rat hepatic microsomes), 128, 578
alkane-hydroxylating, from *Candida maltosa*: immunological comparison with cytochrome P-450 from other yeasts, bacteria, and mammals, 128, 1261
complexes with aflatoxin B₁: fluorescence energy transfer measurements (rat hepatic microsomes), 129, 493
concentration in brain, regulation by manganese (rat), 128, 18
dependence of arachidonic acid metabolism (bovine corneal epithelium), 132, 343
-dependent benzo[a]pyrene hydroxylase, inhibition by acetylenic and olefinic pyrenes (rat hepatic microsomes), 129, 591
depression by interferon inducers: genetic differences in response (C57Bl/6J, C₃H/HeJ mice), 131, 109
destruction by pulegone in vitro and in vivo (rat liver), 128, 921
dioxin-inducible gene family on chromosome 9, regional linkage analysis (mouse), 130, 396
ethanol-inducible, role in nitrosamine metabolism, immunochemical analysis (rabbit hepatic microsomes), 128, 1007
isozyme 2
heme-binding cysteinyl residue, identification (rabbit hepatic microsomes), 128, 82
tryptophan residue, fluorescence properties (rabbit hepatic microsomes), 128, 676

Subject Index

- LM₃-type isozyme, rifampicin-induced, isolation and characterization (rabbit hepatic microsomes), 126, 833
- membrane-bound, determination of NADPH-cytochrome P-450 reductase and cytochrome P-450-linked monooxygenase optimal temperatures (rat, trout hepatic microsomes), 127, 571
- 4-methylpyrazole effects (rat hepatic microsomes), 126, 1076
- with nitrogenous ligand trans to thiolate, spectral properties (Saccharomyces cerevisiae mutant SG1), 127, 623
- phenobarbital-induced, monoclonal antibody-directed isolation and amino-terminal sequence analysis (rat liver), 129, 926
- puromycin- and somatotropin-induced decrease (hypophysectomized male rat), 128, 683
- related to 16 α -pregnenolone carbonitrile-induced cytochrome: induction by erythromycin derivatives (rat), 128, 1434
- sex-specific forms, regulation by pituitary (rat liver), 130, 1247
- spin state, analysis (diabetic mouse, rat; obese rat), 126, 615
- sulfide oxygenation mechanism, comparison with FAD-containing monooxygenase (porcine liver), 131, 567
- tissue concentrations, analysis with P-450 HFLa antibodies (human fetal liver), 131, 1154
- Cytochrome P-450c
-induced 5,6-oxides formed from 7,12-dimethylbenz[a]anthracene, absolute configuration, 130, 610
- Cytochrome P-450_{cam}
active-site synthetic analogs, complexes with hemin, characterization by optical and ESR spectrometry, 130, 1254
- gene cloning and expression in Escherichia coli and Pseudomonas putida, 130, 412
- Cytochrome P-450_{scc}
C₂₁ side-chain cleavage, for synthesis of Δ^{16} -C₁₉ steroids, effect of cytochrome b₅ (porcine testis), 132, 708
- Cytokeratins
-related epitope on circulating human tumor-associated antigen, monoclonal antibody definition (rat), 128, 34
- Cytokines
interleukin 1-like, production in osteoblastic cells (mouse), 131, 774
- Cytomegalovirus
replication inhibition by cGMP analog, 128, 1329
- Cytotoxicity
acetaminophen, role of activated oxygen species (rat hepatocyte cultures), 126, 1129
- autologous lymphocyte, defective, restorative effects of calmodulin antagonists (ovarian cancer patients), 132, 620
- 9-(1,3-dihydroxy-2-propoxymethyl)-guanine-associated, detection during screening for drug-resistant cells containing HSV-1 thymidine kinase gene (human), 133, 195
- natural killer cell-mediated, reduction by arylsulfatase-inhibitory aromatic sulfonate (human), 126, 540
- D
- Dactinomycin
cytotoxic effects on doxorubicin-resistant leukemia cells, enhancement by trifluoperazine (mouse), 131, 912
- effect on ornithine transcarbamylase activity and level during perinatal period (rat liver), 129, 780
- Dansylation
histidine and tyrosine residues in peptides and proteins, 130, 350
- Dansylcadaverine
effect on generation of insulin intermediate products, HPLC (human fibroblasts), 128, 163
- Daunomycin
effect on nucleotide substrates, analysis with terbium probe (bovine thymus), 131, 1033
- Deacetylation
forskolin, by cerebral membranes (bovine), 133, 52
- O-Dealkylation
phenoxazone ethers, analysis (human placenta), 126, 1013
- 3-Deazaadenosine
effect on catecholamine concentration in adrenal (rat), 127, 924
- Decanoic acid, see n-Capric acid
- Decarbamylation
ornithine transcarbamoylase-associated, analysis (bovine liver), 128, 441
- N-Deethylation
lidocaine, age-associated alterations (rat hepatic microsomes), 126, 117

Subject Index

Deglycosylation

chemical and enzymatic, insulin receptors, comparison: carbohydrate characterization (human IM-9 lymphocytes), 129, 789

Deltamethrin

inhibition of γ -aminobutyric acid-dependent chloride uptake by brain vesicles (mouse), 133, 37

O-Demethylation

stereospecific microbiological, R-(-)-10,11-dimethoxyaporphines (*Cunninghamella elegans*), 127, 407

Dendrites

contractile responses to electric or light stimulation (*Rana catesbeiana* retina), 131, 456

Deoxyadenosine

with deoxycytosine, effect on 2',5'-oligoadenylate synthetase induction by interferon (human T lymphoblasts), 127, 1019

Deoxycholate

induction of polyphosphoinositide hydrolysis by phospholipase C (human platelets, rat cornea), 129, 411

Deoxycytosine

with deoxyadenosine, effect on 2',5'-oligoadenylate synthetase induction by interferon (human T lymphoblasts), 127, 1019

Deoxyglucose

uptake by neutrophils, stimulation by protein kinase C activators (human), 126, 450

Dephosphorylation

auto-, Mg^{2+} -dependent, phosphoprotein phosphatase activation (bovine heart), 128, 1203

cytoplasmic non-polysomal messenger ribonucleoproteins (*Artemia salina* cryptobiotic gastrulae), 131, 1241

endogenous, synaptosomal calmodulin-dependent protein kinase II (bovine brain), 131, 1212

phosphorylated peptides and proteins *in vitro*, by repressible acid phosphatase (yeast), 129, 350; erratum, 133, 368

Depolarization

K^{+} -, induction of Ca^{2+} release from intracellular storage sites in cultured vascular smooth muscle cells (rat aorta), 129, 877

Dermorphin

and related peptides, degradation by soluble brain extracts, effects of peptidase inhibitors (rat), 130, 964

(-)Desmethoxyverapamil

3H -labeled, receptor binding, regulating calcium coordination site, characterization (rabbit skeletal muscle), 132, 49

Detergent blotting

detection of membrane proteins separated by SDS-polyacrylamide gel electrophoresis (*Escherichia coli*), 133, 214

Dexamethasone

effect on testicular lipogenic enzymes (adrenalectomized, prepubertal, adult rats), 131, 726

inhibition of snake venom phospholipase A_2 , mepacrine effect, 130, 761

Diabetes

identification of antibodies to enzymatically glucosylated albumin (human serum), 131, 720

modification of Na^{+}, K^{+} -ATPase: model for associated changes in human renal medulla (bovine kidney), 131, 1206

nonketonic, hepatic insulin receptor autophosphorylation (rat), 129, 163

serum free fatty acid composition and 6-keto-prostaglandin $F_{1\alpha}$ levels (human), 128, 803

Diacylglycerol

and calcium ionophore, synergism in B-cell proliferation induction: mimicking of inositol lipid polyphosphate breakdown signals induced by crosslinking surface immunoglobulins (human), 131, 484

de novo synthesis from glucose in pancreatic islets via acyl-dihydroxyacetone phosphate (neonatal rat), 132, 467

formation in platelets, induction by platelet monoclonal antibodies (human), 133, 306

and phorbol ester, inhibition of granulosa cell maturation, comparison (rat), 133, 468

protein kinase C-activating, structural analogies, 127, 969

regulation of luteinizing hormone release and protein kinase C activity, molecular modification effects (rat), 126, 532

-stimulated platelets, cytoplasmic calcium accumulation, detection with aequorin, 133, 98

Diacylglycerol kinase

plasma membrane vesicle-associated, stimulation *in vitro* by epidermal growth factor (A431 cells), 129, 375

Subject Index

- 1,2-Diacyl-sn-glycero-3-phosphocholine
 arachidonic acid CoA-independent
 transfer to 1-O-alkyl-sn-glycero-
 3-phosphocholine, stimulation by
 macrophage microsomes (rabbit),
127, 384
- Diamide
 effect on
 glycoprotein IIb/IIIa complex ex-
 pression on blood platelets (hu-
 man), 127, 822
 proton translocation by mitochon-
 drial H⁺-ATPase, 132, 985
- 4',6-Diamidino-2-phenylindole
 role in microtubule reactions at
 steady state (porcine brain), 133,
 662
- Diaziouone
 photo-irradiation-induced production
 of hydroxyl radicals and semiqui-
 none, 132, 445
- Dibromothymoquinone
 -mediated cytochrome reduction in so-
 lution and complex formation
 (equine heart, spinach), 127, 578
 post-illumination reduction of cyto-
 chrome f, kinetics (spinach chlo-
 roplasts), 130, 16
- Dibutyryl cyclic AMP
 and phorbol ester
 additive effects on calcitonin se-
 cretion (rat C cells), 132, 424
 synergistic effect on pepsinogen se-
 cretion from isolated gastric
 glands (guinea pig), 131, 314
 regulation of glycerol-3-phosphate de-
 hydrogenase mRNA content (3T3-L1
 adipocytes), 131, 1193
 stimulation of VIP/PHM-27 gene ex-
 pression in neuroblastoma cells
 (human), 132, 885
- Dibutyryl cyclic GMP
 effect on intracellular calcium con-
 centration (canine thyroid), 131,
 1041
- Dicarboxylate
 transport system, comparative partial
 purification (rat cardiac, hepat-
 ic, renal mitochondria), 133, 498
- cis-Dichlorodiammine platinum(II), see
Cisplatin
- p,p'-Dichlorodiphenyltrichloroethane
 stimulation of DNA synthesis in cul-
 tured hepatocytes (rat), 131, 103
- 7,9-Didecarboxymethoxatin
 evaluation as coenzyme for methoxatin-
 requiring glucose dehydrogenase
 (*Acinetobacter calcoaceticus*),
131, 564
- Dideoxythymidine
 inhibition of scheduled DNA synthesis
 and repair (murine neuronal
 cells), 132, 929
- Dieldrin
 inhibition of γ -aminobutyric acid-
 dependent chloride uptake by brain
 vesicles (mouse), 133, 37
- Diet
 composition, regulation of protease
 activity and mRNA levels (rat pan-
 creas), 127, 937
 -dependent subcellular distribution of
 acetyl-CoA carboxylase (rat liv-
 er), 129, 453
 hypoglycemic agent-supplemented, ef-
 fect on adipocyte carbohydrate me-
 tabolism (db/db mouse), 126, 471
 iron-deficient, short-term effect on
 mucosal processing of ionic iron
 (rat), 133, 1092
 restriction, regulation of glucose-6-
 phosphate dehydrogenase molecular
 forms (rat liver), 127, 136
- N,N-Diethyl-2-[(4-phenylmethyl)-phen-
 oxy]-ethanamine•HCl
 inhibition of histamine-induced con-
 traction (canine smooth muscle),
131, 750
- Diethylstilbestrol
 effect on alcohol dehydrogenase ex-
 pression in hepatocyte monolayer
 cultures (rat), 128, 12
- Difluoromethylornithine
 effect on ornithine decarboxylase cel-
 lular levels: role of translation-
 al regulation (Ehrlich ascites tu-
 mor cells), 131, 239
 -induced amplification of ornithine
 decarboxylase genes (Ehrlich as-
 cites carcinoma cells), 126, 734
 -insensitive ornithine decarboxylase,
 stability in vitro and in vivo
 (human neuroblastoma cells), 126,
 96
- Digitoxin
 antibodies, interaction with cardio-
 digin (guinea pig heart), 129, 553
- Digitoxose
 effect on insulin release, glucose ox-
 idation, and oxygen consumption by
 pancreatic islets (lean, geneti-
 cally obese diabetic mice), 129,
 358
- Digoxin
 antibodies, interaction with cardio-
 digin (guinea pig heart), 129, 553
- Dihomo- γ -linolenic acid
 inhibition of endotoxin-induced throm-
 boplastin (human monocytes), 132,
 67
- cis-11,12-Dihydro-11,12-dihydroxybenzo-
 [a]pyrene
 identification as major metabolite in
Selenastrum capricornutum, 130, 71

Subject Index

- Dihydrofolate reductase
expressed in methotrexate-resistant HL-60 cells, characterization (human), 129, 536
human, selective overproduction in methotrexate-resistant human-mouse somatic cell hybrid, 132, 795
- 7,8-Dihydrofolic acid
self-association in aqueous solution, effect of salt, ^1H NMR, 130, 1273
- Dihydrolipoamide dehydrogenase
from various sources, immunochemical comparison and reactivity with rat cardiac pyruvate dehydrogenase subcomplex, 129, 479
- Dihydroneopterin triphosphate
conversion to tetrahydropterin intermediates during tetrahydrobiopterin biosynthesis (bovine adrenal medulla; rat brain, liver), 128, 1099
- Dihydropyridine
oppositely acting enantiomers (+)S202-791 and (-)R202-791, profile in cardiac preparations: receptor binding, electrophysiological, and pharmacological studies (dog, guinea pig), 131, 13
-sensitive calcium channels, identification in aortic smooth muscle cells (rat), 127, 71
stereoisomers, calcium channel agonist and antagonist effects (guinea pig papillary muscle; NG108-15, PC12 cells), 130, 141
- Dihydropyridine receptors
 Ca^{2+} channel-associated
high- and low-affinity states and interconversion by divalent cations (chick heart), 129, 910
purification (chick cardiac membranes), 126, 1
functionally distinct subtypes, identification in isolated coronary artery (swine), 128, 1295
- 5- α -Dihydrotestosterone
effect on alcohol dehydrogenase expression in hepatocyte monolayer cultures (rat), 128, 12
- Dihydroxyanthraquinone
inhibition of simian virus-40 DNA synthesis initiation, 130, 249
- 7,12-Dihydroxymethylbenz[a]anthracene sulfotransferase-catalyzed hydroxymethyl sulfate ester formation (rat liver), 131, 694
- Dihydroxyphenylalanine
ring-fluorination, effect on kinetics of O-methylation catalyzed by catechol-O-methyltransferase, significance in development of ^{18}F -PETT scanning agents, 130, 1123
- 9-(1,3-Dihydroxy-2-propoxymethyl)-guanine
-associated cytotoxicity, detection during screening for drug-resistant cells containing HSV-1 thymidine kinase gene (human), 133, 195
- 1,24-Dihydroxyvitamin D₃
suppression *in vitro* of antibody response to T-cell-dependent antigen (mouse), 127, 753
- 1,25-Dihydroxyvitamin D₃
and 24,25-dihydroxyvitamin D₃, synergistic effects on duodenal Ca-binding protein and eggshell weight (rachitic chick, Japanese quail), 126, 799
production in normal macrophages, stimulation by γ -interferon (human pulmonary alveoli), 127, 596
suppression *in vitro* of antibody response to T-cell-dependent antigen (mouse), 127, 753
- 1 α ,25-Dihydroxyvitamin D₃
effects on cAMP-dependent protein kinase regulatory and catalytic subunits, comparison (rat liver), 129, 766
stimulation of tumor formation after 7,12-dimethylbenz[a]anthracene treatment (murine skin), 130, 924
- 24,25-Dihydroxyvitamin D₃
and 1,25-dihydroxyvitamin D₃, synergistic effects on duodenal Ca-binding protein and eggshell weight (rachitic chick, Japanese quail), 126, 799
- 24R,25-Dihydroxyvitamin D₃
regulation of 1,25-dihydroxyvitamin D₃ receptor binding affinity (chicken intestine), 126, 496
- 1 α ,25-Dihydroxyvitamin D₃-3 β -[N-(4-azido-2-nitrophenyl)glycinate]
photoaffinity probe for 1,25-dihydroxyvitamin D₃ receptor, evaluation (chick intestinal cytosol), 132, 198
- 23(S),25(R)-1 α ,25-Dihydroxyvitamin D₃-26,23-lactone
effect on bone metabolism (MC3T3-E1 cells), 127, 693
- 1,25-Dihydroxyvitamin D₃ receptors
binding affinity, regulation by 24R,25-dihydroxyvitamin D₃ (chicken intestine), 126, 496
- 1 α ,25-dihydroxyvitamin-D₃-3 β -[N-(4-azido-2-nitrophenyl)glycinate] photoaffinity probe, evaluation (chick intestinal cytosol), 132, 198
hormone-dependent phosphorylation (murine fibroblasts), 131, 378

Subject Index

- identification in myoblasts (chicken embryo skeletal muscle), 128, 305
- modulation by retinoic acid, species differences (mouse, rat osteoblast-like cells), 132, 74
- nuclear testicular, demonstration in Sertoli cells and seminiferous tubules (adult rat), 127, 303
- pituitary, binding activity in hyper- and hypothyroid rats, 131, 122
- quantitation in presence of contaminating serum vitamin D-binding protein by differential displacement (rat intestine), 130, 1020
- Dihydroxyvitamin K
effect on linolenic acid oxidation, 128, 211
- 1,4-Diiodobutane
conjugation with glutathione *in vitro*, role of glutathione S-transferase (rat liver), 128, 360
- d*-cis-Diltiazem
and clonazepam, effect on mitochondrial Na-Ca exchange and muscular slow action potentials, comparison (guinea pig heart), 128, 290; erratum, 130, 1325
- ³H-labeled, receptor binding, regulating calcium coordination site, characterization (rabbit skeletal muscle), 132, 49
- R-(-)-10,11-Dimethoxyaporphines
stereospecific microbiological 10-O-demethylation (*Cunninghamella elegans*), 127, 407
- N,N-Dimethyladriamycin-14-valerate
cytotoxic effects on doxorubicin-resistant leukemia cells, enhancement by trifluoperazine (mouse), 131, 912
- Dimethylaniline monooxygenase (N-oxide-forming)
hepatic and pulmonary forms, identification and purification (murine, rabbit microsomes), 126, 1069
- sulfide oxygenation mechanism, comparison with cytochrome P-450 (porcine liver), 131, 567
- 7,12-Dimethylbenz[a]anthracene, see 9,10-Dimethyl-1,2-benzanthracene
- 9,10-Dimethyl-1,2-benzanthracene
cytochrome P-450c-induced 5,6-oxides, absolute configuration, 130, 610
- induction of
mammary carcinoma, identification of released oncofetal protein (rat), 127, 779
- skin carcinomas, expression of long-terminal repeat sequences (mouse), 127, 391
- tumor formation, stimulation by 1 α ,25-dihydroxyvitamin D₃ (murine skin), 130, 924
- 1,2-Dimethylhydrazine
oxidative metabolism, generated methyl radical, spin trapping, 126, 853
- 6,7-Dimethyl-8-ribityllumazine
formation from pentose phosphate, biosynthesis of aliphatic intermediate riboflavin (*Candida guilliermondii*), 127, 175
- Dimethylsuberimidate
thyroglobulin conformational analysis by crosslinking, 127, 37
- Dimethylsulfoxide
correction of sphingomyelinase deficiency in fibroblasts from Niemann-Pick patients, 126, 756
- effect on sphingomyelinase in cultured fibroblasts (human), 126, 756
- solubilization of neurotoxic esterase (hen brain), 132, 81
- stimulation of tyrosine-protein kinase (rat lung), 126, 1042
- 1,2-Diolein
inhibition of phorbol 12,13-dibutyrate binding to protein kinase C, 133, 1051
- rac*-1,2-Dioleoyl-3-[9-(3-perylenoyl)nonanoyl]-glycerol
-stained lipids, intracellular quantitation by flow cytometry (human, mouse, rat), 128, 1196
- Dioleoyl lecithin
Langmuir-Blodgett film, deposited on porous membrane, electronic properties, 133, 740
- Dioxin
-inducible cytochrome P-450 gene family on chromosome 9, regional linkage analysis (mouse), 130, 396
- 3',5'-O-Dipalmitoyl-5-fluoro-2'-deoxyuridine
synthesis, incorporation into liposomes, and preliminary biological results, 126, 660
- Dipalmitoyl phosphatidylcholine
liposomes, binding of ethanol-d₆: determination of partition coefficients by ²H NMR, 130, 301
- phosphatidylserine vesicles, fusion induction by Zn²⁺, Cd²⁺, and Hg²⁺, comparison, 128, 389
- Dipeptide glycyls
renin inhibition *in vitro* (human), 132, 155
- Dipeptidyl carboxypeptidase I
and enkephalinase and thermolysin, comparison, 130, 372
- inhibition by aspartame metabolite (rabbit lung), 128, 960
- substance K and substance P identification as endogenous substrates in brain, 128, 317

Subject Index

- testicular, molecular weight forms, comparison with seminal plasma enzyme (human), 128, 457
- transition-state analog inhibitors: peptide-derived amino alcohols, 126, 419
- Dipeptidyl peptidase I
isolation and characterization (*Dic-tyostelium discoideum*), 127, 962
- Dipeptidyl peptidase II
isolation and characterization (*Dic-tyostelium discoideum*), 127, 962
- Dipeptidyl peptidase III
isolation and characterization (*Dic-tyostelium discoideum*), 127, 962
- 5'-Diphosphate
2-5A core, phosphorylation to 2-5A (murine L-cell extracts), 126, 917
- Diphosphorylation
light chain myosin, and actin-activated myosin ATPase, linear relationship (chicken gizzard), 131, 987
- Diphtheria toxin
fragment A, human chorionic gonadotropin hybrid, synthesis and activity *in vitro*, 133, 430
introduction into hemopoietic stem cells with erythrocyte ghost-mediated system (human), 128, 193
- Diprenorphine
binding in heart, analysis: binding modulation after hemorrhagic shock (rat), 127, 120
- Diribonucleoside monophosphates
-elliptinium acetate adducts, structural analysis, 128, 1173
- Disulfide bonds
inter-chain, complement C3c, localization (human), 127, 264
neutral endopeptidase, role after proteolytic cleavage (human), 133, 1187
protein, assignment by mass spectrometric analysis, 126, 1122
- Dithiothreitol
release of insulin receptor α -subunit from cell membrane after receptor unfolding with urea (3T3-L1 cells, IM-9 lymphocytes), 133, 389
- Divicine
induction of Ca^{2+} release from hepatic mitochondria (rat), 129, 18
- DNA
adduct formation, catalysis by mitochondrial monooxygenase system (rat liver), 131, 935
Agrobacterium tumefaciens Ti-plasmid, distinct insertion patterns in isogenic sunflower genomes, 131, 152
amyloplast, sequence homology with chloroplast genes (sycamore cells), 133, 140
bacteriophage λ , transport into host cell, role of *ptsM/pel*-encoded protein (*Escherichia coli*), 130, 1093
binding to
nonhistone protein HMGL4 in reconstituted chromatin (calf thymus, rat liver), 132, 1031
RNA polymerase II, subunit- α conformational alteration, 129, 141
cleavage by bleomycin-vanadium(IV) complex with H_2O_2 (pBR322), 129, 368
complementary
aequorin, cloning and expression (*Aequorea victoria*), 126, 1259
to aldolase A mRNA, isolation and nucleotide sequence (human), 131, 413
amelogenin, nucleotide sequence (mouse), 129, 812
atrial natriuretic polypeptide precursor, nucleotide sequence, comparison (dog, rabbit), 132, 892
cellular retinol-binding protein, cloning and sequencing (human), 130, 431
detection of promyelocytic leukemia cell countertranscript during phorbol-induced differentiation (human), 132, 100
encoding interphotoreceptor retinoid-binding protein, isolation (bovine retina), 131, 1086
fatty acid synthetase clones, characterization (rat liver), 126, 1235
globin, detection of sequence coding for previously unreported globin (*Chironomus thummi*), 133, 641
inter- α -trypsin-inhibitor light chain-encoding, characterization and nucleotide sequence (human liver), 131, 1146
to lymphocyte mRNAs induced by concanavalin A and cycloheximide, cloning (human), 129, 619
pancreatic secretory trypsin inhibitor, molecular cloning and nucleotide sequencing (human), 132, 605
to L-serine dehydratase mRNA, construction (rat liver), 132, 232
thyrotropin β -subunit, isolation and characterization (rat), 128, 1152
to transacylase component of branched-chain ketoacid dehydrogenase, clone identification (human fetal liver), 131, 961
crosslinking by 3'-(3-cyano-4-morpholinyl)-3'-deaminoadriamycin in co-

Subject Index

- lon carcinoma HT-29 cells in vitro (human), 131, 336
 damage
 O-alkylation-induced, repair by protein extracts from adult and fetal organs (human), 133, 589
 chemically induced, repair detection in vivo by nucleoid sedimentation assay (murine liver, lung), 127, 56
 radiodecay-induced, extent: relationship to cellular growth rate (murine lymphoma cells), 128, 204
 delayed methylation, role of matrix-bound DNA methylase (L929 cells), 126, 678
 double helix, conformational microheterogeneity: structure of restriction endonuclease BamHI recognition site, 131, 269
 elongation, 5-fluorouracil effect (murine bone marrow), 133, 361
 endogenous retroviral, sequence identification in lymphoid leukemia cells (human), 133, 945
Escherichia coli consensus promoter, use for human interleukin-2 expression in Streptomyces lividans, 133, 511
 exogenous sequences, fate and biological activity during serial transfections in fibroblasts (murine NIH/3T3 cells), 132, 635
 exposure to methyl mercury, effect on rate of transcription by RNA polymerase II (bacteriophage λ , bovine thymus), 127, 849
 fungal, detection of oncogene-related sequences, 133, 293
 hepatitis B virus, restriction endonuclease maps, characterization (human), 129, 797
 herpesvirus, fragment-transformed cells, mutagenesis resistance (murine fibroblasts), 133, 1064
 and histone, association in subnucleosomal product peak A (Physarum polycephalum), 131, 230
 long-terminal repeat sequences, expression in carcinogen-induced skin carcinomas (mouse), 127, 391
 photo-induced nicking by ruthenium(II)-bleomycin A_2 in presence of air, 133, 1145
 proviral, bovine leukemia virus, methylation and expression, 129, 126
 purification from formaldehyde-fixed and paraffin-embedded tissues (human), 130, 118
 reaction with cis-platinum(II) compounds in vitro, kinetics, 133, 347
 recombinant, -directed Escherichia coli-produced α -antitrypsin, evaluation as neutrophil elastase inhibitor for replacement therapy of α -antitrypsin deficiency, 130, 1177
 repair
 defects in Alzheimer's disease fibroblasts (human), 129, 733
 inhibition by polymerase- α and - β inhibitors (murine neuronal cells), 132, 929
 retroviral, -transfected NIH/3T3 cells, p21 ras protein synthesis and phenotypic transformation, inhibition by cAMP analogs, 130, 1193
 -RNA polymerase complexes, specific and nonspecific, sedimentation analysis (Escherichia coli), 129, 321
 satellite I, strand-specific transcription in vitro (rat ascites hepatoma AH60C cells), 130, 897
 short dispersed repetitive sequences isolated from synthesis initiation zones, identification as ALU-elements (human fibroblasts, xeroderma pigmentosum cells), 128, 101
 single-stranded
 affinity for high-mobility-group protein 14, phosphorylation effect (bovine thymus), 133, 343
 breaks, induction by cigarette tar (phage PM2), 133, 780
 differential effects of adriamycin and daunomycin, analysis with terbium probe (bovine thymus), 131, 1033
 supercoiled
 differential effects of adriamycin and daunomycin, analysis with terbium probe (bovine thymus), 131, 1033
 PM2, O,O,S-trimethyl phosphorothioate- and O,O,S-trimethyl phosphorodithioate-induced unwinding, analysis, 126, 1251
 superhelical
 -dependent ATPases, isolation and characterization (calf thymus), 131, 355
 differential binding to chromosomal high-mobility-group proteins 1 and 2 (bovine thymus), 133, 633
 thymidine incorporation, atrial natriuretic polypeptide-stimulated (bovine adrenal glomerulosa cells), 132, 261
 transcription by RNA polymerase III, species-specific inhibition (HeLa, MDBK cells), 131, 551

Subject Index

- U4 small nuclear RNA pseudogene isolation and characterization (rat), 130, 828
- viral, replication inhibition by cGMP analog, 128, 1329
- z-form
- binding protein, characterization (radiation-resistant bacteria), 130, 1294
 - helix-opening rate, measurement by ^1H NMR relaxation spectroscopy, 128, 352; erratum, 129, 319
- DNA ligase I, see Polydeoxyribonucleotide synthase (ATP)
- DNA ligase II, see Polydeoxyribonucleotide synthase (NAD^+)
- DNA methylase
- matrix-bound, role in delayed methylation (L929 cells), 126, 678
- DNA nucleotidylxotransferase
- inhibition by poly(ADP)-ribosylation in vitro (bovine thymus), 128, 61
- DNA nucleotidyltransferase, see DNA polymerase
- DNA polymerase
- activity in repair-deficient fibroblasts (human), 128, 754
 - inhibition by suramin, characterization (*Escherichia coli*; bovine, murine thymus), 128, 1395
- RNA-directed
- associated with endogenous retrovirus related to murine intracisternal A particles, isolation and characterization (rat liver), 131, 492
 - inhibition by 5-(p-chlorobenzyl)-6-aminouracil (avian myeloblastosis virus), 126, 109
- DNA polymerase α
- associated with DNA primase, specific monoclonal antibodies, characterization (chicken), 132, 210
 - and DNA polymerase δ , differential effects of inhibitors (rabbit bone marrow), 132, 628
 - inhibition by poly(ADP)-ribosylation in vitro (bovine thymus), 128, 61
- DNA polymerase β
- inhibition by poly(ADP)-ribosylation in vitro (bovine thymus), 128, 61
- DNA polymerase δ
- and DNA polymerase α , differential effects of inhibitors (rabbit bone marrow), 132, 628
- DNA primase
- associated with DNA polymerase α , specific monoclonal antibodies, characterization (chicken), 132, 210
- DNA synthesis
- arrest-associated thymidylate synthase inhibition, role of allosteric interaction in replisome complex (human, murine tumor cells), 128, 345
 - excision repair, in vitro function of coupled endo-exodeoxyribonuclease from HeLa cell nuclei, 126, 812
 - hormone-stimulated, inhibition by ethanol (rat hepatocytes), 128, 767
 - inhibition by
 - polymerase- α and - β inhibitors (murine neuronal cells), 132, 929
 - β -transforming growth factor (cultured rat hepatocytes), 133, 1042
- initiation zones, in isolated short dispersed repetitive sequences, identification as ALU-elements (human fibroblasts, xeroderma pigmentosum cells), 128, 101
- phage fd single-stranded circular DNA after microinjection into *Xenopus laevis* eggs, 132, 871
- role of DNA polymerases (repair-deficient human fibroblasts), 128, 754
- simian virus 40, initiation inhibition by dihydroxyanthraquinone, 130, 249
- stimulation by phenobarbital and other hepatic tumor promoters (cultured rat hepatocytes), 131, 103
- DNA topoisomerase
- mitochondrial, ATP-dependent and -independent, purification and characterization (human acute leukemia cells), 130, 854
- Docosaehaenoic acid
- transfer from diacyl phospholipids to alkyl or alkenyl ether lysophospholipids (rabbit alveolar macrophages), 133, 574
- Dolichol
- pathway in T47D-c11 cells, effect of estradiol, nafoxidine, and tamoxifen (human), 126, 382
- Dolichylmonophosphate
- linked glycosyltransferases in protein N-glycosylation pathway, activation by agonist-stimulated β -adrenergic receptors (rat parotid acinar cells), 126, 123
- Dolichyl phosphates
- optically active S- and R-forms, reaction with activated sugars, 130, 460
- Dopamine receptors
- affinity for apomorphine, reduction by guanine nucleotides and cholera and pertussis toxins (bovine retinal membranes), 133, 222
- D-2
- photoaffinity labeling with [^3H]-azidosulpiride (rat anterior pituitary)

Subject Index

- itary, olfactory bulb, striatum), 130, 1086
 size, comparison with serotonin S2 receptors (rat brain), 133, 1181
 effect on glandular kallikrein-like activity in neurointermediate lobe (rat pituitary), 127, 668
- Doxorubicin
 -enhanced hydrogen peroxide and hydroxyl radical formation, effect on Ca^{2+} uptake by sarcoplasmic reticulum (rat heart), 130, 739
- Dynorphin [1-13]
 inhibition of γ -endorphin-generating endopeptidase, structure-activity relationship (rat brain), 133, 897
- Dynorphin-A[1-8]
 colocalization with dynorphin-A[1-17] in perikarya, immunohistochemical analysis (rat duodenum), 130, 774
 identification in
 myenteric plexus perikarya (rat duodenum), 131, 821
 perikarya, nerve fibers, and nerve terminals (rat duodenum), 127, 610
- Dynorphin-A[1-17]
 colocalization with dynorphin-A[1-8] in perikarya, immunohistochemical analysis (rat duodenum), 130, 774
- Dynorphin B
 formation from dynorphin B-29 by single-step cleavage (rat brain), 130, 1168
- Dynorphin B-29
 conversion to dynorphin B by single-step cleavage (rat brain), 130, 1168
- Dystrophy
 retinal
 altered rhodopsin accessibility to anti-rhodopsin antisera (mouse), 132, 804
 disc membrane changes, antisera to rhodopsin synthetic peptides as probes (dog), 132, 438
- E
- Eggshells
 weight, 1,25- and 24,25-dihydroxyvitamin D₃ synergistic effects (ranchitic Japanese quail), 126, 799
- Elastase
 leukocyte, see Leukocyte elastase
 pancreatic, see Pancreatic elastase
- Elastin
 aortic, amino acid composition changes in spontaneously hypertensive rats, 129, 179
 polypentapeptide, temperature-dependent conformational changes, correlation with elastometric force, 130, 50
 synthesis in vitro, differential effects of Nd-YAG laser: relevance to laser angioplasty for atherosclerotic plaque removal (chicken embryo aorta), 131, 462
- α -Elastin
 coacervate, temperature-dependent dielectric relaxations: evidence for peptide librational mode (bovine ligamentum nuchae), 128, 1000
- Elastomeric force
 elastin polypentapeptide, correlation with temperature-dependent conformational changes, 130, 50
- Electric fields
 -mediated transformation: isolation and characterization of herpes simplex virus type-1 TK⁺ subclone (C1D, CHO cells), 129, 611
- Electron paramagnetic resonance
 redox active Cu^{2+} signal detection (oxidized *Synechococcus* 6311 membrane), 129, 109
- Electron transfer
 Ca^{2+} -calmodulin control in vitro (carrot cell plasma membrane), 126, 262
 from flavodoxin to nitrogenase, reduced efficiency in mutant with reduced redox potentials (*Azotobacter vinelandii*), 128, 643
- Electrophoresis
 SDS-polyacrylamide gel, effect on monoclonal antibody antigen-binding capacity, 133, 1020
- Elliptinium acetate
 -amino acid adducts, structure, revision, 131, 614
 degradation of nucleosides via free radicals, role of iron salts, 133, 15
 -diribonucleoside monophosphate adducts, structural analysis, 128, 1173
- Elongation factor 1
 autophosphorylation, cAMP and cGMP effects (wheat embryo), 128, 53
- Endo-exodeoxyribonuclease
 function in excision repair mode in vitro (HeLa cell nuclei), 126, 812
 interaction with simian virus-40 minichromosome (HeLa cell nuclei), 126, 805
- Endometrial cells
 -reactive phospholipase inhibitors, purification from amniotic fluid and characterization (human), 131, 22
- Endonucleases
 restriction, BamHI, recognition site

Subject Index

- structure: conformational micro-heterogeneity in DNA double helix, 131, 269
- Endo-oligopeptidase A
conversion and inactivation of opioid peptides (rabbit brain), 130, 932
- Endopeptidase
cleaving N-terminal fragment from pro-enkephalin B, purification and characterization (human cerebrospinal fluid), 131, 1069
- γ -endorphin-generating
inhibition by neuropeptides, structure-activity relationship (rat brain), 133, 897
subcellular and regional distribution in brain (rat), 127, 44
- β -Endorphin
immunohistochemical colocalization with corticotropin-releasing factor in duodenal perikarya (rat), 128, 402
-induced analgesia, inhibition by C-terminal deletion analogs (human), 127, 649
monoclonal antibody 3-E7, generation of polyclonal and anti-idiotypic opioid receptor antibodies (rabbit), 132, 658
-2-nitro-4-azidophenylsulfenyl chloride complex, use in photoaffinity labeling of nonopioid binding sites (human neuroblastoma IMR-32 cells), 128, 1310
peptides, inhibition of γ -endorphin-generating endopeptidase, structure-activity relationship (rat brain), 133, 897
- β -Endorphin (1-18)
proopiomelanocortin-derived, radioimmunoassay (rat pituitary), 130, 1226
- γ -Endorphin
-generating endopeptidase
inhibition by neuropeptides, structure-activity relationship (rat brain), 133, 897
subcellular and regional distribution in brain (rat), 127, 44
- Endothelial cells
capillary, detection of insulin-like growth factor I receptors (perfused rat heart), 133, 724
defense against oxidant damage, role of intracellular glutathione (bovine pulmonary artery), 127, 270
fibrin production in vitro, initiation by fibronectin (rabbit cornea), 128, 1114
plasminogen activator production, synergistic stimulation by vitamin A and C (bovine carotid artery), 130, 182
proliferation stimulation by human platelet growth factor (porcine aorta), 126, 83
and smooth muscle cells, atrial natriuretic factor receptors, comparison (bovine aorta), 127, 433
synthesis in vitro of heparin-like glycosaminoglycans (rat epididymis), 126, 365
- Endotoxins
-induced hypertension, platelet-activating factor role, analysis with kadsurenone (rat), 127, 799
- Endrin
inhibition of γ -aminobutyric acid-dependent chloride uptake by brain vesicles (mouse), 133, 37
- Enkephalinase, see Membrane metallo-endopeptidase
- Enkephalins
monoclonal antibodies, opiate receptor-like binding characteristics (mouse), 126, 389
- Enolase
 α - and β -isozymes, translatable mRNA, concentration changes in skeletal muscle during development (chicken), 133, 868
- Enoyl-CoA hydratase
-3-hydroxyacyl-CoA dehydrogenase bifunctional protein, deficiency in Zellweger syndrome patients, 126, 1269
- Enterocytes
cAMP accumulation in vitro, stimulation by leucine-enkephalin (guinea pig), 126, 404
- Enterotoxin A
staphylococcal, induction of splenic histidine decarboxylase (mast cell-deficient mouse), 129, 187
- Epidermal growth factor
differential short-term effects on fatty acid synthesis in hepatocytes (rat), 131, 449
ectoCa²⁺-ATPase stimulation and growth inhibition (human hepatoma cells), 126, 8
effect on
prostaglandin and cAMP synthesis by mesenchymal cells (murine embryonic palate), 130, 1037
various kinases in isolated plasma membrane vesicles (A431 cells), 129, 375
growth-inhibiting effect on MDA-468 breast cancer cells with amplified EGF gene (human), 128, 898
and/or insulin, stimulation of ATP turnover in quiescent 3T3 cells,

Subject Index

- relationship to extracellular pH and $\text{Na}^+\text{-H}^+$ exchange system, 133, 265
- $\text{Na}^+\text{-H}^+$ antiport, role of protein kinase C activation (Swiss 3T3 cells), 130, 646
- mass spectral analysis (mouse), 130, 1287
- mRNA, and receptor mRNA: regions of complementarity, 128, 1373
- stimulated DNA synthesis, inhibition by ethanol (rat hepatocytes), 128, 767
- synthesis and secretion by fibroblasts in culture (human), 131, 1080
- Epidermal growth factor receptors
- autophosphorylation, inhibition by human polyclonal IgG (rat), 132, 991
 - competitive binding of rat transforming growth factor- α synthetic fragment, 129, 226
 - in epidermoid carcinoma A431 and glioblastoma SF268 cells, binding affinities, comparison (human), 132, 284
 - expression in breast cancer cells, regulation by progestins (human), 131, 767
 - gene, amplification, overexpression, and rearrangement in astrocytoma cells (human), 131, 207
 - and insulin receptors, related protein kinases, substrate specificities (rat liver), 127, 254
 - purification by tyrosine-Sepharose affinity chromatography (human epidermoid carcinoma A431 cells), 131, 442
- Epidermolysis bullosa acquisita
- antigen, synthesis by keratinocytes (human), 130, 1267
- Epinephrine
- adrenal levels, 3-deazaadenosine effect (rat), 127, 924
 - effect on glucose-enhanced insulin pool (rat pancreatic islets), 133, 696
 - inhibition of low-density lipoprotein uptake and cholesterol metabolism in cultured fibroblasts (human), 133, 958
 - and neuropeptide Y, corelease during physical exercise (human), 133, 30
 - regulation of canalicular bile formation (isolated perfused rat liver), 131, 139
- Epithelial cells
- renal, cytosolic Ca^{2+} concentration, modulation by bradykinin (MDCK cells), 130, 807
- Epitopes
- erythropoietin surface, identification with anti-peptide antibodies (human), 129, 707
 - nitrate reductase, identification with monoclonal antibodies (maize leaves), 129, 686
 - recognized by monoclonal antibodies to recombinant human interferon γ , characterization, 128, 171
- Epoxy hydrolase
- cutaneous and hepatic, induction by nitropyrene topical application (rat), 129, 134
 - cytosolic levels, estimation and clofibrate effects (murine kidney, liver), 133, 233
- Epoxyeicosatrienoic acids
- metabolism, 5(6)epoxy-prostaglandin $\text{F}_{1\alpha}$ isolation as intermediate (ram seminal vesicles), 126, 1090
 - 5(6)Epoxy-prostaglandin $\text{F}_{1\alpha}$ isolation as intermediate in epoxy-eicosatrienoic acid metabolism (ram seminal vesicles), 126, 1090
 - 1,2-Epoxy-1,2,3,4-tetrahydronaphthalene conjugation with glutathione by glutathione S-transferase, enantioselectivity (rat hepatic cytosol), 130, 65
- Epsilon toxin
- lethal activity, role of tryptophan residue (*Clostridium perfringens*), 128, 760
- Epstein-Barr virus
- proteins, sequence homology with N-terminal portion of bovine erythropoietin-like peptide, 133, 404
 - transformed human B cells, proliferation inhibition by antibody to rabbit thymic actin, augmentation by cAMP, 132, 837
- Ergosterol
- stimulation of cell proliferation and phospholipid metabolism (*Saccharomyces cerevisiae*), 133, 844
- Erythrocyte ghosts
- mediated system, macromolecule introduction into hemopoietic stem cells (human), 128, 193
- Erythrocytes
- agglutinating lectin from Jack fruit seeds, isolation and properties (human, rat), 128, 833
- band-3 protein
- carbohydrate chain types, fast atom bombardment mass spectrometric determination, 132, 1
 - cytoplasmic domain crosslinking and cleavage (human, llama), 130, 493
 - intact, membrane glycoprotein A phosphorylation (human), 127, 878
 - melittin-induced hemolysis, effect of calmodulin and related proteins

Subject Index

- (rabbit), 130, 22
- membranes
- associated triiodothyronine receptors, solubilization and characterization (human), 133, 442
 - Ca²⁺-dependent neutral proteinase binding, physiological mechanism for enzyme activation (human), 128, 331
 - N-ethylmaleimide-induced mechanical fragility and spectrin dimer accumulation (rat), 130, 157
 - 1-phosphatidylinositol-4-phosphate kinase association (human), 133, 189
 - spin-labeled, nitroxide-conjugated protein identification (human), 127, 793
 - surface topology, chymotrypsin and trypsin effects, reevaluation (human), 126, 50
 - Mg²⁺ efflux, role of amiloride-sensitive Na⁺/Mg²⁺ antiport (chicken), 130, 540
 - rubidium uptake, synthetic atrial natriuretic factor effect (human), 130, 1066
 - superoxide ion production, rate increase in Fanconi anemia patients, 130, 127
- Erythromycin
- derivatives, induction of cytochrome P-450 similar to 16 α -pregnenolone carbonitrile-induced cytochrome (rat), 128, 1434
- Erythropoietin
- surface epitope, identification with anti-peptide antibodies (human), 129, 707
- Erythrotropin
- and human insulin-like growth factor II, structure and function, comparison (bovine serum), 126, 653
 - like peptide, N-terminal portion, sequence homology with low-density lipoprotein receptor and Epstein-Barr virus proteins (fetal bovine serum), 133, 404
- Escherichia coli
- carbohydrate active transport and growth, osmotic stress-inhibited, restoration, 126, 442
 - inhibition by osmotic stress, 126, 434
 - identification of high-affinity Ca²⁺-binding proteins, 127, 31
 - solubilization in organic solvents via reverse micelles, 127, 911
- Esterase
- neurotoxic, solubilization in dimethylsulfoxide (hen brain), 132, 81
 - phagolysosomal, direct measurement (human neutrophils), 127, 584
- Esters
- exchange reactions, catalysis by polyethylene glycol-modified lipoprotein lipase, 131, 532
 - hydrolysis by carboxypeptidase A, direct chemical evidence for mixed-anhydride intermediate, 132, 681
- Estradiol
- effect on
 - alcohol dehydrogenase expression in hepatocyte monolayer cultures (rat), 128, 12
 - dolichol pathway in T47D-c11 cells (human), 126, 382
 - interaction with high-density lipoproteins, effect on proliferation of MCF-7 breast cancer cells in serum-free culture conditions (human), 133, 105
 - metabolic activation by estrogen quinones/semiquinones, 133, 1078
 - plasma levels, increase induced by submaxillary gland removal (rat), 133, 462
 - production by granulosa cells, stimulation by human somatomedin C (porcine ovary), 130, 234
 - receptor complex, nondissociable, formation at 37°C (rat uterine cytosol), 131, 58
 - testosterone-binding globulin, binding to prostatic cell membranes (human), 128, 432
- Estradiol 17 β -dehydrogenase
- single-step purification (human placenta), 126, 477
- Estradiol receptors
- detection in prostate nuclear matrix (rat), 128, 1381
- Estrogen
- dependency in mammary carcinoma cells, correlation with cytosolic phorboid receptors (human), 133, 814
 - quinones/semiquinones, metabolic activation of estradiol, 133, 1078
- Estrogen 1,2-epoxides
- metabolic activation of estradiol, 133, 1078
- Estrogen receptors
- lacking hormone binding ability, detection by immunoassay (tamoxifen-treated rat uterus), 132, 336
 - unoccupied, particulate nature (rat uterus), 128, 634
- Estrogen synthetase
- stimulation by hemin (cultured human choriocarcinoma cells), 127, 232
- Ethanol
- binding to dipalmitoyl-phosphatidylcholine liposomes: determination of partition coefficients by ²H

Subject Index

- NMR, 130, 301
 chronic administration, induction of
 1,2-propanediol production (rat),
129, 426
¹³C-labeled, in vitro metabolism by
 alcohol dehydrogenase, ¹H NMR
 spectroscopy using ¹³C decou-
 pling with reverse DEPT polariza-
 tion-transfer pulse sequence,
128, 107
 fatty acid-dependent metabolism (per-
 fused rat liver), 133, 44
 -inducible cytochrome P-450, role in
 nitrosamine metabolism, immuno-
 chemical analysis (rabbit hepatic
 microsomes), 128, 1007
 inhibition of hormone-stimulated DNA
 synthesis (rat hepatocytes), 128,
767
 7-Ethoxycoumarin O-deethylase
 cutaneous and hepatic, induction by
 nitropyrene topical application
 (rat), 129, 134
 regulation by manganese (rat brain),
128, 18
 Ethoxyresorufin O-deethylase
 cutaneous and hepatic, induction by
 nitropyrene topical application
 (rat), 129, 134
 β-Ethylidene-DL-aspartate
 effect on glutamate-aspartate trans-
 aminase (porcine heart), 129, 193
 Ethylketocyclazocine
 binding parameters in central and pe-
 ripheral nervous system, modifica-
 tion by zwitterionic buffers (bo-
 vine, rat), 129, 328
 N-Ethylmaleimide
 effect on generation of insulin inter-
 mediate products, HPLC (human fi-
 broblasts), 128, 163
 induction of erythrocyte membrane me-
 chanical fragility and spectrin
 dimer accumulation (rat), 130, 157
 1-Ethynylpyrene
 inhibition of cytochrome P-450-depen-
 dent benzo[a]pyrene hydroxylase
 (rat hepatic microsomes), 129, 591
 Etorphine
 binding parameters in central and pe-
 ripheral nervous system, modifica-
 tion by zwitterionic buffers (bo-
 vine, rat), 129, 328
 -induced analgesia, inhibition by β-
 endorphin C-terminal deletion ana-
 logs (human), 127, 649
 Exercise
 -associated corelease of neuropeptide
 Y and catecholamines (human), 133,
30
 Exo-glucosidase
 and β-glucosidase, distinction by
 kinetic test (Alcaligenes fae-
calis), 133, 628
- F
- Factor IXa
 derivative lacking γ-carboxyglutamic
 acid, Ca²⁺ binding: high affini-
 ty binding sites, role of β-hy-
 droxyaspartic acid (human), 130,
841
 Factor XIa
 binding to high-molecular-weight
 kininogen, stoichiometry (human),
133, 417
 FAD-containing monooxygenase, see Di-
 methylaniline monooxygenase (N-
 oxide-forming)
 Fanconi syndrome
 with associated multiple myeloma, uri-
 nary protein related to variable
 domain of λ-light chain, amino
 acid sequence (human), 126, 848
 erythrocytes, increased superoxide
 radical production rate (human),
130, 127
 Fast atom bombardment mass spectrometry
 carbohydrate chain types in glycopro-
 teins, 132, 1
 epidermal growth factor (mouse), 130,
1287
 high-molecular-weight atrial peptides
 (Aplysia californica), 132, 520
 proinsulin (bovine), 127, 1032
 Fatty acids
 covalently attached, detection in hy-
 drophobic membrane-binding domain
 of acetylcholinesterase (human
 erythrocytes), 133, 621
 free
 blood levels in pregnant adult and
 fetus, effects of hepatectomy and
 nephrectomy (rat), 131, 1219
 composition in serum from diabetic
 and systemic lupus erythematosus
 patients, 128, 803
 hepatic metabolism, acute effects of
 tumor-promoting phorbol esters
 (rat), 129, 721
 insulin-like stimulation of glucose
 transport (rat adipocytes), 128,
1358
 membrane composition, relationship to
 lipid peroxidation and adenylate
 cyclase activity (murine neuro-
 blastoma clone N1E-115), 132, 757
 oxidation, inhibition by ammonium,
 role in Reye's syndrome and urea
 cycle defects (rat hepatic mito-
 chondria), 127, 565

Subject Index

- synthesis in hepatocytes
 differential short-term effects of growth factors (rat), 131, 449
 short-term stimulation by triiodo-
 thyronine (eu-, hypothyroid rats), 128, 525
 cis-unsaturated, Ca²⁺-dependent polymerization of synexin (bovine liver), 132, 505
- Fatty-acid synthase
 acetyl transacylase activity, analysis with p-nitrophenylthiol acetate (yeast), 131, 786
- Fatty-acid synthetase
 cDNA clones and mRNA, characterization (rat liver), 126, 1235
- Fatty acyl chains
 composition in phospholipids, effect on monolayer hydrolysis by lipoprotein lipase, 128, 670
- Fc receptors
 IgG or IgM, function of galactose- and mannose-specific lectins (rat liver), 130, 1002
- Fenton reaction
 role in hydroxyl radical formation in vivo (yeast), 130, 533
- Ferredoxin
 carboxyl group chemical modification, effect on interaction with ferredoxin-NADP⁺ reductase (spinach), 129, 467
 type I
 3Fe center, lack of solvent accessible ligand to iron (*Azotobacter vinelandii*), 133, 1119
 interaction with cytochrome c₃, ¹H NMR (*Desulfovibrio desulfuricans*), 130, 1102
- Ferredoxin-NADP⁺ reductase
 interaction with ferredoxin, effect of ferredoxin carboxyl group chemical modification (spinach), 129, 467
- Ferricytochrome c
 dissolved in methanol with crown ether: absorption, circular dichroism, and EPR spectral properties (equine heart), 127, 828
- Ferritin
 iron-induced synthesis, multiple mechanisms (HeLa cells), 133, 314
- Fetuin
 carbohydrate chain types, fast atom bombardment mass spectrometric determination, 132, 1
- Fibrils
 amyloid, see Amyloid fibrils
- Fibrin
 production by endothelial cells in vitro, initiation by fibronectin (rabbit cornea), 128, 1114
- Fibrinogen
 ADP- or collagen-stimulated binding to platelets, effect of type III collagen-derived octapeptide (human), 128, 547
 antibody, conjugates with plasminogen activator, preparation and characterization (human), 130, 91
- Fibroblast growth factor
 acidic, amino acid sequence (bovine brain), 133, 554
 differential short-term effects on fatty acid synthesis in hepatocytes (rat), 131, 449
 identification in extracts of peritoneal exudate cells (mouse), 126, 358
 immunoreactive, tissue concentration, distribution, and molecular forms: hypophysectomy effects (rat), 128, 1108
 purification and partial characterization (human placenta), 128, 554
- Fibroblasts
 from Alzheimer's disease patient, DNA repair defects, 129, 733
 Ca²⁺-dependent proliferation, relationship to membrane-bound protein kinase C (BALB/c mouse), 126, 741
 clavulone effects (human lung), 130, 515
 collagen synthesis, transcriptional regulation by activated mononuclear cell supernatants (human), 131, 1028
 cryptic and exposed urokinase receptors, detection (human foreskin), 133, 475
 cultured skin, in patients with progressive motor neuron disease, N-acetyl-β-hexosaminidase B deficiency (human), 130, 1185
 deficient in sphingomyelinase, correction with dimethylsulfoxide (Niemann-Pick patients), 126, 756
- embryonic
 ceruloplasmin synthesis in vitro (mouse), 126, 15
 clonal proliferation, inhibitory effects of 5-hydroxyeicosatetraenoic acid (chicken), 131, 731
 glucose transport system, stimulation by phorbol ester (mouse), 128, 1303
- epidermal growth factor synthesis and secretion in vitro (human), 131, 1080
- α-L-fucosidase processing, molecular defect in fucosidosis (human), 133, 90
- α-glucosidase high-molecular-weight intermediates, intracellular

Subject Index

- transport (human), 132, 412
- GM1386, detection of tropomyosin variants (human skin), 128, 1247
- γ -irradiation, effect on c-Ki-ras and c-myc oncogene expression (human), 128, 1037
- low-density lipoprotein binding in culture, stimulation by breast milk (human), 126, 667
- from mannosidosis patients, lysosomal α -mannosidase transfer from lymphocytes, 129, 417
- normal and H-ras-transformed, β -adrenergic response, phorbol ester differential effects, 133, 702
- prostaglandin synthesis, stimulation by breast milk (human), 129, 972
- serial transfection, fate and biological activity of exogenous DNA sequences (murine NIH/3T3 cells), 132, 635
- simian virus 40-transformed, reduced levels of translatable mRNA for Mn-superoxide dismutase (human), 129, 300
- sugar transport, regulation independent of glucose metabolism or carrier-substrate interaction (human), 128, 1418
- thermal injury, potentiation by interferon (murine Swiss 3T3 cells), 128, 179
- type IV collagenase regulation by cortisol during growth (human skin), 130, 588
- Fibroblast-stimulating factors
secretion by cultured alveolar macrophages, effect of A23187 and leukotriene B₄ (human), 129, 560
- Fibronectin
biochemical identification (sea urchin embryo), 133, 183
gelatin binding domain, amino acid sequence, comparison with seminal plasma protein PDC-109 (bovine), 130, 1010
initiation of fibrin production by endothelial cells *in vitro* (rabbit cornea), 128, 1114
mRNA levels after acute lung injury, bleomycin effects (rat), 131, 836
synthesis in cultured muscle cells, analysis during myogenesis (mouse), 130, 440
- Filaggrin
epidermal, solubilization with sodium pyrophosphate-glycerol buffer and HPLC (rat), 132, 1196
- Filaments
intermediate, protein composition (goldfish erythrocyte cytoskeleton), 133, 873
- Filamin
inhibition of actomyosin ATPase activity (porcine platelet), 132, 307
- Films
ultrathin protein, direct current electrical conductivity measurements (bovine), 133, 1152
- Flavin-containing monooxygenase, *see* Dimethylaniline monooxygenase (N-oxide-forming)
- Flavodoxin
-cytochrome c electron transfer complex formation, proton NMR (*Clostridium pasteurianum*), 130, 1281
electron transfer to nitrogenase, reduced efficiency in mutant with reduced redox potentials (*Azotobacter vinelandii*), 128, 643
- N-2-Fluorenylacetamide
-induced cytochrome P-450 isozymes, quantitation and partial purification (rat hepatic microsomes), 128, 578
- N-2-Fluorenylphtalamic acid
-induced hepatoma, identification of released oncofetal protein (rat), 127, 779
- Fluorescein
-labeled Ca²⁺, Mg²⁺-ATPase in reconstituted sarcoplasmic reticulum vesicles, fluorescence dependence on lipid/protein ratio (rabbit), 133, 176
transfer between cultured epidermal cells, inhibition by 1-oleoyl-2-acetyl glycerol, protein kinase C role (mouse), 126, 1109
- Fluorescein isothiocyanate
-labeled tryptic peptides prepared from Ca²⁺- and Na⁺, K⁺-ATPases, amino acid sequence, comparison (canine, ovine, rabbit, rat tissues), 130, 732
- Fluorescence
energy transfer measurements: aflatoxin B₁ complexes with microsomal cytochrome P-450 (rat liver), 129, 493
fluorescein-labeled Ca²⁺, Mg²⁺-ATPase in reconstituted sarcoplasmic reticulum vesicles, dependence on lipid/protein ratio (rabbit), 133, 176
N-(1-pyrenyl)iodoacetamide-labeled actin, evaluation as measure of actin polymerization, 128, 1058
tryptophan residue of cytochrome P-450 isozyme 2 (rabbit liver), 128, 676
two-photon-induced, hematoporphyrin derivative, 126, 346
- Fluoride
effect on rod outer segment cGMP phos-

Subject Index

- phodiesterase and G protein (bovine retina), 131, 146
- induction of free Ca^{2+} increase in neutrophils (human), 133, 161
- Fluorination
- ring-, dihydroxyphenylalanine, effect on kinetics of O-methylation by catechol-O-methyltransferase, significance in development of ^{18}F -PETT scanning agents, 130, 1123
- 5-Fluoro-2'-deoxyuridine
- lipophilic analogs, synthesis, incorporation into liposomes, and preliminary biological results, 126, 660
- m-Fluorotyrosine
- substitution in β -galactosidase, pH profiles, comparison with normal enzyme, 131, 675
- 5-Fluorouracil
- effect on DNA elongation (murine bone marrow), 133, 361
- Fluphenazine
- effect on plasma membrane redox system in vitro (carrot cells), 126, 262
- Fodrin
- phosphorylation by purified insulin receptor kinase (porcine brain), 127, 493
- Folic acid
- regulation of GTP binding to isolated Dictyostelium discoideum membranes: functional coupling between cell surface receptors and G proteins, 129, 11
- self-association in aqueous solution, effect of salt, ^1H NMR, 130, 1273
- Follicle-stimulating hormone
- regulation of Leydig's cell function via Sertoli's cell proteins in vitro (porcine testis), 132, 729
- Formaldehyde
- fixed tissues, DNA purification (human), 130, 118
- Formate-tetrahydrofolate ligase
- methylenetetrahydrofolate dehydrogenase-methenyltetrahydrofolate cyclohydrolase, dehydrogenase-cyclohydrolase active site, affinity labeling (porcine liver), 128, 148
- Formycin B
- phosphorylation, role of adenosine kinase (Chinese hamster ovary cells), 130, 910
- N-Formyl-methionyl-leucyl-phenylalanine
- analog with L-aminocyclohexanecarboxylic acid at position 2, biological activity, comparison with parent compound, 128, 339
- induction of
- intracellular pH changes in neutrophils, pertussis toxin effect (human), 131, 64
- superoxide anion production in neutrophils, islet-activating protein effects (guinea pig), 130, 939
- and platelet-activating factor or leukotriene B_4 , synergistic activation of NADPH oxidase (human neutrophils), 128, 297
- N-Formyl-methionyl-leucyl-phenylalanine receptors
- mediated polyphosphoinositide breakdown, role of guanine nucleotide regulatory proteins (human neutrophils), 127, 450
- 6-Formylpterin
- synthesis and release in peripheral blood mononuclear cells during activation (human), 132, 404
- Formyltetrahydrofolate synthetase, see Formate-tetrahydrofolate ligase
- Forskolin
- deacetylation by cerebral membranes (bovine), 133, 52
- and insulin, antilipolytic effect on adipocytes, reversal by pertussis toxin, role of cAMP (rat), 130, 1059
- and 12-O-tetradecanoylphorbol-13-acetate, thyrotropin-like stimulation of protein iodination in thyroid follicles (mouse), 128, 858
- Free radicals
- endogenous, generation, effect on mitochondrial proteolysis (rat liver), 126, 1082
- formed during hydrazine microsomal metabolism, spin trapping (rat liver), 133, 1086
- mediated nucleoside degradation by elliptinium acetate, role of iron salts, 133, 15
- Fructose-bisphosphatase
- activation by thioredoxin, species specificity (soybean, wheat seedlings), 127, 401
- catabolite-induced inactivation (yeast), 130, 467
- phosphofructokinase cycle, fructose 2,6-bisphosphate effects, 126, 571
- reactive cysteine residue, relationship to fructose 2,6-bisphosphate allosteric site (porcine kidney), 127, 373
- regulation, role of AMP deaminase inhibition by P_i (yeast), 128, 1020
- in spinach chloroplasts and porcine kidney, amino acid sequence homology, 133, 520

Subject Index

- Fructose-2,6-bisphosphatase
 -phosphofructokinase-2 cycle, quasi-stationary concentrations of fructose-2,6-bisphosphate (rat liver), 131, 899
- Fructose 2,6-bisphosphate
 allosteric site, relationship to reactive cysteine residue of fructose-1,6-bisphosphatase (porcine kidney), 127, 373
 effect on fructose-1,6-bisphosphatase-phosphofructokinase cycle, 126, 571
 quasi-stationary concentrations in the phosphofructokinase-2/fructose-2,6-bisphosphatase cycle (rat liver), 131, 899
- Fructose-bisphosphate aldolase
 amino acid sequence analysis (*Drosophila melanogaster*), 126, 199
 crystalline, inactivation by phosphate ion (rabbit skeletal muscle), 128, 417
 isozyme A mRNA, cDNA isolation and nucleotide sequence (human), 131, 413
- α -L-Fucosidase
 processing in fibroblasts, molecular defect in fucosidosis (human), 133, 90
- Fucosidosis
 -associated molecular defect in α -L-fucosidase processing (human fibroblasts), 133, 90
- Fumarate
 permeation in mitochondria, mediation by malate and phosphate translocators (rat liver), 132, 8
- Fumarate reductase, see Succinate dehydrogenase
- Fura 2
 as indicator of agonist-induced changes in cytosolic Ca^{2+} , biological properties, comparison with Quin 2 (human platelets), 132, 652
- Fusicoccin
 stimulation of plasmalemma H^{+} -ATPase in vitro (radish seedlings), 133, 280
- G
- GABA, see γ -Aminobutyric acid
- Galactocerebroside sulfotransferase, see Galactosylceramide sulfotransferase
- Galactose
 -specific lectins, function as Fc receptor (rat liver), 130, 1002
- α -Galactosidase I
 carbohydrate chain types, fast atom bombardment mass spectrometric determination (*Vicia faba*), 132, 1
- β -Galactosidase
 m-fluorotyrosine substitution, pH profiles, comparison with normal enzyme, 131, 675
 liposome-trapped, enzyme replacement in murine globoid cell leukodystrophy (*Charonia lumpas*), 127, 663
- β -Galactosides
 -binding lectin, antigenically related nuclear and cytoplasmic proteins, transformation- and growth-related changes (human lymphocytes), 127, 680
- Galactosylceramide sulfotransferase
 inhibition by triazine aromatic dyes: interaction with 3'-phosphoadenosine 5'-phosphosulfate-binding site (rat brain), 129, 522
- Gallamine
 -defined muscarinic receptor subpopulations, correlation with N-methylatropine- and N-methylscopolamine-defined subpopulations (rat forebrain), 126, 1242
- Gangliosides
 GD2, specificity of monoclonal antibodies to neuroblastoma cells (human), 127, 1
 GM₁, -containing liposomes, cholera toxin binding, water-exposed area, comparison with toxin free in solution, 130, 835
 GM₂, N-glycolyl neuraminic acid-containing, antibodies: preparation and specificity (chicken), 129, 334
 and lecithin-ganglioside monolayers, interaction with morphine and naloxone (bovine brain, soybean), 126, 269
- Gap junctions
 channel gating, role of junction protein C-terminal arm (bovine lens), 133, 688
- GDP (guanosine 5'-diphosphate)
 -sensitive mitochondrial uncoupling protein, partial purification and functional reconstitution (hamster brown adipose tissue), 127, 509
 tubulin E-site, incorporation during microtubule elongation in vitro (bovine brain), 131, 386
- Gelsolin
 plasma, action on actin filaments, Ca^{2+} dependency of capping and severing activities (bovine serum), 131, 1132
- Genes
 alkaline phosphatase, adult and fetal

Subject Index

- intestinal, comparison (human), 126, 427
- androgen-regulated, upstream sequence homology (rat prostate, seminal vesicles), 126, 948
- apolipoprotein B-100
highly polymorphic, mapping to short arm of chromosome 2 (human), 133, 248
localization on chromosome 2 (human), 131, 1003
- apolipoprotein E, variant allele, isolation and characterization (human), 130, 1261
- aromatic-amino-acid aminotransferase, nucleotide sequence (*Escherichia coli*), 133, 134
- aspartate aminotransferase, site-directed mutagenesis (*Escherichia coli*), 132, 915
- bacteriophage λ cII, integrative host factor-stimulated expression, inhibition by NusA protein (*Escherichia coli*), 127, 1026
- calcitonin
and insulin I and II and parathyroid hormone, localization on chromosome 1 (rat), 131, 1175
related peptide, stimulation of adenylate cyclase and plasminogen activator production (porcine LLC-PK₁ cells), 131, 537
- cell cycle-dependent
cycloheximide effect on expression, 132, 327
interleukin-2 effect on expression (human T lymphocytes), 133, 410
- c-fos, c-myc, c-Ha-ras, and c-Ki-ras proto-oncogenes, expression in PCC4 and PCD1 teratocarcinoma cells (mouse), 128, 513
- c-Ha-ras sequences, associated chromatin and nuclear proteins, analysis (HeLa S3 cells), 128, 226
- chloroplast, sequence homology with amyloplast DNA (sycamore cells), 133, 140
- c-Ki-ras
activation in pancreatic carcinoma cells (human), 127, 168
and c-myc oncogenes, expression in normal and γ -irradiated fibroblasts (human), 128, 1037
- c-myc
expression in hepatoma cells (human), 132, 264
and N-ras oncogenes, expression in HL-60 promyelocytic leukemia cells during differentiation induction (human), 126, 999
reduced expression in antipain-treated proliferating C3H 10T1/2 cells, 133, 830
- c-raf, activated, identification in 2-amino-3-methylimidazo[4,5-f]quinoxaline-induced hepatocellular carcinoma (rat), 132, 186
- c-sis, expression in simian virus 40-transformed BHK cells, 130, 753
- cystathionine β -synthase, expression, dosage effect in trisomy 21 (human fibroblasts), 128, 40
- cytochrome P-450, dioxin-inducible on chromosome 9, regional linkage analysis (mouse), 130, 396
- cytochrome P-450_{cam}, cloning and expression in *Escherichia coli* and *Pseudomonas putida*, 130, 412
- epidermal growth factor, amplification in MDA-468 breast cancer cells, effect on EGF growth regulatory function (human), 128, 898
- epidermal growth factor receptor, amplification, overexpression, and rearrangement in astrocytoma cells (human), 131, 207
- expression in ascites hepatoma cells, effect of protein-bound polysaccharide PSK (rat), 126, 884
- α -globin, nucleosomal repeat pattern, preservation in induced erythroleukemia cells (mouse), 130, 364
- hexokinase, transcription increase in rapidly growing hepatoma (rat), 133, 608
- histone
H4, enhancer-facilitated expression in cultured cells (human), 127, 239
inactivation, correlation with heat shock-induced modification of H2B and H3 methylation patterns (*Drosophila*), 133, 823
- H-ras
-encoded protein, GTPase activity, effect of glycerol and metal ions (*Escherichia coli*), 128, 1440
-transformed and normal NIH/3T3 fibroblasts, β -adrenergic response, phorbol ester differential effects, 133, 702
- interleukin 2, human, cloning and expression in *Streptomyces lividans* using *Escherichia coli* consensus promoter, 133, 511
- kanamycin resistance, vector construction (*Escherichia coli*), 133, 1112
- Ki-ras
intact, p21 protein expression in *Escherichia coli*, 132, 126
and serum albumin, methylation state, comparison (rat hepatic nonparenchymal cells, hepatocytes), 126, 879

Subject Index

- lac-operon, induction level during steady-state growth, effect of isopropylthio- β -D-galactoside concentration (*Escherichia coli*), 128, 1268
- lac Y, CYS₁₅₄, role in lac permease activity (*Escherichia coli*), 132, 162
- luciferase, cloned subunits from separate replicons, expression in *Escherichia coli* (*Vibrio harveyi*), 127, 1007
- meprin, altered expression in deficient inbred strains (murine kidney), 132, 171
- metB, metL, and metJ, expression *in vitro*, effect of metJ gene product and S-adenosylmethionine (*Escherichia coli*), 133, 731
- myosin heavy chain, expression, thyroid hormone effects, dot-blot mRNA assay (rat cardiac, soleus muscles), 130, 1161
- N-myc, expression in neuroblastoma cells *in vitro*, effect of retinoic acid-induced differentiation (human), 126, 1189
- non- α -globin cluster, deletion in $\delta\beta$ -thalassemia (human), 126, 185
- oncogenic
 EJ/T24/H-RAS-induced cellular transformation, effect on adenylate cyclase response to β -adrenergic agonists and receptor-dependent inositol lipid hydrolysis (BALB/3T3 cells), 132, 900
 expression in prostatic carcinoma cells (human), 132, 548
 homologs detected in fungal DNA, linkage to actin-related sequences, 133, 293
- ornithine decarboxylase, difluoromethylornithine-induced amplification (Ehrlich ascites carcinoma cells), 126, 734
- post-envelope, bovine leukemia virus, -encoded protein, purification and partial amino acid sequencing: evidence for expression in natural infection (FLK cells), 131, 347
- prealbumin, localization to chromosome 18 (human), 129, 753
- proto-myb, structural organization (mouse), 132, 688
- ptsM/peI, -encoded protein, role in bacteriophage λ DNA transport into host cells (*Escherichia coli*), 130, 1093
- ras
 -encoded protein p21
 amplified expression in hormone-dependent mammary carcinomas (human, rat), 127, 699
 synthesis inhibition by cAMP analogs (retrovirus-transfected NIH/3T3 cells), 130, 1193
 -induced phenotypic transformation, inhibition by interferon (human), 126, 509
 sequence amplification in tumor cells (human H69, NB1, Y79 cells), 130, 508
 thymidine kinase, herpes simplex virus type-1
 -containing drug-resistant cells, screening: detection of 9-(1,3-dihydroxy-2-propoxymethyl)-guanine-associated cytotoxicity (human), 133, 195
 integration into mammalian TK-cells: electric field-mediated transformation (C1D, CHO cells), 129, 611
 thyrotropin β -subunit, analysis (rat), 128, 1152; erratum, 129, 319
 tryptophan, *Brevibacterium lactofermentum*, cloning and expression in *Escherichia coli*, 133, 1013
 VIP/PHM-27, expression, synergistic stimulation by dibutyl cAMP and phorbol esters in neuroblastoma cells (human), 132, 885
 D-xylose isomerase, cloning and expression in *Bacillus subtilis* (*Escherichia coli*), 126, 1154
- Glial cells
 sulfated glycoprotein *in vitro* synthesis and release (neonatal rat brain), 126, 778
- Globin
 cDNA, detection of sequence coding for previously unreported globin (*Chironomus thummi*), 133, 641
 chain synthesis, polyamine effects (human reticulocytes), 129, 546
 non- α -globin gene cluster, $\delta\beta$ -thalassemia-associated deletion, identification (human), 126, 185
- α -Globin
 gene, nucleosomal repeat pattern, preservation in induced erythroleukemia cells (mouse), 130, 364
- β -Globin
 tryptic digest, mapping by FAB mass spectrometry (human), 130, 84
- Globoid cell leukodystrophy
 enzyme replacement with liposomes containing β -galactosidase from *Charonia lumpas* (twitcher mouse), 127, 663
- Globulins
 testosterone-estradiol-binding, binding to prostatic cell membrane (human), 128, 432

Subject Index

Glomerulosa cells

- adrenal, atrial natriuretic factor growth-stimulating activity (bovine), 132, 261

Glucagon

- with/without cholecystokinin octapeptide, effect on amylase secretion from isolated acinar cells (rat pancreas), 129, 63
- effect on phospholipid methyltransferase phosphorylation by intact hepatocytes (rat), 131, 477
- induced GTP-sensitive adenylate cyclase, response to GTP formed from added GDP via membrane-associated nucleoside-diphosphate kinase (rat liver), 131, 199
- regulation of gluconeogenesis, bile duct ligation effects (isolated rat hepatocytes), 126, 1146
- stimulated DNA synthesis, inhibition by ethanol (rat hepatocytes), 128, 767

Glucocorticoid receptors

- activation by binding of antagonist Ru38486 (rat liver), 133, 745
- lymphocyte, distribution in cytoplasmic fraction (human), 131, 877
- nontransformed, heterogeneity after stabilization with sodium molybdate (rat liver), 131, 1139

Glucocorticoids

- action on hepatic ornithine decarboxylase, permissive effect of catecholamines (rat), 129, 885
- binding by hepatic cytosol, enhancement by D- and L-thyroxine (rat), 129, 447
- regulation of atrial natriuretic factor synthesis and release (rat), 131, 806
- tyrosine aminotransferase induction, inhibition by phorbol ester (Reuber H35 hepatoma cells), 131, 815

Gluconate

- iron(III) complex, effect on Ca^{2+} transport and malondialdehyde production *in vitro* (rat hepatic mitochondria), 130, 207

Gluconeogenesis

- hepatic, acute effects of tumor-promoting phorbol esters (rat), 129, 721
- regulation by glucagon, bile duct ligation effects (isolated rat hepatocytes), 126, 1146
- renal, stimulation by atrial natriuretic peptides (rat), 129, 833

Glucose

- blood levels in pregnant adult and fetus, effects of hepatectomy and nephrectomy (rat), 131, 1219

- enhanced insulin pool, effects of arginine, cAMP, and epinephrine (rat pancreatic islets), 133, 696
- and glutamine-deprived cells, heat-shock treatment, protection by α -keto acids (hamster), 131, 1013
- ingestion, elevation of human serum pyruvate dehydrogenase activator (human), 129, 41

metabolism

- independence of sugar transport regulation (human fibroblasts), 128, 1418
- in leukemic HL-60 cells, relationship to insulin-like peptide secretion (human), 129, 293
- modulation of tumor tolerance in murine model of breast cancer, 132, 1174
- oxidation by pancreatic islets, digitoxose effect (lean, genetically obese diabetic mice), 129, 358
- regulated proteins, synthesis, role of Ca^{2+} (rat hepatoma cells), 131, 868

stimulation of

- isolated pancreatic islets, phosphate efflux and influx, simultaneous estimation (rat), 129, 862
- phospholipid *de novo* synthesis in pancreatic islets via acyl-dihydroxyacetone phosphate (neonatal rat), 132, 467
- whole-body turnover, BRL 26830 effects (genetically obese mouse), 130, 241

D-Glucose

- basal and insulin-stimulated transport in isolated adipocytes, effect of phorbol esters (rat), 128, 824
- transport systems in plasma membranes, distinction (rat renal cortex), 132, 490

Glucose dehydrogenase

- methoxatin-requiring, restoration by 4,7-phenanthroline-5,6-dione (*Acinetobacter calcoaceticus*), 131, 564

Glucose oxidase

- negative mutants and -positive revertants, isolation and ability to degrade lignin (*Phanerochaete chrysosporum*), 131, 436

Glucose 6-phosphate

- modification of Na^+, K^+ -ATPase: model for diabetes-associated changes in human renal medulla (bovine kidney), 131, 1206

Glucose-6-phosphate dehydrogenase

- erythrocyte, genetic variant, properties (human), 132, 1151
- molecular forms, regulation by insulin

Subject Index

- and dietary restriction (rat liver), 127, 136
- Glucose transport
- active
 - inhibition by osmotic stress (*Escherichia coli*), 126, 434
 - osmotic stress-inhibited, restoration (*Escherichia coli*), 126, 442
 - into brain cells, effect of insulin receptor internalization (neonatal rabbit), 133, 670
 - increase in white adipocytes isolated from BRL 26830-treated obese mice, 133, 457
 - in isolated adipocytes, insulin-like stimulation by fatty acids (rat), 128, 1358
 - in isolated fat cells, effect of N-(4-pyridylcarbonyl amino)-1,2,3,6-tetrahydropyridine (rat), 130, 194
 - stimulation by phorbol ester (murine embryonic fibroblasts), 128, 1303
- α -Glucosidase
- high-molecular-weight intermediates, intracellular transport (human fibroblasts), 132, 412
- β -Glucosidase
- and exo-glucosidase, distinction by kinetic test (*Alcaligenes faecalis*), 133, 628
- β -Glucuronidase
- lysosomal, ricin-binding properties, role of prior processing by trans-Golgi apparatus terminal transferases (human), 133, 614
 - protein phosphorylation: identification of serine- and threonine-phosphates (human pulmonary adenocarcinoma), 126, 818
- Glutamate
- binding site, high-affinity, molecular size determination (rat cerebral synaptic membranes), 126, 227
- Glutamate-ammonia ligase
- active site
 - arginine residue chemical modification, effect on enzymatic activity (*Escherichia coli*), 126, 412
 - detection of cysteine residues and catalytic role (spinach chloroplasts), 133, 527
 - affinity labeling by β , γ -Cr(III)-(H₂O)₄ATP complex (*Escherichia coli*), 130, 418
- Glutamate-aspartate transaminase
- effects of various β , γ -unsaturated amino acids (porcine heart), 129, 193
- Glutamine
- and glucose-deprived cells, heat-shock treatment, protection by α -keto acids (hamster), 131, 1013
- Glutamine synthetase, see Glutamate-ammonia ligase
- Glutathione
- acetaldehyde-dependent oxidation (rat hepatic cytosol), 129, 949
 - conjugation with
 - 1,4-disubstituted butane in vitro, glutathione S-transferase role (rat liver), 128, 360
 - 1,2-epoxy-1,2,3,4-tetrahydronaphthalene by glutathione S-transferase, enantioselectivity (rat hepatic cytosol), 130, 65
 - effect on plant development (wild carrot), 133, 988
 - intracellular
 - compartmentation in renal proximal tubules (rabbit), 133, 1001
 - role in endothelial cell defense against oxidant damage (bovine pulmonary artery), 127, 270
 - oxygen and desthio analogs, synthesis and characterization (rat liver), 128, 233
 - reduced, inhibition of colchicine binding by tubulin (bovine brain), 128, 506
 - role in hydroperoxide removal (*Nostoc muscorum*, *Synechococcus*), 132, 533
 - thiopurine methyltransferase reaction, analysis (rat kidney), 126, 1201
- Glutathione transferase
- cytosolic, distinct forms, leukotriene C₄ formation induction (human liver, placenta), 128, 265
 - glutathione conjugation with 1,2-epoxy-1,2,3,4-tetrahydronaphthalene, enantioselectivity (rat hepatic cytosol), 130, 65
 - HPLC purification, methodology (human placenta), 128, 75
 - inhibiting glutathione oxygen and desthio analogs, synthesis and characterization (rat liver), 128, 233
 - isoenzymes
 - differential activities with benzo[a]pyrene epoxides (rat, human lung), 133, 863
 - hepatic and pulmonary forms, comparison (rat), 127, 80
 - role in 1,4-disubstituted butane conjugation with glutathione in vitro (rat liver), 128, 360
 - γ _b class, multiple forms: temperature-dependent redistribution (rat liver), 127, 425
- Gluten
- lectin activity, identification as wheat germ agglutinin (human erythrocytes), 130, 867

Subject Index

Glycerol

blood levels in pregnant adult and fetus, effects of hepatectomy and nephrectomy (rat), 131, 1219

requirement for triglyceride synthesis and ketogenesis in hepatocytes after triiodothyronine treatment (rat), 132, 1001

stimulation of H-ras protein-associated GTPase activity (*Escherichia coli*), 128, 1440

Glycerolphosphate

donor role of phosphatidyl glycerolphosphate in polymer synthesis, 128, 906

Glycerol-3-phosphate dehydrogenase

mRNA content, regulation by dibutyryl cyclic AMP (3T3-L1 adipocytes), 131, 1193

Glycine N-methyltransferase

inhibition by folate derivatives: implications for regulation of methyl group metabolism, 127, 746

Glycogen

covalent binding to protein via tyrosine-glycosyl linkage (rabbit skeletal muscle), 132, 829

synthesis regulation, carbamyl phosphate role (rat liver), 130, 229

Glycogenolysis

phorbol- and platelet-activating factor-stimulated, role of generated cyclooxygenase products (perfused rat liver), 132, 204

Glycogen phosphorylase

active site, cysteine identification (rabbit muscle), 132, 1066

and chicken gizzard myosin light chain kinase, binding to ¹²⁵I-calmodulin, quantitation and comparison (rabbit liver), 126, 295

Glycogen synthase

phosphorylation state, changes during gestation (fetal rat liver), 126, 1215

threonine phosphorylation (rat liver), 130, 987

Glycogen synthase b

-activating protein, identification and characterization (rat liver), 126, 170

Glycogen-synthase kinase

calmodulin-dependent, self-regulation by autophosphorylation (rabbit skeletal muscle), 129, 213

Glycolipids

Lewis antigenic, biosynthesis in cell-free extracts of intestinal tumor cells cultured in serum-free medium (human), 131, 736

reacting with monoclonal IgM in demyelinating neuropathy and HNK-1 an-

tibody, purification and characterization (human cauda equina, peripheral nerves), 128, 383

N-Glycolyl neuraminic acid

-containing GM₂ ganglioside, antibodies, preparation and specificity (chicken), 129, 334

Glycolysis

role in adenylate energy charge stabilization by depletion of adenylates (yeast), 129, 287

Glycopeptides

complex and high-mannose-type, trimannosyl oligosaccharide fragment, interaction with concanavalin A, 127, 1066

Glycophorin A

phosphorylation in intact erythrocyte membranes (human), 127, 878

Glycoproteins

angiogenesis- and collagenase-inhibiting, purification and characterization (bovine vitreous humor), 133, 911

IIb/IIIa complex, expression on blood platelets, diamide and iodoacetamide effects (human), 127, 822

mucus, see Mucus glycoproteins

oligosaccharide chains, antigenicities and receptor functions, determination, 132, 474

phytohemagglutinin receptor, insertion in liposomes and fusion with phytohemagglutinin-resistant mutants, neoreceptor development (Chinese hamster ovary cells), 132, 1024

secretion by hepatoma cells, carbohydrate role (human), 128, 368

sulfated, synthesis and release by cultured glial cells (neonatal rat brain), 126, 778

surface, associated with epidermal differentiation, characterization (newborn rat), 132, 269

Glycosaminoglycans

heparin-like, synthesis by cultured endothelial cells (rat epididymis), 126, 365

Glycosyl

-tyrosine linkage in glycogen covalent binding to protein (rabbit skeletal muscle), 132, 829

Glycosyltransferase

dolichylmonophosphate-linked, in protein N-glycosylation pathway, activation by agonist-stimulated β -adrenergic receptors (rat parotid acinar cells), 126, 123

Glycylsarcosine

uphill transport, proton gradient-coupled, in renal brush-border membrane vesicles (rabbit), 132, 946

Subject Index

Goiter

congenital, thyroglobulin mRNA size heterogeneity (Afrikaner cattle), 126, 240

Gold

effect on adenylate cyclase response to parathyroid hormone, prostaglandin E_2 , and guanine nucleotide (chick osteoblast membrane), 130, 580

Gonadotropin

human chorionic, see Human chorionic gonadotropin

Gonadotropin receptors

aggregation state, analysis, 127, 687

Gonadotropin-releasing hormone

activation, mediation by dimerization of occupied receptors, 133, 449

Gonadotropin-releasing hormone receptors

occupied, dimerization, mediation of hormone activation, 133, 449

Gossypol

inhibition of ribonucleotide reductase (mouse), 133, 300

Granulocytes

neutrophilic alkaline phosphatase induction by retinoic acid and retinal (human bone marrow), 131, 1181

progenitors, clonal proliferation, inhibitory effects of 5-hydroxyelcosatetraenoic acid (chicken embryo), 131, 731

Granulosa cells

differentiated function, human somatomedin C effects (porcine ovary), 130, 234

maturation, inhibition by diacylglycerol and phorbol ester, comparison (rat), 133, 468

GRF, see Growth hormone-releasing factorGrowth factors, see also specific growth factors

cartilage-derived, effect on intracellular Ca^{2+} concentration and proteoglycan synthesis (chicken embryo chondrocytes), 132, 770

heparin-binding, purification and characterization (bovine, human brain), 131, 586

prostatic, partial purification and characterization (human), 132, 1103

stimulation of porcine aortic endothelial cell proliferation (human), 126, 83

Growth hormone, see Somatotropin

Growth hormone-releasing factor

adenylate cyclase activation in pituitary, somatostatin effect (bovine, human, rat), 127, 977

human pancreatic, synthetic analog, specific binding to bovine an-

terior pituitary, 126, 33

hypothalamic, biological action in GH₃ cells, role of interaction with VIP-preferring receptor sites (rat), 127, 992

stimulation of

adenylate cyclase in GH₃ cells, inhibition by somatostatin (rat), 127, 986

CAMP accumulation in anterior pituitary cells, enhancement by tumor promoters (rat), 129, 404

prostaglandin E_2 production: role in GRF-induced growth hormone release (rat anterior pituitary), 126, 725

GTP (guanosine 5'-triphosphate)

binding to isolated *Dictyostelium discoideum* membranes, regulation by CAMP and folate: functional coupling between cell surface receptors and G proteins, 129, 11

formed from added GDP via membrane-associated nucleoside-diphosphate kinase, differential responses of GTP-sensitive adenylate cyclase achieved by hormone and cholera toxin (rat liver), 131, 199

GTPase

high-affinity hormone-sensitive, stimulation by 1-O-alkyl-2-O-acetyl-sn-glyceryl-3-phosphocholine (human platelets), 131, 307

H-ras protein-associated activity, effect of glycerol and metal ions (*Escherichia coli*), 128, 1440

opioid-dependent, desensitization induced by chronic treatment with [D-Ala², D-Leu⁵]enkephalin (NG108-15 cells), 128, 1342

Guanidinoxypropylamine

isolation and characterization (*Canavalia gladiata*, *Wistaria floribunda*), 129, 46

p-Guanidino-L-phenylalanine

residues in ascitic plasma, recognition by specific serine protease (Ehrlich ascites tumor-bearing mouse), 128, 1233

Guanine nucleotides

adenylate cyclase response

gold effects (chick osteoblast membrane), 130, 580

and Kirsten sarcoma virus-mediated transformation, relationship (murine fibroblasts), 127, 318

-binding inhibitory protein in adenylate cyclase system

identification in ovary (swine), 131, 1168

independent modulatory effect on ACTH secretion from pituitary

Subject Index

- tumor cells (mouse), 126, 941
 role in
 chemoattractant receptor-mediated polyphosphoinositide metabolism, Ca^{2+} mobilization, and biological responses by neutrophils (human), 127, 450
 ninhinibin attenuation of atrial natriuretic factor-mediated adenylate cyclase inhibition (rat), 129, 171
 specific binding to tubulin (rat brain), 132, 193
 binding at tubulin exchangeable site, inhibition by maytansine and vinblastine, 128, 1239
 interactions with transducin and inhibitory GTP-binding protein of adenylate cyclase, pertussis toxin-catalyzed ADP-ribosylation effects (NG108-15 cells), 127, 999
 -modulated mechanism of polyphosphoinositide hydrolysis, stimulation by thyrotropin-releasing hormone (pituitary GH_3 cell membranes), 132, 721
 reduction of apomorphine affinity for dopamine receptors (bovine retinal membranes), 133, 222
 Guanosine 5'- α -(2-thiodiphosphate) nonpurified, effect on prostaglandin E_1 stimulation of adenylate cyclase (human platelets), 126, 983
 Guanylate cyclase
 cation-dependent activation by substance P (rat), 128, 141
- H
- Heart
 atrial extracts, induction of blood pressure increase (rabbit, rat), 129, 472
 atrial natriuretic factor molecular forms, detection (various mammals), 129, 248
 dihydropyridine oppositely acting enantiomers, receptor binding, electrophysiological and pharmacological analysis (dog, guinea pig), 131, 13
 myocardial reperfusion injury, role of reactive oxygen species (mongrel dogs), 127, 87
 opiate binding, modulation after hemorrhagic shock (rat), 127, 120
 performance and oxygen consumption, effect of myocardial isomyosin (rat), 130, 1314
 storage of high-molecular-weight atrial natriuretic polypeptide precursor before secretion of active form (rat), 129, 82
- Heat shock
 effect on cAMP levels (Chinese hamster ovary cells), 126, 911
 -induced modification of histone H2B and H3 methylation patterns, correlation with inactivation of normal gene (*Drosophila*), 133, 823
 lethal, cells deprived of glucose and glutamine, protection by α -keto acids (hamster), 131, 1013
 response inhibition, role of Ca^{2+} (rat hepatoma cells), 131, 868
- Heat stability
 as criterion for identification of microtubule-associated proteins (bovine brain), 133, 128
- Helium
 -neon laser, lymphocyte irradiation, effect on cellular interaction with *Salmonella minnesota* (human), 130, 546
- Helodermin
 -like peptides related to secretin and VIP, detection in brain, gut, and salivary glands (rat), 130, 333
- Hematoporphyrin
 derivative, two-photon-induced fluorescence, 126, 346
- Heme
 -binding cysteinyl residue, cytochrome P-450 isozyme 2, identification (rabbit hepatic microsomes), 128, 82
 chloroperoxidase, horseradish peroxidase, and lactoperoxidase, comparison by ^{13}C NMR of carbon monoxide complexes, 131, 607
 -copper relationship of cytochrome oxidase, analysis *in situ* (rat brain), 126, 1022
 liposomes, effect on δ -aminolevulinic acid synthase (rat liver), 130, 306
 metabolism, regulation by manganese (rat brain), 128, 18
 regulation of cytochrome-c oxidase subunit V and VII synthesis (yeast), 128, 1447
- Heme oxygenase
 regulation by manganese (rat brain), 128, 18
- Hemin
 complexes with cytochrome P-450 active-site synthetic analogs, characterization by optical and ESR spectrometry, 130, 1254
 low-spin paramagnetic, assignment of ^1H NMR resonances with nuclear Overhauser effect, 129, 70
 stimulation of estrogen synthetase

Subject Index

- (cultured human choriocarcinoma cells), 127, 232
- Hemodialysis**
chronic, associated amyloid protein, identification as β_2 -microglobulin (human), 129, 701
- Hemoglobin**
chain synthesis, polyamine effects (human reticulocytes), 129, 546
Fe effective charge, increase during oxygenation (human), 131, 98
Fe- or Ni-containing, and derivatives: temperature-dependent spectral changes, α -subunit role (human), 128, 721
 β -globin chain digest, mapping by FAB mass spectrometry (human), 130, 84
- Hemoglobin A**
free, autooxidation reactions, mechanism (human blood), 132, 742
- Hemoglobin M**
structure, effect of distal or proximal histidine replacement, absorption and CD spectral analysis (human), 128, 689
- Hemolysis**
phenylhydrazine-induced, silymarin inhibitory effect (rat erythrocytes), 126, 712
- Hemopexin**
intra- and extracellular forms produced in culture and cell-free translation, characterization (rat liver), 131, 593
- Hemorrhagic stress**
acute, induction of pro-opiomelanocortin-derived peptide secretion (conscious sheep), 133, 648
heart, modulation of opiate binding (rat), 127, 120
- Heparin**
active site for antithrombin III, corresponding synthetic pentasaccharide, mono- and bidimensional ^1H NMR spectra: conformational peculiarity of sulfated iduronate residue, 128, 134
-binding growth factors, purification and characterization (bovine, human brain), 131, 586
effect on nuclear protein phosphorylation (human tumor cells), 130, 700
-like glycosaminoglycans, synthesis by cultured endothelial cells (rat epididymis), 126, 365
- Heparin cofactor II**
synthesis and secretion by hepatoma-derived cells (human), 132, 368
- Hepatectomy**
and nephrectomy, effect on pregnant adult and fetal blood glucose, glycerol, and free fatty acid levels (rat), 131, 1219
- Hepatitis B virus**
DNA restriction endonuclease maps, characterization (human), 129, 797
surface antigen
monoclonal antibodies, secretion by human lymphocyte-murine myeloma hybridomas, 129, 26
produced in yeast, characterization, 131, 160
- Hepatocytes**
alcohol dehydrogenase expression in primary monolayer cultures, androgen and estrogen effects (rat), 128, 12
binding of human α_2 -macroglobulin: mechanism of *in vivo* clearance (rat), 128, 795
clavulone effects (human lung), 130, 515
DNA synthesis stimulation *in vitro* by phenobarbital and other tumor promoters (rat), 131, 103
fatty acid synthesis, differential short-term effects of growth factors (rat), 131, 449
hormone-stimulated DNA synthesis, inhibition by ethanol (rat), 128, 767
insulin binding and degradation (streptozotocin-treated rat), 128, 487
intact, phospholipid methyltransferase phosphorylation, glucagon effect (rat), 131, 477
intermediary metabolism, acute effects of tumor-promoting phorbol esters (rat), 129, 721
killing *in vitro* by hydrogen peroxide: requirement of lysosomal ferric iron (rat), 133, 371
lethal injury by acetaminophen, role of activated oxygen species (rat), 126, 1129
lipogenesis *in vitro*, short-term stimulation by triiodothyronine (eu-, hypothyroid rats), 128, 525
membranes and energy-producing reactions, role in insulin processing *in vitro* (rat), 132, 749
metabolic conversion of exogenous ornithine *in vitro*, bromodeoxyuridine effect (rat), 129, 746
plasma membrane, histamine H_1 receptor characterization and quantitation (rat), 127, 885
prostaglandin production, synergistic stimulation by transforming growth factor- α and 12-O-tetradecanoylphorbol-13-acetate or 1-oleoyl-2-acetyl-glycerol (rat), 130, 110

Subject Index

Hepoxilin A3

endogenous release from isolated perifused pancreatic islets of Langerhans (rat), 128, 942

Herpes simplex virus type 1

DNA fragments, -transformed cells, mutagenesis resistance (murine fibroblasts), 133, 1064

replication inhibition by cGMP analog, 128, 1329

thymidine kinase gene

-containing drug-resistant cells, screening: detection of 9-(1,3-dihydroxy-2-propoxymethyl)-guanine-associated cytotoxicity (human), 133, 195

-encoded protein, phosphorylation of (E)-5-(2-halogenovinyl)-2'-deoxyuridine carbocyclic analogs, role in analog selective antiherpetic activity, 126, 397

integration into mammalian TK⁻ cells: electric field-mediated transformation (C1D, CHO cells), 129, 611

Hexachlorobenzene

microsomal oxidation, pentachlorophenol formation (rat liver), 126, 25

 α -Hexachlorocyclohexane

stimulation of DNA synthesis in cultured hepatocytes (rat), 131, 103

Hexanoate, see n-Caproate

Hexokinase

gene transcription, increase in rapidly growing hepatoma (rat), 133, 608

role in Ca²⁺ transport in isolated mitochondria (rat brain), 131, 6

 β -Hexosaminidase

lysosomal, ricin-binding properties, role of prior processing by trans-Golgi apparatus terminal transferases (human), 133, 614

High-density lipoproteins

-binding protein, identification in adrenocortical membranes (sheep), 129, 759

interaction with

apolipoprotein A-I variant [Lys₁₀₇→0] (human), 133, 856

estradiol, effect on proliferation of MCF-7 breast cancer cells in serum-free culture (human), 133, 105

High-mobility-group proteins

ADP-ribosylation in intact and broken cells, comparison (HeLa cells), 127, 896

associated 25-kDa inhibitor of cAMP-independent protein kinase, identification (rat liver), 130, 149

HMG-1 and 2, differential binding to superhelical DNA (bovine thymus), 133, 633

HMG-14

affinity for single-stranded DNA, phosphorylation effect (bovine thymus), 133, 343

binding to histones H2A, H2B, H1, and DNA in reconstituted chromatin (calf thymus, rat liver), 132, 1031

High-performance liquid chromatography glutathione S-transferase purification, methodology (human placenta), 128, 75

Histamine

-induced contraction, inhibition by tamoxifen and N,N-diethyl-2-[(4-phenylmethyl)-phenoxy]-ethanamine·HCl (canine smooth muscle), 131, 750

phorbol ester-stimulated release from mast cells, inhibition by hydrocortisone (rat peritoneum), 130, 640

release by cloned MC9 mast cells, antigenic stimulation (mouse), 126, 517

secretion induced by compound 48/80, inhibition by phorbol myristate acetate (rat peritoneal mast cells), 132, 110

Histamine receptors

H₁

characterization and quantitation (rat liver), 127, 885

molecular size: target size analysis (bovine, human cerebral cortex), 129, 639

specific binding of [³H]mepyramine, analysis (porcine aortic, coronary sarcolemma), 126, 594

or histamine-like receptors, identification as antiestrogen binding site (rat hepatic microsomes), 126, 905

Histidine

distal or proximal, in hemoglobin M, replacement effect on absorption and CD spectral analysis (human), 128, 689

and NAD(P)⁺, formation of N^T-ribosyl-histidine by NAD(P)⁺ glycohydrolase system (human, rat), 130, 501

in peptides and proteins, dansylation, 130, 350

Histidine decarboxylase

splenic, induction by staphylococcal enterotoxin A (mast cell-deficient mouse), 129, 187

Histidinemia

N^T-ribosylhistidine formation from

Subject Index

- histidine and NAD(P)⁺ by NAD(P)⁺ glycohydrolase system (human urine), 130, 501
- Histone kinase, see Protamine kinase
- Histones
- ADP-ribosylation, enzymatic reversal in vitro (murine fibroblasts), 126, 136
 - and DNA, association in subnucleosomal product peak A (*Physarum polycephalum*), 131, 230
 - H₁, ADP-ribosylation in intact and broken cells, comparison (HeLa cells), 127, 896
 - H2A, H2B, and H1 in reconstituted chromatin, binding to HMG-14 non-histone protein (calf thymus, rat liver), 132, 1031
 - H2B and H3, methylation patterns, modification after heat shock, correlation with inactivation of normal gene (*Drosophila*), 133, 823
 - H4, gene, enhancer-facilitated expression in cultured cells (human), 127, 239
 - phosphorylated, dephosphorylation in vitro by repressible acid phosphatase (yeast), 129, 350; erratum, 133, 368
 - poly(ADP)-ribosylation, effect of phorbol 12-myristate 13-acetate (murine embryo fibroblasts), 132, 811
 - variants and ubiquitinated H2A and H2B, detection and quantitation (rat cerebral cortex), 133, 505
- HMG CoA reductase, see Hydroxymethylglutaryl-CoA reductase
- Horseradish peroxidase
- and chloroperoxidase and lactoperoxidase, heme environment and proximal ligands, comparison by ¹³C NMR of carbon monoxide complexes, 131, 607
 - H₂O₂-L-tyrosine system, chemiluminescence: tyrosine cation radical formation, 128, 936
- Human chorionic gonadotropin
- diphtheria toxin fragment A hybrid, synthesis and activity in vitro, 133, 430
 - serine-linked oligosaccharides, structural analysis, 126, 333
 - stimulated testosterone production, inhibition by human leukocyte interferon (porcine Leydig cells), 127, 809
 - and α -subunit, ectopic, production regulation by sodium butyrate in ChaGo lung cancer cells, 133, 972
- Human growth hormone, see Somatotropin
- Human T-cell leukemia virus
- transformed T cells, production of cytotoxic factors (human), 130, 1052
- Hyaluronic acid
- synthesis in articular cartilage, inhibition by hydrogen peroxide (bovine), 132, 714
- Hybridization
- bacteriophage p22 and MB78 (*Salmonella typhimurium*), 132, 42
 - 2,3-bisphosphoglycerate synthase-phosphatase and phosphoglycerate mutase in vitro (porcine erythrocytes, skeletal muscle), 129, 658
 - heterologous, ribulose 1,5-bisphosphate carboxylase/oxygenase subunits (*Aphanethece halophytica*, *Chromatium vinosum*, *Synechococcus* ACMM 323), 126, 698
- Hybridomas
- human lymphocyte-murine myeloma, secreting human monoclonal antibodies against tetanus toxin and hepatitis B virus surface antigen, construction, 129, 26
- Hybrids
- human-mouse somatic cell, methotrexate-resistant, selective overproduction of human dihydrofolate reductase, 132, 795
- Hydration
- screened electrostatic potential model, for conformational analysis of biomolecules, 126, 247
- Hydrazine
- free radical intermediate formed during microsomal metabolism, spin trapping (rat liver), 133, 1086
- Hydrocortisone
- inhibition of phorbol ester-stimulated release of histamine and arachidonic acid from mast cells (rat peritoneum), 130, 640
 - type IV collagenase regulation during fibroblast growth (human skin), 130, 588
- Hydrogen
- ATP-dependent transport in microsomes, stimulation by platelet-activating factor (zucchini hypocotyls), 133, 1160
 - bound cyclic tetramers, detection in tetramethylammonium guanosine 5'-monophosphate aqueous solutions, 128, 980
 - ²H, -induced isotope shifts in ¹³C NMR spectra of pepsin-bound peptide ketone pseudosubstrates, 129, 597

Subject Index

- Na⁺ exchange
 - in epithelial cells, inhibition by amiloride and derivatives (porcine kidney), 127, 759
 - relationship to ATP turnover stimulated by epidermal growth factor and/or insulin in quiescent 3T3 cells, 133, 265
 - stimulation by epidermal growth factor and insulin, role of protein kinase C activation (Swiss 3T3 cells), 130, 646
- or Na⁺, -melibiose symport, kinetic parameters: membrane potential effects (*Escherichia coli*), 129, 626
- Hydrogenase
 - Ni(III) center, optical transitions, low-temperature magnetic circular dichroism spectroscopy as probe (*Methanobacterium thermoautotrophicum*), 128, 220
- Hydrogen peroxide
 - with bleomycin-vanadium(IV) complex, cleavage of pBR322 DNA, 129, 368
 - and derivatives, role in bone marrow purging of neuroblastoma cells (human), 130, 168
 - doxorubicin-enhanced formation, effect on Ca²⁺ uptake by sarcoplasmic reticulum (rat heart), 130, 739
 - hepatocyte killing *in vitro*, requirement of lysosomal ferric iron (rat), 133, 371
 - horseradish peroxidase-L-tyrosine system, chemiluminescence: tyrosine cation radical formation, 128, 936
 - and hypochlorite, luminol cooxidation, chemiluminescence generation in neutrophils, 126, 482
 - induced damage, endothelial cell defense, role of intracellular glutathione (bovine pulmonary artery), 127, 270
 - inhibition of hyaluronic acid synthesis in articular cartilage (bovine), 132, 714
 - peroxidase-Br⁻ system, catalysis of N-hydroxy-N-2-fluorenylacetamide oxidation, mechanism (bovine milk, rat uterus), 131, 174
 - removal in cyanobacteria, role of glutathione and ascorbate (*Nostoc muscorum*, *Synechococcus*), 132, 533
- Hydrolysis
 - ester and peptide, by carboxypeptidase A, direct chemical evidence for mixed-anhydride intermediate, 132, 681
 - inositol phospholipids
 - induction by tachykinins (rat brain), 127, 616
 - muscarinic receptor-dependent, effect of cellular transformation with EJ/T24/H-RAS oncogene (BALB/3T3 cells), 132, 900
 - leucine-enkephalin, model for peptide absorption in nasal cavity (rat), 133, 923
 - phosphatidylinositol-4,5-bisphosphate in platelets, effect of platelet activation by ADP (human), 129, 958
 - phosphoinositide, induced by muscarinic receptor activation, inhibition by phorbol 12-myristate 13-acetate (PC12 cells), 127, 310
 - ³²P-labeled phosphatidylinositol phosphate, 129, 220
 - Hydroperoxide, *see* Hydrogen peroxide
 - 15-Hydroperoxyeicosapentaenoic acid
 - biotransformation to lipoxene (porcine leukocytes), 126, 763
 - Hydroxamate
 - type siderophores, production by *Candida albicans*, 130, 885
 - N-Hydroxy-2-acetylaminofluorene reductase
 - purification and characterization (rabbit hepatic cytosol), 133, 67
 - 3-Hydroxyacyl-CoA dehydrogenase
 - enoyl-CoA hydratase bifunctional protein, deficiency in Zellweger syndrome patients, 126, 1269
 - N-[(R,S)-3-Hydroxyaminocarbonyl-2-benzyl-1-oxopropyl]glycine
 - ³H-labeled, synthesis and binding to enkephalinase (rat brain), 131, 262
 - 4-Hydroxyaniline
 - formation from 4-aminobenzoic acid, catalyzing enzyme, identification and characterization (*Agaricus bisporus*), 130, 633
 - β-Hydroxyaspartic acid
 - residues in factor IXa derivative lacking γ-carboxyglutamic acid, role in Ca²⁺ binding (human), 130, 841
 - 6-Hydroxydopamine
 - derived reactive oxygen compounds, role in bone marrow purging of neuroblastoma cells (human), 130, 168
 - 5-Hydroxyeicosatetraenoic acid
 - inhibition of granulocyte progenitor and embryonic fibroblast clonal proliferation (chicken embryo), 131, 731
 - 12-Hydroxy-5,8,10,14-eicosatetraenoic acid
 - time-dependent inhibition of cyclooxygenase pathway (human platelets), 130, 781

Subject Index

Hydroxyeicosatetraenoic acids

- inhibition of endotoxin-induced thromboplastin (human monocytes), 132, 67

N-Hydroxy-N-2-fluorenylacetamide

- oxidation to 2-nitrosofluorene by peroxidase/H₂O₂/Br⁻ system, mechanism (bovine milk, rat uterus), 131, 174

12-L-Hydroxy-5,8,10-heptadecatrienoic acid

- identification as substrate for NAD⁺-dependent 15-hydroxyprostaglandin dehydrogenase (porcine kidney), 129, 268

5-Hydroxyl

- myo-inositol, requirement for uptake by fibrosarcoma cells (mouse), 130, 1139

Hydroxylase

- peroxisomal, conversion of 3 α ,7,12 α -trihydroxy-5 β -cholestane to cholestanetetrol (rat liver), 130, 708

Hydroxylation

- lidocaine, age-associated alterations (rat hepatic microsomes), 126, 117
- warfarin, regioselective and stereoselective, analysis (human placenta), 126, 1013

20-Hydroxy-leukotriene B₄

- NAD⁺-dependent conversion to 20-carboxy-leukotriene B₄ by neutrophil cell-free system (human), 132, 864

Hydroxyl radicals

- doxorubicin-enhanced formation, effect on Ca²⁺ uptake by sarcoplasmic reticulum (rat heart), 130, 739
- formation by diaziquone photoirradiation, 132, 445
- generation *in vivo*, role of Fenton reaction (yeast), 130, 533
- metal-mediated formation in aqueous extracts of cigarette tar, 132, 390

17 β -Hydroxy-17 α -methyl-4,9,11-estra-3-one

- ³H-labeled, androgen receptor photoaffinity labeling (bovine uterus, rat prostate cytosol), 126, 163

Hydroxymethylglutaryl-CoA reductase

- endoplasmic reticulum, equilibrium between monomeric and dimeric forms (rat hepatocytes), 132, 598

[Hydroxymethylglutaryl-CoA reductase (NADPH)] kinase

- cytosolic, activation by AMP (rat liver), 132, 497

6-Hydroxymethylpterin

- synthesis and release in peripheral blood mononuclear cells during activation (human), 132, 404

Hydroxymethyl sulfate esters

- regioselective formation from 7,12-dihydroxymethylbenz[*a*]anthracene by sulfotransferase (rat hepatic cytosol), 131, 694

6-Hydroxy-2,2,5,7,8-pentamethylchroman

- reaction with superoxide ion
HPLC, 129, 461
spectroscopic analysis, 126, 873
- 2-[β -(4-Hydroxyphenyl)-ethylaminomethyl]-tetralone
binding to α_1 -adrenoceptor, thermodynamics (guinea pig cerebral membranes), 128, 816

N-(4-Hydroxyphenyl)retinamide

- acyl CoA:retinol acyltransferase competitive inhibition (rat liver, mammary tumor), 128, 7

15-Hydroxyprostaglandin dehydrogenase

- NAD⁺-dependent, identification of 12-L-hydroxy-5,8,10-heptadecatrienoic acid as substrate (porcine kidney), 129, 268

3 β -Hydroxy- Δ^5 -steroid dehydrogenase

- microsomal, effect of Fe²⁺-induced lipoperoxidation (porcine adrenal cortex), 128, 657

N-Hydroxysuccinimide esters

- Boc-[S-(3-nitro-2-pyridinesulfonyl)]-cysteine, use as heterobifunctional crosslinking agent, 132, 1046
- permanent suppression of protein phase separation associated with cataract induction (bovine lens), 133, 239

Hydroxyurea

- effect on
scheduled DNA synthesis and repair (murine neuronal cells), 132, 929
- uridine diphosphate reductase from Ehrlich ascites tumor cells (mouse), 126, 1104

25-Hydroxyvitamin D₃

- metabolism *in vitro* by myeloid leukemia cells (human), 127, 635

25-Hydroxyvitamin D 1 α -hydroxylase

- inhibition by mitochondrial protein kinase-catalyzed phosphorylation (chick), 132, 1095

Hypertension

- endotoxin-induced, platelet-activating factor role, analysis with kadsurenone (rat), 127, 799
- induced changes in cardiac, cerebral, and plasma levels of atrial natriuretic factor (rat), 133, 759
- inducing activities of neuromedins U-8 and U-25 (porcine spinal cord), 130, 1078
- spontaneous
detection of increased myosin mRNA levels (rat heart), 132, 820

Subject Index

- effect on
 - elastin and tropoelastin amino acid composition (rat aorta), 129, 179
 - 12-lipoxygenase activity in platelets (rat), 127, 642
- Hyperthermia
 - effect on ornithine decarboxylase induction (murine kidney, skin), 126, 156
- Hypochlorite
 - and hydrogen peroxide, luminol cooxidation, chemiluminescence generation in neutrophils, 126, 482
- Hypoglycemic agents
 - supplemented diet, effect on adipocyte carbohydrate metabolism (db/db mouse), 126, 471
- Hypophysectomy
 - effect on fibroblast growth factor in various tissues (rat), 128, 1108
- I
- Iduronate residues
 - sulfonated, in synthetic pentasaccharide corresponding to heparin active site for antithrombin III, conformational peculiarity, 128, 134
- Imidazole
 - inhibition of neutrophil respiratory burst, role of cytochrome b₅₅₈ (human, swine), 130, 621
- Imido esters
 - permanent suppression of protein phase separation associated with cataract induction (bovine lens), 133, 239
- Immune complexes
 - induction of thioltransferase in vitro release (rabbit polymorphonuclear neutrophils), 127, 458
- Immune responses
 - cellular and humoral, adjuvant effects of mycoviral dsRNA and polyinosinic:polycytidylic acid, comparison (mouse), 131, 949
- Immunoassay
 - homogenous, based on electrochemical luminescence of antigen-coupled pyrene, 128, 987
- Immunoglobulins
 - cell surface, crosslinking-induced inositol lipid polyphosphate breakdown signals, mimicking by diacylglycerol/Ca²⁺ synergism in B-cell proliferation (human), 131, 484
- IgA, α -chain, processed α 1,2-linked mannose residues, characterization (MOPC 315/J cells), 128, 586
- IgG
 - degradation and D-penicillamine action (human), 126, 867
 - microinjection into leukemic cells by cell fusion technique: search for intracellular growth-suppressive factors, 130, 257
 - platelet-specific, identification (human), 129, 206
- IgM, monoclonal, in demyelinating neuropathy, reactive glycolipid, purification and characterization (human cauda equina, peripheral nerves), 128, 383
- λ -light chain variable region, relationship to urinary protein from multiple myeloma patient with associated Fanconi syndrome, 126, 848
- Import factor
 - containing 5 S complex with ornithine carbamoyltransferase precursor, requirement for transport to mitochondria (rat heart), 131, 289
- Inclusion bodies
 - Bacillus thuringiensis subsp. israelensis, diversity and mosquitocidal protein identification, 126, 953
- Indomethacin
 - augmentation of interleukin-1 production by peritoneal macrophages (mouse), 128, 892
 - inhibition of [³H]inositol phosphate formation by palmitoyl lysophosphatidic acid (human platelets), 132, 555
- Inflammation
 - acute, induction, angiotensinogen mRNA responses (rat brain, liver), 129, 826
- Inhibin
 - isolation from follicular fluid (bovine), 126, 220
 - 32-kDa, purification and partial characterization (porcine follicular fluid), 129, 396; 133, 120
- Inositol
 - covalently bound, identification in hydrophobic membrane-anchoring domain of Torpedo californica acetylcholinesterase, 129, 312
 - ³H-labeled, incorporation into agonist-insensitive pool of phosphatidylinositol, stimulation by manganese (rat hippocampal membrane), 132, 540
- myo-Inositol
 - 5-hydroxyl, requirement for uptake by fibrosarcoma cells (mouse), 130, 1139

Subject Index

- inhibition of concanavalin A binding to phosphatidylinositol-containing liposomes, 130, 76
- Inositol phosphates
- ³H-labeled, formation by palmitoyl lysophosphatidic acid, inhibition by indomethacin (human platelets), 132, 555
- Inositol phospholipids
- tachykinin-induced hydrolysis (rat brain), 127, 616
- Inositol-1,4,5-trisphosphate
- effect on
- Ca²⁺ release from sarcoplasmic reticulum microsomes (lobster, rabbit skeletal muscle), 128, 1064
- rod membrane physiology (salamander retina), 126, 59
- induction of
- Ca²⁺ release from
- hypocotyl microsomes (zucchini), 130, 1241
- platelet membranes, kinetics (human), 128, 1274
- skinned cultured smooth muscle cells (rat), 130, 270
- transporting microsomes (pregnant bovine uterine sarcoplasmic reticulum), 130, 1027
- cyclic GMP formation (slime mold), 130, 1115
- role in phototransduction, genetic analysis (*Drosophila melanogaster* mutant *norpA*), 132, 513
- secretagogue-stimulated production, mechanism (murine pancreatic acini), 131, 284
- vasopressin-induced production in smooth muscle cells (rat), 131, 469
- Inositol-1,4,5-trisphosphate receptors
- detection in adrenal cortex (bovine), 133, 532
- Insulin
- binding
- and degradation in isolated hepatocytes (streptozotocin-treated rat), 128, 487
- and D-glucose transport stimulation in isolated adipocytes, effect of phorbol esters (rat), 128, 824
- increase in white adipocytes isolated from BRL 26830-treated obese mice, 133, 457
- biological activity, involved structural features, determination by evaluation of insulin-like compound A²⁷_{insulin}/B_{IGF-I}, 133, 423
- cellular processing in primary cell cultures, role of membranes and energy-producing reactions (rat hepatocytes), 132, 749
- with/without cholecystokinin octapeptide, effect on amylase secretion from isolated acinar cells (rat pancreas), 129, 63
- disulfide bond assignment by mass spectrometric analysis, 126, 1122
- effect on association of [acetyl-CoA carboxylase]-phosphatase and acetyl-CoA carboxylase in tissue culture and *in vivo* (rat), 130, 814
- enhanced release after exposure to high glucose levels, effects of arginine, cAMP, and epinephrine (rat pancreatic islets), 133, 696
- and epidermal growth factor, stimulation of
- ATP turnover in quiescent 3T3 cells, relationship to extracellular pH and Na⁺-H⁺ exchange system, 133, 265
- Na⁺/H⁺ antiport, role of protein kinase C activation (Swiss 3T3 cells), 130, 646
- and forskolin, antilipolytic effect on adipocytes, reversal by pertussis toxin, role of cAMP (rat), 130, 1059
- function, effect of protease substrate analogs (rat adipocytes, hepatic particulate fractions), 126, 489
- genes I and II, localization on chromosome 1 (rat), 131, 1175
- induction of albumin and malic enzyme mRNA asynchronous accumulation (rat liver), 130, 317
- and insulin-like growth factor, biological activity, comparison with related compound A²⁷_{insulin}/B_{IGF-I}, 133, 423
- intermediate products, generation, effects of insulin processing inhibitors, HPLC (human fibroblasts), 128, 163
- like peptide, secretion by leukemic HL-60 cells, regulating factors (human), 129, 293
- like stimulation of glucose transport by fatty acids (rat adipocytes), 128, 1358
- mediated phospholipid vesicle fusion (bovine), 128, 68
- mono-iodinated photoreactive analogs, synthesis and characterization, 126, 1138
- regulation of glucose-6-phosphate dehydrogenase molecular forms (rat liver), 127, 136
- release by pancreatic islets, digitoxose effect (lean, genetically obese diabetic mice), 129, 358
- secretion from isolated pure β cells (rat pancreas), 128, 396

Subject Index

- sensitivity of soleus muscle, BRL
26830 effect (obese Zucker rat),
128, 928
- stimulation of
DNA synthesis, inhibition by ethanol
(rat hepatocytes), 128, 767
p33 mRNA synthesis (H4IIE rat hepa-
toma cells), 133, 1168
tyrosine aminotransferase induction,
inhibition by phorbol ester (Reu-
ber H35 hepatoma cells), 131, 815
- Insulin-like growth factor I
binding to placental membranes and
mononuclear leukocytes, inhibition
by monoclonal antibody to placen-
tal IGF-I receptor (human), 127,
929
biological activity, involved struc-
tural features, determination by
evaluation of insulin-like com-
pound A²⁷ insulin/BIGF-I, 133, 423
human, effect on granulosa cell func-
tion (porcine ovary), 130, 234
purification by immunoaffinity chroma-
tography (human plasma), 126, 282
- Insulin-like growth factor II
biological activity, involved struc-
tural features, determination by
evaluation of insulin-like com-
pound A²⁷ insulin/BIGF-I, 133, 423
and bovine serum erythropoietin, struc-
ture and function, comparison (hu-
man), 126, 653
chemical synthesis and product compar-
ison with natural hormone (human),
127, 420
- Insulin-like growth factor receptors
type I
detection in capillary endothelium
(rat perfused heart), 133, 724
monoclonal antibodies, characteriza-
tion: inhibition of IGF-I binding
to placental membranes and mono-
nuclear leukocytes (human), 127,
929
type II
increase during compensatory growth
(rat kidney), 132, 418
phosphorylation in cultured cells
(rat embryo fibroblasts, hepatic
BRL-3A3 cells), 130, 793
- Insulin mediator
related human serum pyruvate dehydro-
genase activator, elevation after
glucose ingestion, 129, 41
- Insulin receptors
associated protein kinase, fodrin
phosphorylation (porcine brain),
127, 493
autophosphorylation
inhibition by human polyclonal IgG
(rat), 132, 991
in nonketonic diabetes mellitus (rat
liver), 129, 163
regulation by thyroid hormones (rat
adipocytes), 126, 1061
- binding activity
inhibition by ionophore A23187: syn-
ergism with phorbol esters (U-937
cells), 130, 9
and kinase activity, role of sialic
acid residues (human placental
membranes), 129, 739
carbohydrates, characterization by
comparison of chemical and enzy-
matic deglycosylation (human IM-9
lymphocytes), 129, 789
from circulating monocytes and eryth-
rocytes, structural differences
(human), 133, 1175
and epidermal growth factor receptors,
related protein kinases, substrate
specificities (rat liver), 127,
254
internalization, effect on glucose and
leucine uptake (neonatal rabbit
brain), 133, 670
130-kDa subunit, binding site, peptide
mapping with cleavable radioactive
photoprobe (human placental mem-
branes), 133, 154
purification with 1,1'-carbonyldiimid-
azole-activated agarose coupled to
insulin (human placenta), 132,
1059
 α -subunit, release from cell membrane
by dithiothreitol after receptor
unfolding with urea (3T3-L1 cells,
IM-9 lymphocytes), 133, 389
- Interferon α
recombinant leukocyte, sensitization
of resistant myeloid leukemia
cells to induction of terminal
differentiation (human), 130, 379
- Interferon γ
-controlled release of neopterin and
biopterin during activation of
mononuclear cells (human peripher-
al blood), 132, 404
1,25-dihydroxyvitamin D₃ production
stimulation (human pulmonary alve-
olar macrophages), 127, 596
monoclonal antibody-recognized epi-
topes, characterization (human),
128, 171
mRNA, superinduction by protein syn-
thesis inhibitors (human peripher-
al blood lymphocytes), 133, 274
recombinant, activation of superoxide
anion release by macrophages, ef-
fect on kinetic properties of
NADPH oxidase (human), 132, 908
- Interferons
crude preparations, detection of cal-

Subject Index

- modulin bioactivity and immunoreactivity (chicken, human, mouse), 133, 113
- induced human phosphoprotein P₁, monoclonal and polyclonal antibodies, production and partial characterization, 133, 168
- inhibition of
- human chorionic gonadotropin-stimulated testosterone production by porcine Leydig cells (human leukocytes), 127, 809
 - ras oncogene-induced phenotypic transformation (human), 126, 509
- 2',5'-oligoadenylate synthetase induction, deoxyadenosine and deoxycytosine effects (human T lymphoblasts), 127, 1019
- thermal injury potentiation (murine Swiss 3T3 cells), 128, 179
- Interleukin 1
- high-level production by hepatoma cells (human), 130, 768
 - like cytokine, production in osteoblastic MC3T3-E1 cells (mouse), 131, 774
 - production by peritoneal macrophages, regulation by arachidonic acid metabolites (mouse), 128, 892
 - properties as secretagogue for neutrophils (human), 130, 1233
- Interleukin 2
- effect on expression of cell cycle genes (human T lymphocytes), 133, 410
 - human, cloning and expression in Streptomyces lividans using Escherichia coli consensus promoter, 133, 511
 - leukocyte-derived, purification and N-terminal sequence analysis (human peripheral blood), 127, 182
 - mRNA, and receptor mRNA: regions of complementarity, 128, 1373
 - recombinant
 - and natural, in vitro biological properties, comparison (human), 128, 257
 - produced in Escherichia coli, purification and characterization (human), 130, 692
- Iodination
- nonradioactive, protein detection and quantitation, 131, 883
- Iodoacetamide
- effect on glycoprotein IIb/IIIa complex expression on blood platelets (human), 127, 822
- N⁶(3-Iodo-4-azidobenzyl)adenosine
- ¹²⁵I-labeled, photoaffinity labeling of inhibitory adenosine receptors (newborn chick synaptic membrane), 131, 115
- (G)-5-(2-Iodovinyl)-2'-deoxyuridine
- carbocyclic analogs, selective anti-herpetic activity, dependence on phosphorylation by viral thymidine kinase, 126, 397
- Ionomycin
- and diacylglycerol, synergism in B-cell proliferation induction, mimicking of inositol lipid polyphosphate breakdown signals induced by crosslinking surface immunoglobulins (human), 131, 484
- Ionophore A23187
- Ca²⁺-dependent interactions with calmodulin, 130, 200
 - and cholera toxin and 1-oleoyl-2-acylglycerol, ornithine decarboxylase synergistic induction (guinea pig lymphocytes), 130, 389
 - effect on release of fibroblast-stimulating factors by cultured alveolar macrophages (human), 129, 560
 - induction of
 - catecholamine secretion in cultured chromaffin cells, enhancement by phorbol ester (bovine adrenal medulla), 129, 511
 - pH changes in neutrophils, effect of pertussis toxin (human), 131, 64
 - superoxide anion production in neutrophils, islet-activating protein effects (guinea pig), 130, 939
 - inhibition of insulin receptor binding: synergism with phorbol esters (U-937 cells), 130, 9
 - and phorbol ester
 - effect on
 - atrial natriuretic peptide secretion by isolated perfused heart (rat), 133, 581
 - pepsinogen secretion from isolated gastric glands (guinea pig), 131, 314
 - synergistic stimulation of calcitonin secretion (rat C cells), 132, 424
 - and 4 β -phorbol 12-myristate 13-acetate or thrombin, synergistic stimulation of thromboxane biosynthesis (human platelets), 130, 717
 - and protein kinase C activators, synergistic stimulation of luteinizing hormone release (rat pituitary), 130, 848; erratum, 133, 368
 - stimulation of arachidonic acid release
 - in peritoneal mast cells (rat), 127, 726
 - and phosphatidic acid production in neutrophils, enhancement by phorbol 12-myristate 13-acetate (rabbit), 128, 594

Subject Index

- and 12-O-tetradecanoylphorbol-13-acetate, stimulation of histamine and arachidonic acid release from mast cells, inhibition by hydrocortisone (rat peritoneum), 130, 640
- Iron
- complexes with methyl 2-(2-aminoethyl)-aminomethyl-pyridine-6-carboxylhistidinate, ESR, 126, 1036
 - containing hemoglobin and derivatives, temperature-dependent spectral changes, α -subunit role (human), 128, 721
 - deficient diets, short-term effect on mucosal processing of ionic iron (rat), 133, 1092
 - effective charge in hemoproteins, increase during oxygenation (human, sperm whale), 131, 98
 - ⁵⁷Fe, chemical shifts in carbonyl myoglobin and model complexes, double resonance analysis (sperm whale), 128, 628
 - ferredoxin-I, lack of solvent accessible ligand (*Azotobacter vinelandii*), 133, 1119
 - ferric
 - complex with gluconate, effect on Ca²⁺ transport and malondialdehyde production *in vitro* (rat hepatic mitochondria), 130, 207
 - lysosomal, requirement for hepatocyte killing *in vitro* by hydrogen peroxide (rat), 133, 371
 - fumarate reductase, cluster detection *in vivo* (*Escherichia coli*), 131, 653
 - heme, high-affinity binding sites, identification in cytochrome-c oxidase (bovine heart), 129, 840
 - induction of
 - ferritin synthesis, multiple mechanisms (HeLa cells), 133, 314
 - lipoperoxidation, effect on microsomal steroidogenic enzymes (porcine adrenal cortex), 128, 657
 - sulfur tetranuclear center, fumarate reductase, EPR (*Escherichia coli*), 131, 756
 - Iron salts
 - role in nucleoside degradation by eliptinium acetate via free radicals, 133, 15
 - γ -Irradiation
 - effect on c-Ki-ras and c-myc oncogene expression (human fibroblasts), 128, 1037
 - Ischemia
 - cardiac, effect on calmodulin subcellular distribution (rabbit), 130, 617
 - myocardial reperfusion injury, role of reactive oxygen species (mongrel dogs), 127, 87
 - Islets of Langerhans, *see* Pancreas
 - Isocitrate dehydrogenase (NADP⁺)
 - testicular activity, dexamethasone effects *in vivo* (adrenalectomized prepubertal, adult rats), 131, 726
 - Isoleucine
 - valine biosynthesis, control in azaleucine- and valine-resistant mutants (*Escherichia coli*), 131, 994
 - Isomyosin
 - myocardial, effect on cardiac performance and oxygen consumption (rat), 130, 1314
 - Isooctane
 - urinary metabolites, identification (male rat), 130, 313
 - Isopropylthio- β -D-galactoside
 - concentration, effect on lac-operon induction level during steady-state growth (*Escherichia coli*), 128, 1268
 - Isoproterenol
 - effect on
 - canalicular bile formation (isolated perfused rat liver), 131, 139
 - cytosolic free Ca²⁺ concentration (rat parotid cells), 131, 1048
 - intracellular Ca²⁺ concentration (canine thyroid), 131, 1041
 - induced cAMP accumulation
 - inhibitory effects of 12-O-tetradecanoylphorbol-13-acetate and other tumor promoters (murine thymocytes), 133, 904
 - in smooth muscle cells, enhancement by angiotensin II and phorbol ester (rat aorta), 131, 30
 - stimulated mucin secretion, association with increased polyamine levels (rat submandibular gland), 132, 118
 - Isovaleryl-L-valyl-(3-oxo-4S)-amino-6-methylheptanoyl-L-alanyl-isoamylamide
 - pepsin-bound, ¹³C NMR spectra: ²H- and ¹⁸O-induced isotope shifts, 129, 597
 - Iturin A
 - induction of ion-conducting pores in planar bilayers (*Bacillus subtilis*), 129, 965
- K
- Kadsurenone
 - analysis of platelet-activating factor role in endotoxin-induced hypertension (rat), 127, 799

Subject Index

- Kallidin
inactivation by cathepsin G and mast cell chymase (human), 127, 443
- Kallikrein
glandular, liberation of bradykinin from high-molecular-weight kininogen (rat), 127, 289
-like activity in neurointermediate lobe, effect of dopamine receptors (rat pituitary), 127, 668
- Kanamycin
resistance genes, vector construction (*Escherichia coli*), 133, 1112
- Keratin
-coated silica gel affinity matrix for pectinase purification, evaluation (*Aspergillus niger*), 131, 666
intermediate filaments, identification of coiled-coil molecules with parallel chains in exact axial register (murine epidermis), 127, 1012
- Keratinocytes
selective expression of 15-lipoxygenase (human), 133, 208
synthesis of epidermolysis bullosa acquisita antigen (human), 130, 1267
- Ketoacid dehydrogenase, see 2-Oxoisovalerate dehydrogenase
- α -Keto acid dehydrogenase phosphatase
branched-chain, heat-stable protein inhibitor specificity (bovine kidney), 133, 878
- α -Keto acids
protection against heat shock treatment in glucose- and glutamine-deprived cells (hamster), 131, 1013
- Ketogenesis
hepatocyte, after triiodothyronine treatment, glycerol requirement (rat), 132, 1001
- α -Ketoglutarate
mitochondrial oxidation, inhibition by pyruvate (cauliflower, pea, turnip), 133, 397
- 6-Keto-prostaglandin $F_{1\alpha}$
serum levels in diabetic and systemic lupus erythematosus patients, 128, 803
synthesis in cultured skin fibroblasts, stimulation by breast milk (human), 129, 972
- Kininogen
high-molecular-weight
arginyl-bradykinin moiety demonstration and bradykinin liberation by glandular kallikreins (rat), 127, 289
binding to factor XIa, stoichiometry (human), 133, 417
total, plasma levels, increase in adjuvant arthritis (rat), 129, 280
- Kirsten murine leukemia virus
p21 protein, stimulation of adenylate cyclase early in G_1 phase (NRK cells), 132, 780
- Kirsten murine sarcoma virus
-mediated transformation, and adenylate cyclase modulation by guanine nucleotides, relationship (murine fibroblasts), 127, 318
ras p21 protein, intact, expression in *Escherichia coli*, 132, 126
- L
- β -Lactamase
Escherichia coli, production by *Bacillus subtilis* using α -amylase secretion vector, 128, 601
- L-Lactate dehydrogenase
interaction with and inhibition by caffeine (rabbit muscle), 127, 1057
stimulation by progestin (human breast cancer T-47D cells), 128, 520
- Lactoperoxidase
high-resolution proton NMR spectroscopy (bovine milk), 133, 794
and horseradish peroxidase and chloroperoxidase, heme environments and proximal ligands, comparison by ^{13}C NMR of carbon monoxide complexes, 131, 607
- Lactose
active transport, inhibition by osmotic stress (*Escherichia coli*), 126, 434
- Laminin
-binding domain on type IV collagen, identification (murine EHS tumor), 128, 45
synthesis in cultured muscle cells, analysis during myogenesis (mouse), 130, 440
- Laparotomy
effect on hepatic ornithine decarboxylase and polyamine concentration (rat), 129, 885
- Laser irradiation
helium-neon, effect on lymphocyte interaction with *Salmonella minnesota* (human), 130, 546
Nd-YAG, differential effects on collagen and elastin production in vitro: relevance to laser angioplasty for atherosclerotic plaque removal (chick embryo aortae), 131, 462
- Lecithin
-ganglioside monolayers, interaction with morphine and naloxone (bovine brain, soybean), 126, 269

Subject Index

Lectins

- galactose- and mannose-specific, function as IgM or IgG Fc receptors (rat liver), 130, 1002
- β -galactoside-binding, antigenically related nuclear and cytoplasmic proteins, transformation- and growth-related changes (human lymphocytes), 127, 680
- in gluten, identification as wheat germ agglutinin (human erythrocytes), 130, 867
- sperm-agglutinating, isolation and properties (Jack fruit seeds), 128, 833

Leiotoxin

- effect on stably phosphorylated smooth muscle myosin (chicken gizzard), 130, 286

Lens

- nuclear ADP-ribosylation, analysis during embryonic development (chick), 126, 859

Leucine

- ^3H -labeled, incorporation into low-density lipoprotein apoprotein, stimulation by oleic acid (isolated perfused rat liver), 132, 28
- uptake by
 - brain cells, effect on insulin receptor internalization (neonatal rabbit), 133, 670
 - fast-twitch muscle after contraction, role in ATP resynthesis (rat), 128, 1254

Leucine-enkephalin

- hydrolysis in nasal cavity, model for nasal absorption of peptides (rat), 133, 923
- molecular conformation in solution, spectroscopic analysis, 126, 1029
- specific binding and stimulation of cAMP accumulation in isolated enterocytes (guinea pig), 126, 404

L-Leucyl-L-phenylalanine amide

- and L-phenylalanyl-L-phenylalanine amide, binding to bovine neurophysin, effects on interaction with oxytocin and vasopressin, NMR, 128, 1211

Leukocyte elastase

- content differences in primary granules (human), 132, 1130
- inhibition by
 - amino acid-derived sulfonate salts (human), 128, 90
 - recombinant DNA-directed *Escherichia coli*-produced α 1-anti-trypsin, potential use as replacement therapy of α 1-antitrypsin deficiency, 130, 1177

Leukocytes

- mononuclear, IGF-I binding, inhibition by monoclonal antibody to IGF-I receptor (human), 127, 929
- polymorphonuclear, *see* Neutrophils
- Leukoprotease inhibitors
 - isolation from bronchial secretion and N-terminal sequence (human), 128, 285
- Leukotriene A_4
 - effect on neutrophil function (human), 133, 23
- Leukotriene A_5
 - action as leukotriene A_4 hydrolase substrate and inhibitor (rat, human), 131, 827
- Leukotriene A_4 hydrolase
 - leukotriene A_5 action as substrate and inhibitor (rat, human), 131, 827
- Leukotriene B_4
 - biosynthesis, selective inhibition by selenium deficiency (rat pulmonary alveolar macrophages), 132, 397
 - effect on release of fibroblast-stimulating factors by cultured alveolar macrophages (human), 129, 560
 - and formyl-methionyl-leucyl-phenylalanine, synergistic activation of NADPH oxidase (human neutrophils), 128, 297
 - microsomal metabolism (rat liver), 128, 733
 - myelopoiesis stimulation (human), 131, 579
- Leukotriene B_4 receptors
 - detergent solubilization from neutrophil membranes (human), 128, 878
- Leukotriene C_4
 - extraction from plasma and measurement by radioimmunoassay (asthmatic children), 130, 486
 - formation induction by distinct forms of cytosolic glutathione transferase (human liver, placenta), 128, 265
 - metabolism *in vivo* (human), 130, 214
- Leukotriene C_4 synthetase
 - levels in peritoneal macrophages (guinea pig), 127, 15
- Leukotriene D_4 dipeptidase
 - inhibition by cilastatin (human kidney), 131, 974
- Leukotriene E_4
 - urinary excretion after leukotriene C_4 injection (human), 130, 214
- Leukotrienes
 - ^3H -labeled peptides, *in vitro* metabolism, comparison (human, ferret, guinea pig lung), 131, 892
- Leupeptin
 - inhibition of platelet response to

Subject Index

- trypsin and thrombin, role of phospholipase C proteolytic activation (human), 131, 1198
- Leydig's cells
function, regulation by follicle-stimulating hormone via Sertoli's cell proteins in vitro (porcine testis), 132, 729
lutropin-induced steroidogenesis, cAMP regulatory role (rat), 128, 1164
- Licorice
ingested, fecal volatiles, olfactory, gas chromatographic, and mass-spectral analyses (human), 131, 339
- Lidocaine
interactions with cerebral and cardiac muscarinic receptors (rat), 127, 326
metabolism, age-associated alterations, position selectivity (rat hepatic microsomes), 126, 117
- Light
-dependent Cu(II) reduction, effect on cell-mediated thiol-dependent superoxide production (Dunaliella tertiolecta), 128, 1031
-induced conformational changes in rhodopsin from extradiscal regions (bovine retina), 127, 816
-mediated phosphatidylinositol-4,5-bisphosphate breakdown in isolated rod outer segments (frog photoreceptors), 128, 954
- Lignin
degradation, ability of glucose oxidase-negative mutants and -positive revertants (Phanerochaete chrysosporum), 131, 436
- Lindane
inhibition of γ -aminobutyric acid-dependent chloride uptake by brain vesicles (mouse), 133, 37
- Linoleate esters
and oleate esters and biological antioxidants, ozonation rates, comparison, 133, 773
- Linoleic acid
inhibition of endotoxin-induced thromboplastin (human monocytes), 132, 67
oxidation, effects of vitamin K and vitamin K hydroquinone, 128, 211
- Lipids
composition in microsomal membranes, low oxygen tension effects (rabbit liver, lung), 126, 551
-depleted FAD-dependent malate dehydrogenase, activation by incorporation into cardiolipin liposomes (Mycobacterium smegmatis), 133, 1
membrane, nonbilayer phase, in vivo formation during development of Ca^{2+} -dependent competence (Escherichia coli), 127, 464
peroxidation
 Fe^{2+} -induced, effect on microsomal steroidogenic enzymes (porcine adrenal cortex), 128, 657
 phenylhydrazine-induced, silymarin inhibitory effect (rat erythrocytes), 126, 712
 relationship to membrane fatty acids and adenylate cyclase activity (murine neuroblastoma clone N1E-115), 132, 757
-protein ratio in reconstituted sarco-plasmic reticulum vesicles, effect on fluorescence of fluorescein-labeled Ca^{2+} , Mg^{2+} -ATPase (rabbit), 133, 176
synthetic Escherichia coli-type lipid A and analogs, reactivity with conventional and monoclonal antibodies to Salmonella lipid A, 128, 607
total intracellular content, flow cytofluorometric determination (human, mouse, rat), 128, 1196
transfer protein, nonspecific, primary structure (bovine liver), 127, 333
- Lipoamide dehydrogenase, see Dihydrolipoamide dehydrogenase
- Lipopolysaccharides
bacterial, activation of macrophages for tumor cell killing, implications for natural triggering signal (murine bone marrow), 131, 395
- β -Lipoprotein
-induced changes in cytosolic Ca^{2+} and K^{+} concentrations (murine L cells), 132, 290
- Lipoprotein lipase
hydrolysis of phospholipid monolayers, effect of phospholipid fatty acyl composition, 128, 670
inhibition in vivo, induction of de novo cholesterol synthesis (rat liver), 131, 574
polyethylene glycol-modified, ester-exchange catalysis, 131, 532
synthesis and secretion by monocytic leukemia cells (human), 126, 526
- Lipoproteins
high-density, see High-density lipoproteins
low-density, see Low-density lipoproteins
- Liposomes
cardiolipin, incorporation of lipid-depleted FAD-dependent malate dehydrogenase: enzyme activation (Mycobacterium smegmatis), 133, 1

Subject Index

- dipalmityl-phosphatidylcholine, binding of ethanol- d_6 : determination of partition coefficients by ^2H NMR, 130, 301
- fusion with phytohemagglutinin-resistant mutants containing glycoproteins, neoreceptor development (Chinese hamster ovary cells), 132, 1024
- β -galactosidase-containing, from Charonia lumpas, enzyme replacement in globoid cell leukodystrophy (twitcher mouse), 127, 663
- ganglioside GM_1 -containing, cholera toxin binding, water-exposed area, comparison with toxin free in solution, 130, 835
- heme, effect on δ -aminolevulinate synthase (rat liver), 130, 306
- Na^+ , K^+ -ATPase-, right-side-out pumping, preparation for receptor function analyses, 129, 102
- phosphate-linked antiport reconstitution (Streptococcus lactis), 129, 568
- phosphatidylinositol-containing, concanavalin A binding, inhibition by myo-inositol or α -methyl mannoside, 130, 76
- proteo-, sonicated cytochrome-c oxidase-containing, respiration regulation by gated and ungated ionophores (bovine heart), 128, 1025
- Lipoteichoic acid
- like compounds, synthesis with phosphatidyl glycerolphosphate as glycerolphosphate donor, 128, 906
- Lipotropic hormone
- amino acid sequence analysis by fast atom bombardment/tandem mass spectrometry (tobacco hornworm), 133, 337
- Lipoxene
- formation from 15-hydroperoxyeicosa-pentaenoic acid (porcine leukocytes), 126, 763
- Lipoxygenase
- antigenic stimulation (cloned murine MC9 mast cells), 126, 517
 - increase in platelets of spontaneously hypertensive rats, 127, 642
 - membrane-bound, detection in cerebral microvessels (rat), 127, 283
 - metabolites of arachidonic acid, role in irreversible platelet aggregation (human), 131, 50
 - oxygenation of phosphatidylcholine (human neutrophils), 130, 559
 - selective expression by cultured keratinocytes (human), 133, 208
- Lipoxygenase inhibitors
- suppression of cholesteryl ester accumulation in cultured monocyte-derived macrophages (human), 127, 366
- Low-density lipoprotein receptors
- sequence homology with N-terminal portion of erythropoietin-like peptide (bovine), 133, 404
- Low-density lipoproteins
- apoprotein E, L-[4,5- ^3H]leucine incorporation, stimulation by oleic acid (isolated perfused rat liver), 132, 28
 - binding to fibroblasts in culture, stimulation by breast milk (human), 126, 667
 - recognition domain for cellular receptor, expression assessment (human), 126, 773
 - uptake
 - in cultured fibroblasts, inhibition by epinephrine (human), 133, 958
 - and degradation by monocyte-derived macrophages, mediation by apolipoprotein E (human), 126, 578
- Luciferase
- cloned subunits from separate replicons, expression in Escherichia coli (Vibrio harveyi), 127, 1007
- Luminescence, see also Chemiluminescence
- electrochemical, antigen-coupled pyrene, application in homogenous immunoassay, 128, 987
- Luminol
- cooxidation by hydrogen peroxide and hypochlorite, chemiluminescence generation in neutrophils, 126, 482
- Luteinizing hormone
- release from pituitary
 - regulation by diacylglycerols, molecular modification effects (rat), 126, 532
 - synergistic stimulation by protein kinase C activators and Ca^{2+} ionophore (rat), 130, 848; erratum, 133, 368
- Luteinizing hormone-releasing hormone
- enhancement of polyphosphoinositide breakdown in granulosa cells (rat), 130, 1201
 - and nafarelin acetate, binding to plasma proteins, comparison (human, rat, rhesus monkey), 127, 673
- Lutropin
- induced steroidogenesis, cAMP regulatory role (rat Leydig cells), 128, 1164
 - sialic acid moiety, role in hormone charge heterogeneity and potency (rat pituitary), 127, 501
- Lymphocytes
- B-cell

Subject Index

- differentiation stages, association with specific tyrosine phosphorylation (human lymphoid leukemia), 133, 598
- Epstein-Barr virus-transformed, proliferation inhibition by antibody to rabbit thymic actin, augmentation by cAMP, 132, 837
- phorbol ester-stimulated proliferation, inhibition by polymyxin B, 128, 1364
- proliferation induction by diacylglycerols and calcium ionophore, mimicking of inositol lipid polyphosphate breakdown signals induced by crosslinking surface immunoglobulins (human), 131, 484
- cytoplasmic fractions, glucocorticoid receptor distribution (human), 131, 877
- cytoplasmic and nuclear proteins antigenically related to β -galactoside-binding lectin, transformation- and growth-related changes (human), 127, 680
- defective autologous, cytotoxicity, restorative effects of calmodulin antagonists (ovarian cancer patients), 132, 620
- lectin-induced factors, induction of circulating monocyte proliferation in vitro (human), 126, 705
- leukemic, phospholipid and ether-linked phospholipid content, alteration with resistance to vinblastine (human), 133, 539
- lysosomal α -mannosidase, transfer to fibroblasts from mannosidosis patients, 129, 417
- mitogenic effects of 12-O-tetradecanoylphorbol-13-acetate and teleocidin, comparison (human), 130, 724
- mRNAs induced by concanavalin A and cycloheximide, cDNA cloning (human), 129, 619
- plasma membrane-associated Ca^{2+} -binding protein, relationship to porcine intestinal epithelial proteins and bovine hepatic calelectrins (human), 128, 571
- proliferation in vitro, somatostatin effect (murine spleen), 129, 52
- Salmonella interaction, effect of lymphocyte irradiation by He-Ne laser (human), 130, 546
- T-cell
- expression of cell cycle genes, effects of interleukin 2 (human), 133, 410
 - retrovirus-transformed, production of cytotoxic factors (human), 130, 1052
- Lymphokines
- mitogen-induced, induction of circulating monocyte proliferation in vitro (human), 126, 705
 - production by retrovirus-transformed T cells (human), 130, 1052
- Lysine
- arginine prohormone sequences, cleaving protease, partial purification from chromaffin granules (bovine adrenal medulla), 128, 884
 - concomitant generation with somatostatin-14 and somatostatin-28 (1-12) by somatostatin-28 convertase (rat brain), 128, 1051
 - phospholipases A_2 , role in formation of catalytic complex (Agkistrodon piscivorus piscivorus), 131, 129
- Lyso(bis)phosphatidic acid
- as arachidonic acid source for oxidative metabolism by alveolar macrophages (rabbit), 130, 800
- Lysophosphatidic acid
- de novo synthesis from glucose in pancreatic islets via acyl-dihydroxyacetone phosphate (neonatal rat), 132, 467
- Lysophosphatidylinositol
- isolation from cultured plant cells (wild carrot), 132, 1018
- M
- α_2 -Macroglobulin
- binding to rat hepatocytes: mechanism of in vivo clearance (human), 128, 795
- Macrophages
- activation for tumor cell killing by lipopolysaccharide or polyribonucleotide, implications for natural triggering signal (murine bone marrow), 131, 395
- alveolar
- activation in vitro, desensitization by repeated platelet-activating factor inhalation (guinea pig), 131, 42
 - 1,25-dihydroxyvitamin D_3 production, stimulation by γ -interferon (human), 127, 596
 - leukotriene B_4 biosynthesis, selective inhibition by selenium deficiency (rat), 132, 397
 - lyso(bis)phosphatidic acid use as arachidonic acid source for oxidative metabolism (rabbit), 130, 800
 - secretion of fibroblast-stimulating factors, effect of A23187 and leukotriene B_4 (human), 129, 560

Subject Index

- microsomes, stimulation of arachidonic acid CoA-independent transfer from 1,2-diacyl-sn-glycero-3-phosphocholine to 1-O-alkyl-sn-glycero-3-phosphocholine (rabbit), 127, 384
- monocyte-derived
- apolipoprotein E-mediated uptake and degradation of very-low-density lipoproteins (human), 126, 578
 - cholesteryl ester accumulation, suppression by lipoxygenase inhibitors (human), 127, 366
- muramyl peptide and serotonin interaction at specific binding sites and enhancement of superoxide release (mouse), 131, 1160
- Na⁺, K⁺-ATPase-mediated ⁸⁶Rb⁺ uptake, stimulation by colony stimulating factor (mouse), 132, 430
- peritoneal
- interleukin-1 production, regulation by arachidonic acid metabolites (mouse), 128, 892
 - leukotriene C₄ synthetase levels (guinea pig), 127, 15
- superoxide anion production, activation by γ-interferon, effect on kinetic properties of NADPH oxidase (human), 132, 908
- surface I-A^K antigen, turnover and fate (mouse), 131, 216
- Magnesium
- effect on H-ras protein-associated GTPase activity (*Escherichia coli*), 128, 1440
 - efflux from erythrocytes, role of amiloride-sensitive Na⁺/Mg⁺ antiport (chicken), 130, 540
 - high-affinity binding sites, identification in cytochrome-c oxidase (bovine heart), 129, 840
 - interconversion of Ca²⁺ channel-associated dihydropyridine and phenylalkylamine receptor high- and low-affinity states (chick heart), 129, 910
- Maize streak virus
- coat protein, amino acid sequence, homology with African cassava latent and tomato golden mosaic viruses, 130, 892
- Malaria
- associated peptide, -tetanus toxoid conjugate coupled to muramyl dipeptide derivative, anti-sporozoite antibody production response (mouse), 131, 70
- Malate
- fumarate translocators, mediation of fumarate permeation in mitochondria (rat liver), 132, 8
 - oxaloacetate exchange in renal mitochondria (rat), 129, 1
- Malate dehydrogenase
- cytoplasmic, catabolite-induced inactivation (yeast), 130, 467
 - FAD-dependent, lipid-depleted, activation by incorporation into cardiolipin liposomes (*Mycobacterium smegmatis*), 133, 1
- Malate dehydrogenase (oxaloacetate-decarboxylating) (NADP⁺)
- mRNA, and albumin mRNA, insulin-mediated asynchronous accumulation (rat liver), 130, 317
 - testicular activity, dexamethasone effects *in vivo* (adrenalectomized prepubertal, adult rats), 131, 726
- 4-Maleimido-2,2,6,6-tetramethylpiperidinoxyl
- conjugated proteins, identification in spin-labeled erythrocyte membranes (human), 127, 793
- Malic enzyme, *see* Malate dehydrogenase (oxaloacetate-decarboxylating) (NADP⁺)
- Malondialdehyde
- production in isolated hepatic mitochondria, iron(III)-gluconate complex effects (rat), 130, 207
- Maltose
- active transport, inhibition by osmotic stress (*Escherichia coli*), 126, 434
- Mammary gland
- secretion *in vitro* of cathepsin L stable high-molecular-weight form (rat), 131, 402
- Manganese
- effect on H-ras protein-associated GTPase activity (*Escherichia coli*), 128, 1440
 - regulation of heme metabolism and cytochrome p-450-dependent mixed function oxidases (rat brain), 128, 18
 - stimulation of [³H]inositol incorporation into agonist-insensitive pool of phosphatidylinositol (rat hippocampal membrane), 132, 540
- Mannose
- α1,2-linked residues on IgA α-chains, processing intermediates, characterization (MOPC 315/J cells), 128, 586
 - specific lectins, function as Fc receptor (rat liver), 130, 1002
- Mannose-6-phosphate receptors
- N-acetyl-β-D-glucosaminidase binding, effect of chloroquine (rat liver), 131, 634
- α-Mannosidase
- lysosomal, transfer from lymphocytes to mannosidosis patient fibro-

Subject Index

- blasts, 129, 417
- Mannosidosis
- associated metabolic anomaly in fibroblasts, correction by lysosomal α -mannosidase transfer from lymphocytes (human), 129, 417
- Mast cells
- arachidonic acid and histamine release and lipoxygenase activity, antigenic stimulation (mouse), 126, 517
 - phorbol ester-stimulated, inhibition by hydrocortisone (rat peritoneum), 130, 640
 - secretory granule activation mechanism, role of *de novo* membrane generation (rat peritoneum), 132, 134
- Maytansine
- inhibition of guanine nucleotide binding at tubulin exchangeable site, 128, 1239
- Melanin
- autooxidation, superoxide dismutation mechanism (bovine eye), 131, 659
- γ -Melanotropin
- identification in myenteric plexus perikarya (rat duodenum), 131, 821
- Melibiose
- active transport, inhibition by osmotic stress (*Escherichia coli*), 126, 434
 - Na⁺ or -H⁺ symport, kinetic parameters, membrane potential effects (*Escherichia coli*), 129, 626
- Melittin
- hemolytic activity, effect of calmodulin and related proteins (rabbit erythrocytes), 130, 22
 - Sephadex, preparation, properties, and application to calmodulin and S-100 protein purification (bovine brain, testis), 133, 256
- Membrane metallo-endopeptidase
- and angiotensin-converting enzyme and thermolysin, comparison, 130, 372
 - binding to [³H]N-[(R,S)-3-hydroxyaminocarbonyl-2-benzyl-1-oxopropyl]-glycine (rat brain), 131, 262
 - disulfide bridges, role after proteolytic cleavage (human), 133, 1187
 - 94-kDa, monoclonal antibody production and characterization (rabbit kidney), 131, 255
- Membranes
- basolateral and brush border, α -atrial natriuretic factor binding (rat renal cortex), 129, 773
 - bilayer lipid, dipalmitoylphosphatidic acid-Ca²⁺ ion-induced capacitive and ionic currents, 133, 1098
 - binding property, ATP synthase β -subunit (*Escherichia coli*), 128, 155
 - brush border
 - Na⁺ channels, detection by ²³Na NMR (rabbit renal proximal tubules), 128, 746
 - phosphate transport, inhibition by parathyroid hormone and 8-bromocyclic AMP, effects of intracellular calcium antagonists (rabbit kidney), 128, 278
 - proton gradient-coupled uphill transport of glycylsarcosine (rabbit), 132, 946
 - cerebral
 - forskolin deacetylation (bovine), 133, 52
 - linkage mediation by tubulin, 126, 559
 - cytoplasmic
 - glucocorticoid receptor distribution (human lymphocytes), 131, 877
 - transient depolarization induced by phage T4 adsorption, Ca²⁺ role, analysis with Quin 2 (*Escherichia coli*), 131, 856
 - disc, antisera to synthetic peptides of rhodopsin as probes (retinal dystrophic dog), 132, 438
 - electric potential, effect on kinetic parameters of Na⁺- or H⁺-melibiose symport (*Escherichia coli*), 129, 626
 - erythrocyte
 - associated triiodothyronine receptors, solubilization and characterization (human), 133, 442
 - band-3 protein, cytoplasmic domain crosslinking and cleavage (human, llama), 130, 493
 - Ca²⁺-dependent neutral proteinase binding, physiological mechanism for enzyme activation (human), 128, 331
 - N-ethylmaleimide-induced mechanical fragility and spectrin dimer accumulation (rat), 130, 157
 - glycophorin A phosphorylation (human), 127, 878
 - skeletal, 1-phosphatidylinositol-4-phosphate kinase association (human), 133, 189
 - spin-labeled, nitroxide-conjugated protein identification (human), 127, 793
 - surface topology, chymotrypsin and trypsin effects, reevaluation (human), 126, 50
 - GTP binding *in vitro*, regulation by cAMP and folate: functional coupling between cell surface receptors and G proteins (*Dictyostelium discoideum*), 129, 11

Subject Index

- hepatocyte, role in insulin processing
in vitro (rat), 132, 749
- lens, associated major intrinsic polypeptide, channel-forming activity after reconstitution into vesicles, inhibition by peptide antiserum (bovine, human), 128, 993
- microsomal
 H^+ , K^+ -ATPase-enriched, preparation of heavy and light forms (rat stomach), 131, 905
 lipid composition and microviscosity, low oxygen tension effects (rabbit liver, lung), 126, 551
 and mitochondrial, simultaneous preparation from skeletal muscle (Med^J mouse), 128, 113
 and synaptic, μ -opioid receptors, differential up-regulation (rat forebrain), 132, 735
- microvillus, protein kinase C detection (rabbit kidney), 128, 494
- milk-fat globule, monoclonal antibodies, recognition of antigenic specificity involving blood group antigen Le^a with onco-developmental antigen SSEA-1 (human), 131, 543
- mitochondrial
 inner, energization, role of adenine nucleotide translocation in ρ^+ and ρ^0 strains (*Saccharomyces cerevisiae*), 132, 1116
 interaction with synthetic peptide with sequence common to extra peptides of mitochondrial precursor proteins (rat liver, *Saccharomyces cerevisiae*), 128, 775
- neuroblastoma, degradation of substance P (mouse), 129, 694
- neutrophil
 fusion, role in respiratory burst activation (human), 132, 696
 leukotriene B₄ receptors, detergent solubilization (human), 128, 878
- nonbilayer lipid phase, in vivo formation during development of Ca^{2+} -dependent competence (*Escherichia coli*), 127, 464
- opioid ligand binding, modification by zwitterionic buffers (bovine adrenal medulla, rat nervous system), 129, 328
- oxidized, redox active Cu^{2+} signal detection by EPR (*Synechococcus* 6311), 129, 109
- photoreceptor, structural state, calmodulin effect (bovine eye), 129, 517
- placental, IGF-I binding, inhibition by monoclonal antibody to IGF-I receptor (human), 127, 929
- planar bilayer, ion-conducting pores, induction by bacterial lipopeptides, 129, 965
- plasma, see Plasma membranes
- platelet
 inositol triphosphate-induced Ca^{2+} release, kinetics (human), 128, 1274
 interaction with cytoskeletal proteins (human), 126, 566
 molecular organization during aggregation, relationship to membrane-bound Ca^{2+} release, 126, 1048
- porous, dioleoyl lecithin Langmuir-Blodgett film deposition, electronic properties, 133, 740
- prostatic cell, binding of testosterone-estradiol-binding globulin (human), 128, 432
- pulmonary, specific and saturable binding of platelet-activating factor (human), 128, 972
- renal glomerular, binding of aldose reductase inhibitor (rat), 129, 530
- rod, inositol-1,4,5-trisphosphate physiological effects (salamander retina), 126, 59
- sarcolemmal, Na^+ - Ca^{2+} exchange, effect of genetically determined cardiomyopathy (hamster), 133, 491
- sarcoplasmic reticulum
 proteins, ATP- or Ca^{2+} -induced conformational changes, 128, 1159
 reconstituted, lipid/protein ratio, effect on fluorescence of fluorescein-labeled Ca^{2+} , Mg^{2+} -ATPase (rabbit), 133, 176
- secretory granule, de novo generation, role in activation mechanism (rat peritoneal mast cells), 132, 134
- synaptic
 fluidity, amiodarone effect (rat brain), 129, 148
 high-affinity glutamate-binding site, molecular size determination (rat brain), 126, 227
- synthetic, effect of phospholipid chain unsaturation on bilayer phase transitions, Raman spectroscopy, 127, 220
- transverse tubule, Ca^{2+} coordination site regulating channel inhibitors, characterization (rabbit skeletal muscle), 132, 49
- Menaquinone, see Vitamin K₂
- Mepacrine
 effect on phospholipase A₂ inhibition by dexamethasone (snake venom), 130, 761
- Meprin, see Meprobamate
- Meprobamate
 deficiency, expression of altered gene

Subject Index

- product (murine kidney), 132, 171
- Mepyramine, see Pyrilamine
- Mercaptans
effect on transverse tubule dihydro-
pyridine-binding sites (rabbit
skeletal muscle triads), 127, 205
- 2-Mercaptoethanol
Ca²⁺-ATPase inhibition (rabbit sar-
coplasmic reticulum), 126, 1196
- Mercury
and Cd²⁺ and Zn²⁺, phospholipid vesi-
cle fusion induction, comparison,
128, 389
low levels, inhibition of neutrophil
respiratory burst (human), 128,
1145
- Mesenchymal cells
prostaglandin and cAMP production, ef-
fects of epidermal growth factor
(murine embryonic palate), 130,
1037
- Metalloporphyrins
effect on δ -aminolevulinate synthase
(rat liver), 130, 306
- Metallothionein
binding to cis-dichlorodiammine plati-
num(II) (Ehrlich ascites tumor
cells), 130, 786
and resistance to cadmium poisoning,
relationship (Drosophila melano-
gaster), 127, 143
- Metals
-mediated formation of hydroxyl radi-
cals in aqueous extracts of ciga-
rette tar, 132, 390
transition, role in substantia nigra-
specific vulnerability to 1-meth-
yl-4-phenyl-1,2,3,6-tetrahydropy-
ridine, 128, 25
- Methane
-oxidizing bacteria, coenzyme Q isola-
tion and characterization, 133,
1125
- Methanol
with crown ether, ferricytochrome c
solubilization: absorption, cir-
cular dichroism, and EPR spectral
properties (equine heart), 127,
828
- Methenyltetrahydrofolate cyclohydrolase
-methylenetetrahydrofolate dehydroge-
nase-formyltetrahydrofolate syn-
thetase, dehydrogenase-cyclohydro-
lase active site, affinity label-
ing (porcine liver), 128, 148
- Methionine
synthesis regulation: effects of metJ
gene product and S-adenosylmethio-
nine on in vitro expression of
metB, metL, and metJ genes (Esche-
richia coli), 133, 731
- Methionine-enkephalin
and carboxypeptidase B-like enzyme,
nicotine-stimulated corelease from
chromaffin cells (bovine), 128,
563
immunohistochemical localization in
duodenal perikarya (rat), 128, 402
molecular conformation in solution,
spectroscopic analysis, 126, 1029
- Methotrexate
-resistant HL-60 cells, expression of
dihydrofolate reductase with al-
tered properties (human), 129, 536
-resistant human-mouse somatic cell
hybrid, selective overproduction
of human dihydrofolate reductase,
132, 795
- Methoxatin
-requiring glucose dehydrogenase, res-
toration by 4,7-phenanthroline-
5,6-dione (Acinetobacter calcoace-
ticus), 131, 564
- 3-Methoxy-4-aminoazobenzene
induction of hepatic microsomal cyto-
chrome P-448 (rat), 133, 1072
- Methyl-2-(2-aminoethyl)-aminomethyl-pyr-
idine-6-carboxyl-histidinate
complexes with copper and iron, ESR,
126, 1036
- Methylation
bovine leukemia virus proviral DNA,
129, 126
delayed, DNA, role of matrix-bound DNA
methylase (L929 cells), 126, 678
histones H2B and H3, modification af-
ter heat shock, correlation with
inactivation of normal gene (Dro-
sophila), 133, 823
Kirsten-ras and serum albumin genes,
comparison (rat hepatic nonparen-
chymal cells, hepatocytes), 126,
879
phosphatidylethanolamine, by S-aden-
osylmethionine (rat cerebral micro-
somes), 128, 411
- N-Methylation
phospholipid, Ca²⁺-ATPase activation
(rat cardiac sarcoplasmic reticu-
lum), 130, 472
- N-Methylatropine
and N-methylscopolamine-defined musca-
rinic receptor subpopulations,
correlation with gallamine-defined
subpopulations (rat forebrain),
126, 1242
- Methylene blue
-sensitized photo-oxidation of bovine
 α -crystallin, thiol group microen-
vironmental change, 128, 1322
- β -Methylene-DL-glutamate
effect on glutamate-aspartate transam-
inase (porcine heart), 129, 193

Subject Index

- Methylenetetrahydrofolate dehydrogenase (NADP⁺)
 -methenyltetrahydrofolate cyclohydro-
 lase-formyltetrahydrofolate syn-
 thetase, dehydrogenase-cyclohydro-
 lase active site, affinity label-
 ing (porcine liver), 128, 148
- Methylenetetrahydromethanopterin dehy-
 drogenase
 coenzyme F₄₂₀ dependence (*Methanobac-
 terium thermoautotrophicum*), 133,
 884
- 3-O-Methylglucose
 phorbol-12,13-dibutyrate-induced
 transport, Ca²⁺ dependence (murine
 fibroblasts), 128, 127
- Methylglyoxal synthase
 purification and characterization
 (*Saccharomyces cerevisiae*), 131,
 190
- O⁶-Methylguanine
 effect on HeLa S3 cell sensitivity to
 cytotoxic effects of alkylating
 agents, 132, 178
- Methylhydroxylation
 aromatic, lidocaine: age-associated
 alterations (rat hepatic micro-
 somes), 126, 117
- Methylisobutylxanthine
 -stimulated cGMP-binding protein,
 identification in various tissues
 (rat), 127, 226
- α-Methyl mannoside
 inhibition of concanavalin A binding
 to phosphatidylinositol-containing
 liposomes, 130, 76
- Methyl mercury
 effect on rate of DNA transcription by
 RNA polymerase II (bacteriophage λ,
 bovine thymus), 127, 849
- S-Methyl-5'-methylthioadenosine
 inhibition of spermine synthesis, ef-
 fect on cell growth (SV-3T3
 cells), 133, 82
- N-Methyl-N'-nitro-N-nitrosoguanidine
 cytotoxic effects on HeLa S3 cells,
 effects of O⁶-methylguanine and
 O⁶-n-butyl-guanine, 132, 178
- 1-Methyl-1-nitrosourea
 -induced DNA damage, repair detection
 in vivo by nucleoid sedimentation
 assay (murine liver, lung), 127,
 56
- DL-α-Methylornithine
 effect on ornithine decarboxylase cel-
 lular content: role of transla-
 tional regulation (Ehrlich ascites
 tumor cells), 131, 239
- Methylparaben
 role in Narcan inhibition of alcohol
 dehydrogenase (human liver), 131,
 299
- N-Methyl-4-phenylpyridine
 uptake by synaptosomes, characteriza-
 tion (murine brain), 128, 1228
- 1-Methyl-4-phenyl-1,2,3,6-tetrahydropyri-
 dine
 catalytic function in formation of su-
 peroxide and ferric iron from iron
 redox equilibrium reaction, 131,
 1284
- monoamine oxidase reversible inhibi-
 tion and mechanism-based irrevers-
 ible inactivation (bovine liver,
 human placenta), 127, 707
- substantia nigra-specific vulnerabili-
 ty, role of transition metals,
128, 25
- 4-Methylpyrazole
 effect on cytochrome P-450 content and
 4-methylpyrazole binding spectrum
 (rat hepatic microsomes), 126,
 1076
- Methyl-1-pyrenyl acetylene
 inhibition of cytochrome P-450-depen-
 dent benzo[a]pyrene hydroxylase
 (rat hepatic microsomes), 129, 591
- Methyl radicals
 generated during 1,2-dimethylhydrazine
 oxidative metabolism, spin trap-
 ping, 126, 853
- N-Methylscopolamine
 and N-methylatropine-defined muscarin-
 ic receptor subpopulations, corre-
 lation with gallamine-defined sub-
 populations (rat forebrain), 126,
 1242
- 5-Methyltetrahydropteroylpentaglutamate
 glycine N-methyltransferase inhibi-
 tion: implications for regulation
 of methyl group metabolism, 127,
 746
- 5'-Methylthioadenosine phosphorylase
 cell proliferation- and cell cycle-
 dependent changes (Chinese ham-
 ster ovary, HeLa cells), 127, 546
- Methyl viologen
 oxygenic photoreduction during plastid
 development, role of photosystems
 I and II (cucumber), 126, 1114
- Mezerein
 stimulation of deoxyglucose uptake by
 neutrophils (human), 126, 450
- Micelles
 reverse, solubilization of bacterial
 cells in organic solvents, 127,
 911
- β₂-Microglobulin
 amyloid fibril formation in vitro,
131, 1063
- identification as amyloid protein as-
 sociated with chronic hemodialysis
 (human), 129, 701

Subject Index

Microsomes

detection of peroxidase catalytic intermediate (porcine thyroid), 131, 681

hepatic

benzo[a]pyrene metabolism, cytochrome b_5 role (hamster), 128, 621
leukotriene B_4 metabolism (rat), 128, 733

and pulmonary, membrane lipid composition and microviscosity, low oxygen tension effects (rabbit), 126, 551

macrophage, stimulation of arachidonic acid CoA-independent transfer from 1,2-diacyl-*sn*-glycero-3-phosphocholine to 1-O-alkyl-*sn*-glycero-3-phosphocholine (rabbit), 127, 384

membranes, and mitochondrial membranes, simultaneous preparation from skeletal muscle (Med^J mouse), 128, 113

Microtubules

assembly, facilitation by polyamines (bovine brain), 132, 147

-associated proteins, identification: use of heat stability as criterion (bovine brain), 133, 128

GDP-tubulin incorporation during elongation *in vitro* (bovine brain), 131, 386

reactions at steady state, 4',6-diamidino-2-phenylindole role (porcine brain), 133, 662

Milk

detection of high levels of vasoactive intestinal peptide (human), 133, 228

stimulation of

low-density lipoprotein binding to fibroblasts in culture (human), 126, 667

prostaglandin synthesis in cultured fibroblasts (human), 129, 972

rat hepatic cholesterol 7α -hydroxylase (human), 128, 1133

Mineralocorticoids

regulation of glucocorticoid-controlled atrial natriuretic factor synthesis and release (rat), 131, 806

Mitochondria

ammonium inhibition of fatty acid oxidation, role in Reye's syndrome and urea cycle defects (rat liver), 127, 565

ATPase complex reconstitution, role of residual phospholipids and copurified proteins (bovine heart), 133, 807

Ca^{2+} levels in *in situ* frozen cerebral cortex, electron probe X-ray microanalysis (rat), 132, 1071

 Ca^{2+} transport

characterization (cabbage, corn, rat liver), 129, 943

hexokinase role as modulator (rat brain), 131, 6

and malondialdehyde production *in vitro*, iron(III)-gluconate complex effects (rat liver), 130, 207

calmodulin association, analysis (rat liver), 127, 358

dicarboxylate transport system, comparative partial purification (rat heart, kidney, liver), 133, 498

divicine-induced Ca^{2+} release (rat liver), 129, 18

energy-linked processes, effect of carnitine (rat liver), 131, 968; erratum, 133, 369

fumarate permeation, mediation by malate and phosphate translocators (rat liver), 132, 8

GDP-sensitive uncoupling protein, partial purification and functional reconstitution with octyl glucoside (hamster brown adipose tissue), 127, 509

interaction with rhodamine 123 (drug-sensitive, -resistant Friend leukemia cells), 127, 1039

matrix space and inner membrane, calmodulin localization (rat liver), 132, 63

membranes

inner, energization, role of adenine nucleotide translocation in ρ^+ and ρ^0 strains (*Saccharomyces cerevisiae*), 132, 1116

interaction with synthetic peptide with sequence common to extra peptides of mitochondrial precursor proteins (rat liver, *Saccharomyces uvarum*), 128, 775

and microsomal membranes, simultaneous preparation from skeletal muscle (Med^J mouse), 128, 113

Na^+ - Ca^{2+} exchange, inhibition by clonazepam and diltiazem (guinea pig heart), 128, 290; erratum, 130, 1325

ornithine carbamoyltransferase precursor import as 5 S complex containing import factor (rat heart), 131, 289

oxaloacetate exchange with malate and pyruvate (rat kidney), 129, 1

oxidative phosphorylation, anion flux effect (rat liver), 127, 473

protein synthesis, long-term inhibition by tetracycline, effect on NADH dehydrogenase complex (rat), 128, 1190

Subject Index

- proteolysis, effect of endogenous free radical generation (rat liver), 126, 1082
- reconstituted adenine nucleotide translocator, inorganic pyrophosphate exchange, characterization (bovine heart), 127, 129
- translation system, stimulation by L-triiodothyronine (rat myocardium), 128, 1425
- uptake and processing of precursors to F₁-ATPase and ornithine carbamyl-transferase (rat heart, kidney, liver, spleen), 129, 240
- Mitogens
- platelet-derived growth factor-like, receptor detection on osteosarcoma cells (human), 129, 56
- Mitoxanthrone
- cytotoxic effects on doxorubicin-resistant leukemia cells, enhancement by trifluoperazine (mouse), 131, 912
- Monensin
- inhibition of myoblast fusion in vitro (chicken embryo), 126, 313
- Monoamine oxidase, see Amine oxidase (flavin-containing)
- Monobromobimane
- modified initiator transfer RNA, characterization (Escherichia coli), 127, 49
- Monoclonal antibodies
- analysis of adrenal medullary plasma membrane interaction with chromaffin granules (bovine), 133, 1006
- antigen-binding capacity, effect of SDS-polyacrylamide gel electrophoresis, 133, 1020
- assisted immunoaffinity chromatography, thyroid peroxidase purification (swine), 127, 8
- and conventional antibodies, to Salmonella lipid A, reactivity with synthetic Escherichia coli-type lipid A and analogs, 128, 607
- Clq, activation of Cl, 126, 785
- to cytochrome P-448 high-spin form, production and specificity (rat), 131, 600
- 4-2D and 4-8H, specific for DNA polymerase α associated with DNA primase, characterization (chicken), 132, 210
- 3-E7, to β -endorphin, generation of polyclonal anti-idiotypic opioid receptor antibodies (rabbit), 132, 658
- enkephalinase-specific, production and characterization (rabbit kidney), 131, 255
- enkephalin, opiate receptor-like binding characteristics (mouse), 126, 389
- HNK-1, reactive glycolipid, purification and characterization (human cauda equina, peripheral nerves), 128, 383
- identification of circulating human tumor-associated antigen with epitope shared by cytokeratins (rat), 128, 34
- IGF-I receptor, inhibition of IGF-I binding to placental membranes and mononuclear leukocytes (human), 127, 929
- to interferon-induced human phosphoprotein P₁, production and partial characterization, 133, 168
- to milk-fat globule membrane, recognition of antigenic specificity involving blood group antigen Le^a with onco-developmental antigen SSEA-1 (human), 131, 543
- neuroblastoma cell, ganglioside GD2 specificity (human), 127, 1
- nitrate reductase, identification of multiple epitopes (maize leaves), 129, 686
- phenobarbital-induced cytochrome P-450 isolation (rat liver), 129, 926
- phenylalanine hydroxylase, use in enzyme purification from adult and fetal liver (human), 133, 202
- recombinant human interferon γ , use in epitope characterization, 128, 171
- SJK 132-20, differential effects on DNA polymerases α and δ (rabbit bone marrow), 132, 628
- to tetanus toxin and hepatitis B virus surface antigen, secretion by human lymphocyte-murine myeloma hybridomas, 129, 26
- TP82, to human platelets, induction of protein phosphorylation and diacylglycerol formation, 133, 306
- Monocytes
- circulating, proliferation induction in vitro by lectin-induced factors from lymphocytes (human), 126, 705
- derived macrophages
- apolipoprotein E-mediated uptake and degradation of very-low-density lipoproteins (human), 126, 578
- cultured, cholesteryl ester accumulation, suppression by lipoxigenase inhibitors (human), 127, 366
- Monokines
- effect on β -N-acetylhexosaminidase, α_1 -acid glycoprotein, albumin, and sialyltransferase (rat peritoneal leukocytes), 130, 30

Subject Index

- Mononuclear cells
 peripheral blood
 interferon γ -controlled release of neopterin and biopterin during activation (human), 132, 404
 supernatants, transcriptional regulation of fibroblast collagen synthesis (human), 131, 1028
- Monooxygenase
 cytochrome P-450-linked, optimal temperature, determination by membrane-bound cytochrome P-450 (rat, trout hepatic microsomes), 127, 571
 FAD-containing, aromatic amine activation (*Mytilus edulis*), 127, 773
 mitochondrial system, formation of benzo[a]pyrene metabolites and DNA adducts (rat liver), 131, 935
- Monosialo-gangliosides
 GM3, induction of monocyte differentiation (HL-60 cells), 132, 223
- Morphine
 interaction with ganglioside and lecithin-ganglioside monolayers (bovine brain, soybean), 126, 269
- Motor neuron disease
 progressive, N-acetyl- β -hexosaminidase B deficiency in cultured fibroblasts (human), 130, 1185
- Moxibustion
 -stimulated skin and muscle tissues, acetyl glyceryl ether phosphorylcholine generation (rat), 127, 629
- Mucin
 isoproterenol-stimulated secretion, association with increased polyamine levels (rat submandibular gland), 132, 118
- Mucus glycoproteins
 acyltransferase-catalyzed production in patients with cystic fibrosis, effect on glycoprotein viscosity (rectal mucosa), 132, 299
- Muramyl dipeptide
 derivative coupled to malaria peptide-tetanus toxoid conjugate, anti-sporozoite antibody production response (mouse), 131, 70
 and serotonin, interaction at specific binding sites on macrophages and enhancement of superoxide release (mouse), 131, 1160
- Murine sarcoma virus
 Kirsten, see Kirsten murine sarcoma virus
 -transfected NIH/3T3 cells, p21 *ras* protein synthesis and phenotypic transformation, inhibition by cAMP analogs, 130, 1193
- Muscarinic receptors
 activation-induced phosphoinositide hydrolysis and cytosolic Ca^{2+} increase, inhibition by phorbol 12-myristate 13-acetate (PC12 cells), 127, 310
 attenuation of chick heart adenylate cyclase, induction by pertussis toxin, 126, 622
 cholinergic, calmodulin regulation in synaptic membrane: effects of Ca^{2+} and phosphorylating states (rat brain), 133, 1193
 interactions with lidocaine and quinine (rat brain, heart), 127, 326
 N-methylatropine- and N-methylscopolamine-defined subpopulations, correlation with gallamine-defined subpopulations (rat forebrain), 126, 1242
 modification by tetranitromethane (rat brain, heart), 131, 1124
 sarcolemmal, effect of oxygen free radicals (canine heart), 130, 133
 subtype M_1 , mediation of carbachol-induced β -adrenergic receptor desensitization (rat cardiac myocytes), 128, 699
- Muscles
 cardiac, slow action potentials, clonazepam and diltiazem effects, comparison (guinea pig), 128, 290; erratum, 130, 1325
 fast-twitch, leucine uptake after contraction, role in ATP resynthesis (rat), 128, 1254
 and nonmuscle tissues, caldesmon detection with polyclonal antibodies (chicken gizzard), 127, 533
 skeletal
 excitation contraction coupling, role of slow Ca^{2+} channels: nifedipine and Bay k 8644 effects (*Rana esculenta*), 129, 904
 myosin isoform switches during development, characterization (mouse, *Pleurodeles waltlii*), 128, 94
 synthesis of extracellular matrix components in vitro: quantitative and qualitative analysis during myogenesis (mouse), 130, 440
- smooth
 atrial natriuretic factor binding, internalization, and degradation (rat aorta), 132, 976
 Ca^{2+} uptake
 characterization in vitro (fetal rat aorta), 130, 447
 inhibition by phosphocitrate (rat aorta), 131, 793
 and endothelial cells, atrial natriuretic factor receptors, comparison (bovine aorta), 127, 433

Subject Index

- identification of dihydropyridine-sensitive Ca^{2+} channels (rat A10 cells), 127, 71
- skinned, inositol-1,4,5-trisphosphate-induced Ca^{2+} release in vitro (rat), 130, 270
- substance P mitogenic effects in vitro (rat aorta), 130, 104
- vascular, membrane K^{+} -depolarization, induction of Ca^{2+} release from intracellular storage sites (rat aorta), 129, 877
- soleus, insulin sensitivity, BRL 26830 effect (obese Zucker rat), 128, 928
- striated fibers, free Ca^{2+} changes and total Ca^{2+} release, measurement with Quin 2 (barnacle), 128, 1180
- Mutagenesis**
- phage $\phi\text{X174 am3}$, induction by N^4 -aminodeoxycytidine triphosphate, 131, 1277
- resistance, herpesvirus DNA fragment-transformed fibroblasts (mouse), 133, 1064
- site-directed, aspartate aminotransferase (*Escherichia coli*), 132, 915
- Mutants**
- deficient in chlorophyll a- and b-containing protein antenna complexes, characterization (clover), 131, 182
- glucose oxidase-negative, isolation and ability to degrade lignin (*Phanerochaete chrysosporum*), 131, 436
- norpA, phototransduction, role of inositol triphosphate, genetic analysis (*Drosophila melanogaster*), 132, 513
- phytohemagglutinin-resistant, neoreceptor development after fusion with liposomes containing phytohemagglutinin receptor glycoproteins (Chinese hamster ovary cells), 132, 1024
- Mycovirus**
- double-stranded RNA, and polyinosinic: polycytidylic acid, adjuvant effects on immune responses (mouse), 131, 949
- Myelin basic protein**
- antigenic regions (rat), 131, 1269
- binding to chromatographic resins, analysis (bovine brain), 126, 233
- charge microheterogeneity, role in formation of phosphatidylglycerol multilayers (human), 126, 1161
- Myelopoiesis**
- stimulation by leukotriene B_4 (human), 131, 579
- Myoblasts**
- 1,25-dihydroxyvitamin D_3 receptor identification (chicken embryo), 128, 305
- fusion, inhibition by monensin in vitro (chicken embryo), 126, 313
- Myocytes**
- cultured in serum-free and -supplemented media, adrenergic receptor expression, comparison (rat heart), 128, 376
- Myoglobin**
- Fe effective charge, increase during oxygenation (sperm whale), 131, 98
- Myosin**
- actin interaction, tropomyosin-enhanced, regulation by caldesmon₁₅₀ (gizzard smooth muscle), 132, 645
- heavy chain gene expression, thyroid hormone effects, dot-blot mRNA assay (rat cardiac, soleus muscle), 130, 1161
- isoform switches in skeletal muscle development, characterization (mouse, *Pleurodeles waltlii*), 128, 94
- light chain
- diphosphorylation, and actin-activated myosin ATPase, linear relationship (chicken gizzard), 131, 987
- effect on melittin hemolytic activity (rabbit erythrocytes), 130, 22
- mRNA, increased levels in spontaneous hypertension (rat heart), 132, 820
- smooth muscle
- stably phosphorylated, leiotonin effects (chicken gizzard), 130, 286
- trinitrophenylation, analysis (turkey gizzard), 126, 748
- Myosin ATPase**
- actin-activated, and diphosphorylation of myosin light chain, linear relationship (chicken gizzard), 131, 987
- inhibition by filamin (porcine platelets), 132, 307
- Myosin light chain kinase**
- and rabbit hepatic glycogen phosphorylase, binding to [^{125}I]calmodulin, quantitation and comparison (chicken gizzard), 126, 295
- N
- NAD^{+}** (oxidized nicotinamide adenine dinucleotide)
- dependent conversion of 20-hydroxy-leukotriene B_4 to 20-carboxy-leu-

Subject Index

- kotriene B₄ by neutrophil cell-free system (human), 132, 864
 NADH (reduced nicotinamide adenine dinucleotide)
 -H₂O exchange reaction catalyzed by mitochondrial NADH dehydrogenase, characterization (bovine heart), 129, 584
 oxidation by plasma membranes (soybean hypocotyl), 131, 943
 NADH dehydrogenase
 microsomal, effect of Fe²⁺-induced lipoperoxidation (porcine adrenal cortex), 128, 657
 mitochondrial
 -catalyzed NADH-H₂O exchange reaction, characterization (bovine heart), 129, 584
 effect of long-term protein synthesis inhibition by tetracycline (rat), 128, 1190
 NADP (oxidized nicotinamide adenine dinucleotide phosphate)
 and histidine, formation of N^T-ribosylhistidine by NAD(P)⁺ glycohydrolase system (human, rat), 130, 501
 oxygenic photoreduction during plastid development, role of photosystems I and II (cucumber), 126, 1114
 NADPH (reduced nicotinamide adenine dinucleotide phosphate)
 oxidation by plasma membranes (soybean hypocotyl), 131, 943
 NADPH-cytochrome c reductase
 progesterone-induced, resolution and reconstruction (*Rhizopus nigricans*), 133, 1057
 regulation by manganese (rat brain), 128, 18
 NADPH-cytochrome P-450 reductase
 C-terminal fragment, amino acid sequence (porcine hepatic microsomes), 127, 94
 optimal temperature, determination by membrane-bound cytochrome P-450 (rat, trout hepatic microsomes), 127, 571
 synthesis and activity, regulation by adrenocorticotropin (bovine adrenal cortex), 128, 650
 NADPH-ferrihemoprotein reductase
 microsomal, effect of Fe²⁺-induced lipoperoxidation (porcine adrenal cortex), 128, 657
 NADPH oxidase
 kinetics, effect of interferon γ -induced release of superoxide anion from macrophages (human), 132, 908
 synergistic activation by formyl-methionyl-leucyl-phenylalanine with platelet-activating factor or leukotriene B₄ (human neutrophils), 128, 297
 NAD(P)⁺ nucleosidase
 role in formation of N^T-ribosylhistidine from histidine and NAD(P)⁺ (human, rat), 130, 501
 Nafarelin acetate
 and luteinizing hormone-releasing hormone, binding to plasma proteins, comparison (human, rat, rhesus monkey), 127, 673
 Nafazatrom
 effect on interleukin-1 production by peritoneal macrophages (mouse), 128, 892
 Nafoxidine
 effect on dolichol pathway in T47D-cl1 cells (human), 126, 382
 Naloxone
 interaction with ganglioside and lecithin-ganglioside monolayers (bovine brain, soybean), 126, 269
 role in Narcan inhibition of alcohol dehydrogenase (human liver), 131, 299
 Naphthalene
 formation of covalently bound metabolites, 1-naphthol role (mouse), 126, 1097
 Naphthalene sulfonamide
 derivatives W7 and W13, elevation of ³²P-labeled polyphosphoinositide levels in platelets (human), 131, 370
 1-Naphthol
 role in formation of covalently bound metabolites from naphthalene and in induction of pulmonary bronchiolar necrosis (mouse), 126, 1097
 Narcan
 inhibition of alcohol dehydrogenase, role of naloxone and methyl- and propylparaben (human liver), 131, 299
 Nasal absorption
 peptides, leucine enkephalin hydrolysis model (rat), 133, 923
 Natriuresis
 atrial peptide-induced, differential structure-function relationships (dog), 128, 325
 Natural killer cells
 monoclonal antibody HNK-1, reactive glycolipid, purification and characterization (human cauda equina, peripheral nerves), 128, 383
 Necrosis
 pulmonary bronchiolar, 1-naphthol role in induction (mouse), 126, 1097
 Neon
 -helium laser, lymphocyte irradiation, effect on cellular interaction

Subject Index

- with Salmonella minnesota (human),
130, 546
- Neopterin**
synthesis and interferon γ -controlled
release in peripheral blood mono-
nuclear cells during activation
(human), 132, 404
- Nephrectomy**
and hepatectomy, effect on pregnant
adult and fetal blood glucose,
glycerol, and free fatty acid
levels (rat), 131, 1219
- Nerve growth factor**
differential short-term effects on
fatty acid synthesis in hepato-
cytes (rat), 131, 449
-treated cells, K^+ -stimulated cate-
cholamine release, tetanus toxin
effect (PC12 cells), 128, 249
- Neuracassin**
isolation and characterization (Neuro-
spora crassa), 130, 1015
- Neuraminidase**, see Sialidase
- Neurofilaments**
phosphorylation by
Ca²⁺-activated neutral protease-
associated protein kinase (bovine
brain), 129, 804
endogenous Ca²⁺/calmodulin-depen-
dent protein kinase (rat brain),
130, 957
- Neuromedins**
B-30 and B-32, isolation and amino ac-
id sequence analysis (porcine
brain, spinal cord), 130, 685
K, induction of inositol phospholipid
hydrolysis (rat brain), 127, 616
U-8 and U-25, purification and charac-
terization (porcine spinal cord),
130, 1078
- Neurons**
cAMP and cGMP levels, regulation by
adrenocorticotrophic hormone
(chicken embryo), 133, 286
in developing dissociated spinal cord,
[³H]nitrendipine binding (fetal
mouse), 127, 112
myenteric plexus, identification of
dynorphin-A and γ -melanotropin
(rat duodenum), 131, 821
perikarya, colocalization of dynor-
phin-A[1-17] and -A[1-8], immuno-
histochemical analysis (rat duode-
num), 130, 774
- Neuropathy**
demyelinating, monoclonal IgM-reactive
glycolipid, purification and char-
acterization (human cauda equina,
peripheral nerves), 128, 383
- Neuropeptide K**
detection in plasma and tumor tis-
sues from carcinoma patients, 131,
77
isolation, structure, and biological
activities (porcine brain), 128, 947
- Neuropeptide Y**
and catecholamines, corelease during
physical exercise (human), 133, 30
-like immunoreactivity, identifica-
tion in neuritic plaques of Alz-
heimer's disease (human), 126, 289
- Neurophysin**
binding of perdeuterated peptides, ef-
fects on interaction with oxytocin
and vasopressin, comparative NMR
analysis (bovine), 128, 1211
- Neurotensin**
regulation of cGMP levels (neuroblas-
toma N1E115 cells), 129, 117
- Neutral endopeptidase**, see Membrane met-
allo-endopeptidase
- Neutral proteinase**
Ca²⁺-dependent, binding to erythrocyte
membrane: physiological mechanism
for activation (human), 128, 331
- Neutrophil elastase**, see Leukocyte elas-
tase
- Neutrophils**
activation by Bryostatin (human), 131,
1109
Ca²⁺ mobilization, polyphosphoinosi-
tide turnover, and degranulation
induced by platelet-activating
factor, inhibitory profile of per-
tussis toxin and phorbol 12-myris-
tate 13-acetate (rabbit), 130, 677
cell-free system, NAD⁺-dependent
conversion of 20-hydroxy-leuko-
triene B₄ to 20-carboxy-leuko-
triene B₄ (human), 132, 864
chemiluminescence, generation by hy-
drogen peroxide and hypochlorite
cooxidation of luminol, 126, 482
chemoattractant receptor-mediated
polyphosphoinositide breakdown,
Ca²⁺ mobilization, and biologi-
cal responses: role of guanine
nucleotide regulatory protein (hu-
man), 127, 450
complement-induced reactive oxygen me-
tabolite production and recovery
from attack by complement, inhibi-
tion by 2-chloroadenosine (human),
126, 692
concomitant production of 1-acyl-2-
acetyl-sn-glycerol-3-phosphoryl-
choline and platelet-activating
factor (rabbit), 128, 1409
degranulation and superoxide anion
generation, effect of arachidon-
ate metabolites and protein ki-
nase C interaction (human), 127,
916

Subject Index

- deoxyglucose uptake, stimulation by protein kinase C activators (human), 126, 450
- free Ca^{2+} levels, fluoride ion-induced increase (human), 133, 161
- functions, leukotriene A_4 effects (human), 133, 23
- intracellular pH changes induced by N -formyl-methionyl-leucyl-phenylalanine or ionophore A23187, effect of pertussis toxin (human), 131, 64
- ionophore A23187-stimulated arachidonic acid release and phosphatidic acid production, enhancement by phorbol 12-myristate 13-acetate (rabbit), 128, 594
- membrane leukotriene B_4 receptors, detergent solubilization (human), 128, 878
- phagolysosomal esterase direct measurement (human), 127, 584
- platelet-activating factor-mediated effects, inhibition by pertussis toxin (human), 129, 632
- respiratory burst
- effect of transient increase in intracellular free Ca^{2+} (human), 132, 674
 - inhibition by
 - low mercury levels (human), 128, 1145
 - pyridine and imidazole, role of cytochrome b_558 (human, swine), 130, 621
 - temperature dependence, role of membrane fusion (human), 132, 696
- secretory process, stimulation by interleukin 1 (human), 130, 1233
- stimulated, produced platelet-activating factor, molecular species: fast atom bombardment-mass spectrometry (human), 129, 868
- superoxide anion production in response to various agents, role of Ni protein (guinea pig), 130, 939
- thioltransferase *in vitro* release by immune complex (rabbit), 127, 458
- Newcastle disease virus
- xanthine oxidase induction and cytochrome P-450 depression: genetic difference in responses (C57Bl/6J, C3H/HeJ mice), 131, 109
- Nickel
- center in hydrogenase, optical transitions, low-temperature magnetic circular dichroism spectroscopy as probe (*Methanobacterium thermoautotrophicum*), 128, 220
 - containing hemoglobin and derivatives, temperature-dependent spectral changes, α -subunit role (human), 128, 721
- Nick-translation
- analysis of chromatin conformation in brain (young, old rats), 127, 604
- Nicotine
- enantiomers, substrate-inhibitor properties toward aromatic azaheterocycle N -methyltransferase (guinea pig lung), 128, 312
 - stimulation of carboxypeptidase B-like enzyme and Met-enkephalin corelease from chromaffin cells (bovine), 128, 563
- Niemann-Pick disease
- associated sphingomyelinase deficiency in fibroblasts, correction with dimethylsulfoxide (human), 126, 756
- Nifedipine
- effect on slow Ca^{2+} channels in skeletal muscle: role of slow Ca^{2+} channel in excitation contraction coupling (*Rana esculenta*), 129, 904
- Nigericin
- regulation of respiration in sonicated cytochrome oxidase-containing proteoliposomes (bovine heart), 128, 1025
- Ninhibin
- attenuation of atrial natriuretic factor-mediated adenylate cyclase inhibition: role of inhibitory guanine nucleotide regulatory protein (rat), 129, 171
- Nitrate reductase
- multiple epitopes, identification with monoclonal antibodies (maize leaves), 129, 686
- Nitrendipine
- ^3H -labeled, binding in developing dissociated spinal cord neurons (fetal mouse), 127, 112
 - potentiation of Bay k 8644-induced contraction of isolated porcine coronary artery: identification of functionally distinct dihydropyridine receptor subtypes, 128, 1295
- Nitrendipine receptors
- transverse tubule, effect of mercaptans (rabbit skeletal muscle triads), 127, 205
- Nitrite
- inhibition of cytochrome oxidase oxygen uptake (bovine heart), 133, 1104
- 2-Nitro-4-azidophenylsulfenyl chloride
- β -endorphin complex, use in photoaffinity labeling of nonopioid binding sites (human neuroblastoma IMR-32 cells), 128, 1310

Subject Index

- 4-Nitrobenzyl mercaptan
 S-sulfate formation, pH effects (rat hepatic cytosol), 131, 687
- Nitrogenase
 electron transfer from flavodoxin, reduced efficiency in mutant with reduced redox potentials (Azotobacter vinelandii), 128, 643
- p-Nitrophenylthiol acetate
 analysis of acetyl transacylase activity of fatty-acid synthase (yeast), 131, 786
- Nitropyrenes
 topical application, induction of cutaneous and hepatic monooxygenases (rat), 129, 134
- 4-Nitroquinoline-1-oxide
 -induced DNA damage, repair detection in vivo by nucleoid sedimentation assay (murine liver, lung), 127, 56
- N-Nitrosodimethylamine
 metabolism by ethanol-inducible cytochrome P-450, immunochemical analysis (rabbit hepatic microsomes), 128, 1007
- Noradrenaline, see Norepinephrine
- Norcocaine nitroxide
 and related compounds, electrochemistry, implications for cocaine hepatotoxicity (mouse), 130, 1044
- Nordihydroguarietic acid
 effect on interleukin-1 production by peritoneal macrophages (mouse), 128, 892
- Norepinephrine
 adrenal levels, 3-deazaadenosine effect (rat), 127, 924
 and neuropeptide Y, corelease during physical exercise (human), 133, 30
 release in depolarized synaptosomes, mediatory role of polyamines (rat cerebral cortex), 133, 563
- Nuclear magnetic resonance
¹³C decoupling with reverse DEPT polarization-transfer pulse sequence, [2-¹³C]ethanol in vitro metabolism by alcohol dehydrogenase, 128, 107
- ¹H
 high-resolution, lactoperoxidase (bovine milk), 133, 794
 protein spectra, simplification by one-dimensional multiple quantum filtration, 131, 1094
 relaxation spectroscopy, measurement of Z-DNA helix-opening rate, 128, 352; erratum, 129, 319
 signal assignment in low-spin paramagnetic hemins with nuclear Overhauser effect, 129, 70
- ³¹P, intracellular pH assessment (Dictyostelium discoideum), 132, 140
- Nuclear Overhauser effect
 assignment of ¹H NMR resonances in low-spin paramagnetic hemins, 129, 70
- Nuclease S-II
 phosphorylation, effect of RNA synthesis inhibitors (mouse), 131, 524
- Nuclei
 envelope, identification of multiple thyroid hormone-binding sites (rat liver), 132, 35
 matrix, estradiol receptor detection (rat prostate), 128, 1381
 RNA polymerase content (Trypanosoma brucei), 131, 844
- Nucleoids
 amyloplast, detection in sycamore cells: DNA sequence homology with chloroplast genes, 133, 140
- Nucleoside-diphosphate kinase
 membrane-associated, with GDP, formed GTP, differential susceptibility of GTP-sensitive adenylate cyclase induced by hormones and cholera toxin (rat liver), 131, 199
- Nucleosides
 degradation by elliptinium acetate via free radicals, role of iron salts, 133, 15
 5'-m⁷GMP and m⁷G(5')ppp(5')N, auto-antibodies, detection in serum (human), 128, 1014
- Nucleosomes
 differential effects of adriamycin and daunomycin, analysis with terbium probe (bovine thymus), 131, 1033
 interactions in chromatin, enhanced stability (Allium cepa), 129, 645
 peak A, from micrococcal nuclease digestion, physico-biochemical characterization (Physarum polycephalum), 131, 230
- 5'-Nucleotidase
 role in formation of N^r-ribosylhistidine from histidine and NAD(P)⁺ (human, rat), 130, 501
- 5'-Nucleotide phosphodiesterase, see Phosphodiesterase I
- Nucleotide pyrophosphatase
 role in formation of N^r-ribosylhistidine from histidine and NAD(P)⁺ (human, rat), 130, 501
- Nucleotide sequence
 aldolase A cDNA (human), 131, 413
 amelogenin cDNA (mouse), 129, 812
 apolipoprotein E gene (human), 130, 1261
 aromatic-amino-acid aminotransferase gene (Escherichia coli), 133, 134
 atrial natriuretic polypeptide precursor

Subject Index

- sor cDNAs, comparison (dog, rabbit), 132, 892
 cellular retinol-binding protein cDNA (human), 130, 431
 ferritin H mRNA and 28 S ribosomal RNA, complementarity (human), 131, 863
 inter- α -trypsin-inhibitor light chain-encoding cDNA (human liver), 131, 1146
 mRNAs of epidermal growth factor, interleukin 2, transferrin, and respective receptors: regions of complementarity, 128, 1373
 pancreatic secretory trypsin inhibitor cDNA (human), 132, 605
 polyadenylated small RNA (*Cryptocodinium cohnii*), 127, 552
 thyrotropin β -subunit cDNA (rat), 128, 1152
 U4 small nuclear RNA pseudogenes with common 3' ends (rat), 130, 828
 Nucleotide triphosphates
 ATPase-mediated hydrolysis, effect of substrate concentration on phosphate-oxygen exchange, 131, 763
- O
- 1-O-Octadecenyl 2-O-acetylgllycerol
 stimulation of deoxyglucose uptake by neutrophils (human), 126, 450
rac-3-(N-n-Octadecylcarbamoyloxy)-2-methoxypropyl 2-thiazolioethyl phosphate
 inhibition of 1-O-alkyl-2-acetyl-sn-glycero-3-phosphorylcholine binding to platelet receptor (human), 126, 502
 Octanoate, see Caprylate
 Octyl glucoside
 partial purification and functional reconstitution of GDP-sensitive uncoupling protein (hamster), 127, 509
 Odontoblasts
 -like cells, collagenase synthesis, purification, and characterization (rabbit), 133, 709
 Oleate
 effect on ethanol metabolism (perfused rat liver), 133, 44
 Oleate esters
 and linoleate esters and biological antioxidants, ozonation rates, comparison, 133, 773
 Oleic acid
 inhibition of endotoxin-induced thromboplastin (human monocytes), 132, 67
 stimulation of L-[4,5- 3 H]leucine incorporation into low-density lipoprotein apoprotein (isolated perfused rat liver), 132, 28
 1-Oleoyl-2-acetyl-glycerol
 and Ca^{2+} , stimulation of prolactin secretion in permeable GH $_3$ pituitary cells in vitro (rat), 130, 524
 and cholera toxin and ionophore A23187, ornithine decarboxylase synergistic induction (guinea pig lymphocytes), 130, 389
 induction of ornithine decarboxylase in isolated epidermal cells (mouse), 128, 913
 inhibition of fluorescein transfer between cultured epidermal cells, protein kinase C role (mouse), 126, 1109
 and ionophore A23187, synergistic stimulation of luteinizing hormone release (rat pituitary), 130, 848; erratum, 133, 368
 and transforming growth factor- α , synergistic stimulation of prostaglandin production (rat liver), 130, 110
 2',5'-Oligoadenylate
 core 5'-diphosphate, phosphorylation to 2-5A (murine L-cell extracts), 126, 917
 trimer and tetramer triphosphates, protein synthesis inhibition, effects of K^+ concentration (rabbit reticulocyte lysates), 130, 821
 2',5'-Oligoadenylate synthetase
 induction by interferon, deoxyadenosine and deoxycytosine effects (human T lymphoblasts), 127, 1019
 Oligomycins
 -induced sodium occlusion by Na^+ , K^+ -ATPase (*Squalus acanthias*), 127, 857
 sensitivity-conferring protein, azido derivatives, photolabeling of mitochondrial F_1 -ATPase (bovine heart), 129, 819
 Oligonucleotides
 pyrimidine mobility, 2D-COSY aromatic cross-peaks as monitors, 133, 380
 Oligosaccharides
 glycoprotein-derived, antigenicities and receptor functions, determination, 132, 474
 serine-linked, human chorionic gonadotropin, structural analysis, 126, 333
 trimannosyl, from complex and high-mannose-type glycopeptides, interaction with concanavalin A, 127, 1066

Subject Index

- Oligosaccharyltransferase
 calcitonin glycosylation in vitro and in cultured thyroidal C cells, 130, 343
- Omeprazole
 irreversible inactivation of gastric H^+ , K^+ -ATPase in vivo (rat), 126, 78
- Oncomodulin
 differential stimulation of cAMP phosphodiesterase from brain and heart (bovine), 131, 500
- Oocytes
 meiotic maturation, stimulation by protein kinase C activators (rat), 132, 570
- Opiates
 action in brain striatum, modification by pertussis toxin (rat), 127, 477
- Opioid receptors
 -binding materials, purification with affinity resin (rat brain), 131, 640
 -like binding characteristics of enkephalin monoclonal antibodies (mouse), 126, 389
- μ -class
 cyclic opioid peptide analog binding specificity (guinea pig ileum, murine vas deferens, rat brain), 127, 558
 microsomal and synaptic membrane, differential up-regulation (rat forebrain), 132, 735
 neuroblastoma, characterization (human), 133, 60
 polyclonal anti-idiotypic antibodies, generation by monoclonal β -endorphin antibody 3-E7 (rabbit), 132, 658
- Ornithine
 exogenous, metabolic conversion by cultured hepatocytes, bromodeoxyuridine effect (rat), 129, 746
- Ornithine carbamoyltransferase
 activity and level during perinatal period, actinomycin D effects (rat liver), 129, 780
 decarbamoylating activity (bovine liver), 128, 441
 precursors
 mitochondrial uptake and processing (rat heart, kidney, liver, spleen), 129, 240
 transport to mitochondria as 5 S complex containing import factor (rat heart), 131, 289
- Ornithine decarboxylase
 cellular content, increase with inhibitors: role of translational regulation (Ehrlich ascites tumor cells), 131, 239
 difluoromethylornithine-insensitive form, stability in vitro and in vivo (human neuroblastoma cells), 126, 96
 genes, difluoromethylornithine-induced amplification (Ehrlich ascites carcinoma cells), 126, 734
 induction
 by human platelet-derived growth factor (NIH/3T3 cells), 127, 843
 hyperthermia effects (murine kidney, skin), 126, 156
 by 1-oleoyl-2-acetyl-glycerol in isolated epidermal cells (mouse), 128, 913
 inhibition by 1-aminooxy-3-aminopropane (murine kidney), 130, 596
 response to surgical stress: glucocorticoid action, permissive effects of catecholamines (rat liver), 129, 885
 synergistic induction by cholera toxin, ionophore A23187, and 1-oleoyl-2-acetyl-glycerol (guinea pig lymphocytes), 130, 389
 testicular levels, stimulation by transforming growth factor (immature mouse), 132, 1180
- Ornithine transcarbamylase, see Ornithine carbamoyltransferase
- Osmotic pressure
 -inhibited carbohydrate active transport and cell growth, restoration (*Escherichia coli*), 126, 442
 inhibition of carbohydrate active transport (*Escherichia coli*), 126, 434
 stimulation of atrial natriuretic polypeptide secretion (rat atria), 132, 375
- Osteoblasts
 -like cells
 proliferation, parathyroid hormone effect, role of cAMP (chick), 129, 918
 retinoic acid modulation of 1,25-dihydroxyvitamin D₃ receptors and bioresponse, species differences (mouse, rat), 132, 74
 MC3T3-E1, interleukin 1-like cytokine production (mouse), 131, 774
- Osteocalcin
 cell-free translation (neonatal rat calvaria), 132, 240
 immunochemical detection and characterization (moa bones), 129, 714
- Ovary
 methylthioadenosine phosphorylase, cell proliferation- and cycle-dependent changes (Chinese hamster), 127, 546

Subject Index

- Ovomucoid
third domains, carbohydrate-containing and free, immunoreactivity with human IgE antibody to ovomucoid (chicken), 129, 505
- Oxaloacetate
exchange with malate and pyruvate in renal mitochondria (rat), 129, 1
- γ -Oxalomesaconate hydratase
purification and properties (phthalate-grown *Pseudomonas ochraceae*), 128, 271
- Oxidant stress
relationship to acetaminophen hepatotoxicity *in vivo* (rat), 133, 329
- Oxidation
1,2-dimethylhydrazine, generated methyl radical, spin trapping, 126, 853
ethanol, effects of fatty acids (perfused rat liver), 133, 44
fatty acids, inhibition by ammonium, role in Reye's syndrome and urea cycle defects (rat hepatic mitochondria), 127, 565
glucose, by pancreatic islets, digitoxose effect (lean, genetically obese diabetic mice), 129, 358
glutathione, acetaldehyde-dependent (rat hepatic cytosol), 129, 949
hexachlorobenzene, pentachlorophenol formation (rat hepatic microsomes), 126, 25
linoleic acid, effects of vitamin K and vitamin K hydroquinone, 128, 211
melanin, superoxide dismutation mechanism (bovine eye), 131, 659
2-oxoglutarate, inhibition by pyruvate (cauliflower, pea, turnip mitochondria), 133, 397
photo-, methylene blue- or riboflavin-sensitized, bovine α -crystallin: thiol group microenvironmental change, 128, 1322
reduced ascorbate oxidase, spectroscopic analyses (cucumber), 131, 647
reduced pyridine nucleotides, by plasma membranes (soybean hypocotyl), 131, 943
- β -Oxidation
n-capric acid, inhibition by valporic and 2-*n*-propyl-4-pentenoic acids *in vitro* (rat liver), 132, 245
- 3-Oxoacyl-CoA thiolase
deficiency in Zellweger syndrome patients, 126, 1269
- 2-Oxoglutarate, *see* α -Ketoglutarate
- 2-Oxoisovalerate dehydrogenase
transacylase component, cDNA clone identification (human fetal liver), 131, 961
- Oxophenylarsine
effect on generation of insulin intermediate products, HPLC (human fibroblasts), 128, 163
- 5-Oxopropyl-peptidase
inhibition by pyroglutamyl diazomethyl ketone *in vivo* (mouse), 130, 662
- 5-Oxopropyl-peptidase inhibitors
effect on thyrotropin-releasing hormone degradation (rat serum), 132, 787
- Oxygen
consumption by
heart, effect of myocardial isomyosin (rat), 130, 1314
neutrophils, inhibition by low mercury levels (human), 128, 1145
pancreatic islets, digitoxose effect (lean, genetically obese diabetic mice), 129, 358
free radicals, effect on sarcolemmal muscarinic receptors (canine heart), 130, 133
low tension, effect on microsomal membrane lipid composition, microviscosity, and phospholipid synthesis (rabbit liver, lung), 126, 551
 ^{18}O , -induced isotope shifts in ^{13}C NMR spectra of pepsin-bound peptide ketone pseudosubstrates, 129, 597
-phosphate exchange during hydrolysis of nucleotide triphosphates by ATPases, substrate concentration effects, 131, 763
reactive species
complement-induced metabolite production in polymorphonuclear leukocytes, inhibition by 2-chloro-adenosine (human), 126, 692
role in
lethal injury to cultured hepatocytes by acetaminophen (rat), 126, 1129
myocardial reperfusion injury (mongrel dogs), 127, 87
uptake by cytochrome oxidase, inhibition by nitrite (bovine heart), 133, 1104
- Oxygenation
hemoproteins, increase of iron effective charge (human, sperm whale), 131, 98
sulfide, microsomal FAD-containing monooxygenase and cytochrome P-450, comparison (porcine liver), 131, 567
- Oxytocin
interaction with neurophysin, effect of perdeuterated peptide binding by neurophysin, comparative NMR

Subject Index

- analysis (bovine), 128, 1211
 -like peptide, identification in platypus (Ornithorhynchus anatinus), 127, 277
- Ozone
 reaction with biological antioxidants and linoleate and oleate esters, rate constants, comparison, 133, 773
- P
- Pactamycin
 superinduction of interferon- γ mRNA (human peripheral blood lymphocytes), 133, 274
- Palmitate
 effect on ethanol metabolism (perfused rat liver), 133, 44
- Palmitic acid
 acyltransferase-catalyzed transfer from palmitoyl coenzyme A to mucus glycoprotein in patients with cystic fibrosis: effect on glycoprotein viscosity, 132, 299
- Palmitoyl coenzyme A
 acyltransferase-catalyzed transfer of palmitic acid to mucus glycoprotein in patients with cystic fibrosis: effect on glycoprotein viscosity, 132, 299
- 5'-Palmitoyl-5-fluoro-2'-deoxyuridine
 synthesis, incorporation into liposomes, and preliminary biological results, 126, 660
- Palmitoyl lysophosphatidic acid
 formation of [^3H]inositol phosphates, inhibition by indomethacin (human platelets), 132, 555
- Panax ginseng
 extracts, protein synthesis and proteolysis inhibition (human fibroblasts), 126, 636
- Pancreas
 acinar cells
 amylase secretion in vitro, enteric and pancreatic hormone effects (rat), 129, 63
 digestive enzyme secretion in vitro, effect of various secretagogues (rat), 128, 872
 secretagogue-stimulated inositol triphosphate production and amylase secretion (mouse), 131, 284
 somatostatin binding, inhibition by tumor promoters (guinea pig), 128, 850
- β -cells
 electrical, ionic, and secretory changes, effects of calcium channel agonist (mouse), 131, 980
 isolation and insulin secretion analysis (rat), 128, 396
 long-term maintenance of differentiated function in tissue culture, enhancement by phorbol ester (rat), 128, 1315
- islets of Langerhans
 insulin release, glucose oxidation, and oxygen consumption, digitoxose effects (lean, genetically obese diabetic mice), 129, 358
 isolated and perfused, endogenous heparin A3 release (rat), 128, 942
 phosphate efflux and influx during glucose stimulation in vitro, simultaneous estimation (rat), 129, 862
 thyrotropin-releasing hormone precursor detection (neonatal rat), 128, 664
- Pancreatic elastase
 activity and mRNA levels, regulation by food content (rat), 127, 937
 association with human plasma α_1 -proteinase inhibitor, rate constant, cigarette smoke effect (swine), 126, 275
- Paraffin
 -embedded tissues, DNA purification (human), 130, 118
- Parathyroid hormone
 adenylate cyclase response, gold effects (chick osteoblast membrane), 130, 580
 effect on osteoblast-like cell proliferation, role of cAMP (chick), 129, 918
 genes, localization on chromosome 1 (rat), 131, 1175
 phosphate transport inhibition in brush border membranes, effects of intracellular calcium antagonists (rabbit kidney), 128, 278
- Parkinsonism
 -inducing neurotoxin, substantia nigra-specific vulnerability, role of transition metals, 128, 25
- Parvalbumin
 effect on melittin hemolytic activity (rabbit erythrocytes), 130, 22
- Pectinase
 purification by affinity chromatography, matrix evaluation (Aspergillus niger), 131, 666
- D-Penicillamine
 effect on reaction of proteolysed IgG with thiol mixtures (human), 126, 867
- Penicillin
 effect on peptidoglycan crosslinking, solid-state ^{15}N NMR analysis (Aerococcus viridans), 126, 1006

Subject Index

Pentachlorophenol

formation during hexachlorobenzene
microsomal oxidation (rat liver),
126, 25

Pentasaccharides

synthetic, corresponding to heparin
active site for antithrombin III,
mono- and bidimensional ^1H NMR
spectra: conformational peculiar-
ity of sulfated iduronate residue,
128, 134

Pentose phosphate

6,7-dimethyl-8-ribityllumazine forma-
tion, biosynthesis of aliphatic
intermediate riboflavin (*Candida*
guilliermondii), 127, 175

Pepsin

-bound peptide ketone pseudosub-
strates, ^{13}C NMR spectra: ^2H - and
 ^{18}O -induced isotope shifts, 129,
597

Pepsinogen

secretion from isolated gastric
glands, synergistic effects of
phorbol ester and ionophore
A23187 or dibutyryl cyclic AMP
(guinea pig), 131, 314

Peptides

atrial high-molecular-weight, fast
atom bombardment mass spectrom-
etry (*Aplysia californica*), 132,
520

atriopeptin-related, natriuretic and
renal vasodilator activities, dif-
ferential structure-function rela-
tionships (dog), 128, 325

at binding site of insulin receptor
130-kDa subunit, mapping with
cleavable radioactive photoprobe
(human placental membranes), 133,
154

calcitonin gene-related, stimulation
of

adenylate cyclase and plasminogen
activator production (porcine LLC-
PK₁ cells), 131, 537

cAMP formation (rat aortic smooth
muscle cells), 132, 88

copurified with N₅: substrate for per-
tussis toxin-catalyzed ADP-ribo-
sylation (rabbit cardiac mem-
branes), 128, 809

-derived amino alcohols, design as
transition-state analog inhibi-
tors of angiotensin-converting
enzyme, 126, 419

erythropoietin, antibodies: surface
epitope identification (human),
129, 707

erythrotropin-like, N-terminal por-
tion, sequence homology with low-
density lipoprotein receptor and

Epstein-Barr virus proteins (fetal
bovine serum), 133, 404

helodermin-like, related to secretin
and VIP, detection in brain, gut,
and salivary glands (rat), 130,
333

histidine and tyrosine residues, dan-
sylation, 130, 350

hydrolysis by carboxypeptidase A, di-
rect chemical evidence for mixed-
anhydride intermediate, 132, 681

insulin-like, secretion by leukemic
HL-60 cells, regulating factors
(human), 129, 293

involved in mosquito larvicidal activ-
ity, identification (*Bacillus*
thuringiensis var. *israelensis*
crystals), 132, 19

leukotriene, ^3H -labeled, *in vitro*
metabolism, comparison (human,
ferret, guinea pig lung), 131, 892

metabolism in central nervous system,
monitoring by HPLC/push-pull per-
fusion technique (rat), 130, 37

mitogenic transforming growth factor-
like, identification and charac-
terization (human anterior pitu-
itary), 133, 951

Na^+ , K^+ -ATPase, fluorescein-labeled,
amino acid sequence (brine shrimp,
electric ray), 130, 221

opioid

conversion and inactivation by endo-
oligopeptidase A (rabbit brain),
130, 932

cyclic analog synthesis and speci-
ficity for μ -receptors (guinea
pig ileum, murine vas deferens,
rat brain), 127, 558

opioid-binding, purification with af-
finity resin (rat brain), 131, 640

oxytocin-like, identification in
platypus (*Ornithorhynchus ana-*
tinus), 127, 277

PHM-27, gene expression, synergistic
stimulation by dibutyryl cAMP and
phorbol esters in neuroblastoma
cells (human), 132, 885

phosphorylated, dephosphorylation *in*
vitro by repressible acid phospha-
tase (yeast), 129, 350; erratum,
133, 368

pro-opiomelanocortin N-terminal-de-
rived, acute hemorrhagic stress-
induced secretion (conscious
sheep), 133, 648

sperm-activating, structure-activity
relationship (sea urchin eggs),
126, 974

synthetic

to atrial natriuretic factor, effect

Subject Index

- on cGMP formation and receptor binding activities in aortic smooth muscle cells (human, rat), 128, 538
- cysteine-containing, conjugation to albumin with *N*-hydroxysuccinimide ester of Boc-[*S*-(3-nitro-2-pyridinesulfonyl)]-cysteine, 132, 1046
- to malaria-associated protein, -tetanus toxoid conjugate coupled to muramyl dipeptide derivative, anti-sporozoite antibody production responses in vitro and in vivo (mouse), 131, 70
- rhodopsin, antisera as probes of disc membrane changes (retinal dystrophic dogs), 132, 438
- with sequence common to extra peptides of mitochondrial precursor proteins, interaction with mitochondrial membranes (rat liver, *Saccharomyces uvarum*), 128, 775
- tryptic, fluorescein isothiocyanate-labeled, prepared from Ca^{2+} - and Na^+ , K^+ -ATPases, amino acid sequence, comparison (canine, ovine, rabbit, rat tissues), 130, 732
- type III collagen-derived, effect on ADP- or collagen-stimulated fibrinogen binding to platelets (human), 128, 547
- vasoactive intestinal, see Vasoactive intestinal peptide
- Peptidoglycans
 - crosslinking, penicillin effects, solid-state ^{15}N NMR analysis (*Aerococcus viridans*), 126, 1006
- Peptodolipin NA
 - induction of ion-conducting pores in planar bilayers (*Nocardia asteroides*), 129, 965
- Pericyazine
 - electronically excited species, generation during enzymatic oxidation, 130, 952
- Periodate
 - inactivation of glycogen phosphorylase, role of active-site cysteine, 132, 1066
- Permease
 - lac Y* gene-encoded, activity, role of *cys154* (*Escherichia coli*), 132, 162
- Peroxidase
 - associated activity of prostaglandin H synthase, symbiotic stimulation of cyclooxygenase activity, 130, 918
 - catalytic intermediate, detection in microsomes (porcine thyroid), 131, 681
 - catalyzed oxidation of chlorpromazine and propericiazine, generation of electronically excited species, 130, 952
 - H_2O_2 - Br^- system, oxidation of *N*-hydroxy-*N*-2-fluorenylacetylamide, mechanism (bovine milk, rat uterus), 131, 174
 - horseradish, see Horseradish peroxidase
 - increase induced by submaxillary gland removal (rat uterus), 133, 462
 - thyroid, purification by monoclonal antibody-assisted immunoaffinity chromatography (swine), 127, 8
- Peroxidation
 - lipids
 - Fe^{2+} -induced, effect on microsomal steroidogenic enzymes (porcine adrenal cortex), 128, 657
 - phenylhydrazine-induced, silymarin inhibitory effect (rat erythrocytes), 126, 712
 - relationship to membrane composition of fatty acids (murine neuroblastoma clone N18-115), 132, 757
- Peroxisomes
 - hepatic, 3α , 7α , 12α -trihydroxy- 5β -cholestane conversion to cholestane-tetrol (rat), 130, 708
- Perphenazine
 - elevation of ^{32}P -labeled polyphosphoinositide levels in platelets (human), 131, 370
- Pertussis toxin
 - catalyzed ADP-ribosylation
 - effects on interactions of transducin and inhibitory GTP-binding protein of adenylate cyclase with guanyl nucleotides (NG108-15 cells), 127, 999
 - substrate: peptide copurified with N_5 (rabbit cardiac membranes), 128, 809
 - effect on
 - platelet-activating factor-induced Ca^{2+} mobilization, polyphosphoinositide turnover, and degranulation (rabbit neutrophils), 130, 677
 - stimulated increase of actin polymerization (rabbit neutrophils), 126, 1174
 - induced attenuation of adenylate cyclase by muscarinic receptors (chick heart), 126, 622
 - inhibition of
 - N*-formyl-methionyl-leucyl-phenylalanine-induced intracellular pH changes in neutrophils (human), 131, 64
 - platelet-activating factor-mediated effects on neutrophil function

Subject Index

- (human), 129, 632
 modification of opiate action in brain striatum (rat), 127, 477
 reduction of apomorphine affinity for dopamine receptors (bovine retinal membranes), 133, 222
 reversal of insulin antilipolytic effect on adipocytes in presence of forskolin, role of cAMP (rat), 130, 1059
 PETT, see Positron emission transaxial tomography
- pH
 acidic, conversion of β -transforming growth factor high-molecular-weight latent form to low-molecular-weight active form (chicken embryo fibroblasts), 133, 1026
 -dependent conversion of plasma membrane alkaline phosphatase to serum-soluble form by *n*-butanol extraction (rat liver), 126, 89
 extracellular, relationship to ATP turnover stimulation by epidermal growth factor and/or insulin in quiescent 3T3 cells, 133, 265
 intracellular
 in neutrophils induced by *N*-formyl-methionyl-leucyl-phenylalanine or ionophore A23187, effect of pertussis toxin (human), 131, 64
 ³¹P NMR analysis (*Dictyostelium discoideum*), 132, 140
- Phanquinone
 evaluation as coenzyme for methoxatin-requiring glucose dehydrogenase (*Acinetobacter calcoaceticus*), 131, 564
- 4,7-Phenanthroline-5,6-dione, see Phanquinone
- Phenanthroline quinones
 evaluation as coenzyme for methoxatin-requiring glucose dehydrogenase (*Acinetobacter calcoaceticus*), 131, 564
- Phencyclidine receptors
 regional heterogeneity, analysis with [³H]azido phencyclidine (rat brain), 131, 1117
- Phenobarbital
 -induced cytochrome P-450, monoclonal antibody-directed isolation and N-terminal sequence analysis (rat liver), 129, 926
 stimulation of DNA synthesis in cultured hepatocytes (rat), 131, 103
- Phenolate
 -type siderophores, production by *Candida albicans*, 130, 885
- Phenoxazone ethers
 O-dealkylation, analysis (human placenta), 126, 1013
- Phenylalanine ammonia-lyase
 protection from proteolytic attack (yeast), 131, 557
- Phenylalanine hydroxylase, see Phenylalanine 4-monooxygenase
- Phenylalanine 4-monooxygenase
 primary structure, analysis (rat liver), 126, 922
 purification from adult and fetal liver with monoclonal antibody (human), 133, 202
- L-Phenylalanyl-L-phenylalanine amide and L-leucyl-L-phenylalanine amide, binding to bovine neurophysin, effects on interaction with oxytocin and vasopressin, comparative NMR analysis, 128, 1211
- Phenylalanyl relaxin
 isolation and characterization (porcine ovary), 126, 130
- Phenylalkylamine receptors
 Ca²⁺ channel-associated, high- and low-affinity states and interconversion by divalent cations (chick heart), 129, 910
- Phenylarsine oxide, see Oxophenylarsine
- α -Phenyl-*t*-butylnitron
 spin trapping of free radical intermediate formed during hydrazine microsomal metabolism (rat liver), 133, 1086
- Phenylephrine
 effect on canalicular bile formation (isolated perfused rat liver), 131, 139
 stimulation of atriopeptin release, correlation with right atrial pressure (rat), 133, 937
- Phenylhydrazine
 -induced hemolysis and lipid peroxidation, silymarin inhibitory effects (rat erythrocytes), 126, 712
- ^N⁶(L-Phenylisopropyl)adenosine
¹²⁵I-labeled, photoaffinity labeling of inhibitory adenosine receptors (chick cerebellar synaptic membrane), 131, 115
- Phenyl 1-pyrenyl acetylene
 inhibition of cytochrome P-450-dependent benzo[a]pyrene hydroxylase (rat hepatic microsomes), 129, 591
- 4 β -Phorbol 12,13-dibutyrate
 binding to protein kinase C, inhibition by 1,2-diolein, 133, 1051
 effect on basal and insulin-stimulated D-glucose transport and on insulin binding in isolated adipocytes (rat), 128, 824
 -induced 3-O-methylglucose transport, Ca²⁺ dependence (murine fibroblasts), 128, 127
 modulation of cAMP accumulation in GH₃

Subject Index

- cells (rat), 129, 898
- 4 β -Phorbol 12,13-dibutyrate receptors
cytosolic, correlation with hormone
dependency (human mammary carcinoma
cells), 133, 814
- Phorbol 12,13-didecanoate
acute effects on hepatic intermediary
metabolism (rat), 129, 721
stimulation of VIP/PHM-27 gene expres-
sion in neuroblastoma cells (hu-
man), 132, 885
- Phorbol esters
effect on intracellular Ca²⁺ con-
centration (canine thyroid), 131,
1041
enhancement of basal and growth hor-
mone-releasing factor-stimulated
cAMP accumulation in anterior pit-
uitary cells (rat), 129, 404
inhibition of insulin receptor bind-
ing: synergism with ionophore
A23187 (U-937 cells), 130, 9
protein kinase C-activating, struc-
tural analogies, 127, 969
- Phorbol 12-myristate 13-acetate
acute effects on hepatic intermediary
metabolism (rat), 129, 721
and concanavalin A, differential ef-
fects on protein kinase C subcel-
lular distribution (human mono-
cytes), 133, 1139
-dependent ATP effect on cAMP surface
subpopulation in membrane: protein
kinase C role (*Dictyostelium dis-
coideum*), 128, 185
effect on
platelet-activating factor-induced
Ca²⁺ mobilization, polyphospho-
inositide turnover, and degranula-
tion (rabbit neutrophils), 130,
677
poly(ADP)-ribosylation of histones
(murine embryo fibroblasts), 132,
811
enhancement of
class I HLA antigen phosphorylation
(human leukemic cells, lympho-
cytes, platelets), 126, 206
ionophore A23187 stimulatory effects
on arachidonic acid release and
phosphatidic acid production in
neutrophils (rabbit), 128, 594
isoproterenol- and vasoactive intes-
tinal peptide-induced cAMP accumu-
lation in smooth muscle cells (rat
aorta), 131, 30
-induced superoxide anion production
in neutrophils, islet-activating
protein effects (guinea pig), 130,
939
inhibition of
histamine secretion and polyphospho-
- inositide turnover induced by com-
pound 48/80 (rat peritoneal mast
cells), 132, 110
polyphosphoinositide hydrolysis and
cytosolic Ca²⁺ increase induced
by muscarinic receptor activation
(PC12 cells), 127, 310
and ionophore A23187, synergistic
stimulation of thromboxane biosyn-
thesis (human platelets), 130, 717
modulation of platelet-derived growth
factor receptor activity (NR-6
cells), 129, 854
poly ADP-ribosylation induction (human
monocytes), 126, 1208
secretion stimulation and inhibition,
dose-response relationship (HL-60
cells, human platelets, rat peri-
toneal mast cells), 127, 950
- Phorbol 12-myristate 13-acetate recep-
tors
Bryostatin binding (human neutro-
phils), 131, 1109
- Phorbol 12-tetradecanoate 13-acetate
inhibition of tyrosine aminotransfer-
ase induction (Reuber H35 hepatoma
cells), 131, 815
- Phosphate
efflux and influx in isolated pancre-
atic islets during glucose stimu-
lation, simultaneous estimation
(rat), 129, 862
-eliminating enzyme involved in
5,6,7,8-tetrahydrobiopterin bio-
synthesis, purification and prop-
erties (human liver), 127, 213
-fumarate translocators, mediation of
fumarate permeation in mitochon-
dria (rat liver), 132, 8
inactivation of crystalline aldolase
(rabbit skeletal muscle), 128, 417
inorganic, AMP deaminase inhibition,
role in fructose-1,6-bisphospha-
tase regulation (yeast), 128, 1020
-linked antiport, reconstitution
(*Streptococcus lactis*), 129, 568
-oxygen exchange during hydrolysis of
nucleotide triphosphates by ATP-
ases, substrate concentration ef-
fects, 131, 763
transport in brush border membranes,
inhibition by parathyroid hormone
and 8-bromo-cyclic AMP, effects of
intracellular calcium antagonists
(rabbit kidney), 128, 278
- Phosphatidic acid
Ca²⁺-induced capacitive and ionic
currents in bilayer lipid mem-
brane, 133, 1098
ionophore A23187-stimulated production
in neutrophils, enhancement by
phorbol 12-myristate 13-acetate

Subject Index

- (rabbit), 128, 594
 stimulatory effect on phosphorylase kinase autophosphorylation (rabbit muscle), 131, 712
 synthesis
 from glucose in pancreatic islets via acyl-dihydroxyacetone phosphate (neonatal rat), 132, 467
 stimulation by carbachol, competitive inhibition by pirenzepine (rat cerebral cortical synaptosomes), 130, 282
 thrombin-induced formation, role of adrenoceptors (rat platelets), 132, 1051
- Phosphatidylcholine
 arachidonate incorporation, stimulation by platelet-activating factor (guinea pig peritoneal neutrophils), 127, 1045
 oxygenation by 15-lipoxygenase (human neutrophils), 130, 559
- Phosphatidylethanolamine
 methylation by S-adenosylmethionine (rat brain), 128, 411
- Phosphatidylglycerol
 multilayer formation, role of myelin basic protein charge microheterogeneity (human), 126, 1161
- Phosphatidyl glycerolphosphate
 glycerolphosphate donor role in polymer synthesis, 128, 906
- Phosphatidylinositol
 accumulation in splenic lymphocytes, reduction by phorbol ester (mouse), 129, 431
 agonist-insensitive pool, [³H]inositol incorporation, stimulation by manganese (rat hippocampal membrane), 132, 540
 arachidonate incorporation, stimulation by platelet-activating factor (guinea pig peritoneal neutrophils), 127, 1045
 -containing liposomes
 binding of concanavalin A, inhibition by myo-inositol or α -methylmannoside, 130, 76
 tetanus toxin-induced fusion and aggregation at low pH, 128, 840
 inhibitory effect on synaptosomal Na⁺, K⁺-ATPase (rat cerebral cortex), 126, 893
 isolation from cultured plant cells (wild carrot), 132, 1018
 stimulatory effect on phosphorylase kinase autophosphorylation (rabbit muscle), 131, 712
 synthesis *de novo* from glucose in pancreatic islets via acyl-dihydroxyacetone phosphate (neonatal rat), 132, 467
- Phosphatidylinositol 4,5-bisphosphate
 breakdown signals induced by cross-linking surface immunoglobulin, mimicking by diacylglycerol and ionomycin synergism in B-cell proliferation induction (human), 131, 484
 inhibition of phosphatidylinositol-4-phosphate kinase (bovine retina), 126, 150
 isolation from cultured plant cells (wild carrot), 132, 1018
 light-mediated breakdown in isolated rod outer segments (frog), 128, 954
 platelet, hydrolysis, effect of platelet activation by ADP (human), 129, 958
- Phosphatidylinositol kinase
 enhanced activity, association with early stages of hepatocarcinogenesis (rat liver), 132, 969
 plasma membrane vesicle-associated, epidermal growth factor effect *in vitro* (A431 cells), 129, 375
- Phosphatidylinositol phosphate
 isolation from cultured plant cells (wild carrot), 132, 1018
 ³²P-labeled, enzymatic synthesis and hydrolysis, 129, 220
- 1-Phosphatidylinositol-4-phosphate kinase
 association with erythrocyte membrane skeleton (human), 133, 189
 inhibition by phosphatidylinositol-4,5-bisphosphate (bovine retina), 126, 150
 plasma membrane vesicle-associated, epidermal growth factor effect *in vitro* (A431 cells), 129, 375
 regulation by phosphorylated and dephosphorylated B-50 protein, comparison (rat brain), 128, 1219
- Phosphatidylserine
 -dipalmitoyl phosphatidylcholine vesicles, fusion induction by Zn²⁺, Cd²⁺, and Hg²⁺, comparison, 128, 389
 stimulatory effect on phosphorylase kinase autophosphorylation (rabbit muscle), 131, 712
- 3'-Phosphoadenosine 5'-phosphosulfate
 -binding site in galactocerebroside sulfotransferase, interaction with triazine aromatic dyes, inhibitory effects (rat brain), 129, 522
- Phosphocitrate
 inhibition of ⁴⁵Ca²⁺ uptake in smooth muscle (rat aorta), 131, 793
- Phosphocreatine
 energy transport in heart, role of intracellular ADP diffusion, theo-

Subject Index

- retical support, 133, 1035
- Phosphodiesterase I
tumor-associated, purification and characterization (murine lymphoma cells), 130, 1072
- Phosphoenol pyruvate
as substrate for calcineurin, 131, 1256
- Phosphoenol-pyruvate carboxylase
Anacystis nidulans and Escherichia coli, amino acid sequences, comparison: identification of conserved and variable regions, 133, 436
- 2-Phosphofructokinase
-fructose-2,6-bisphosphate cycle, quasi-stationary concentrations of fructose-2,6-bisphosphate (rat liver), 131, 899
- 6-Phosphofructokinase
allosteric behavior, concentration effects (yeast), 131, 849
-fructose-1,6-bisphosphatase cycle, fructose 2,6-bisphosphate effects, 126, 571
phosphorylation by protein kinase C from rat brain, effect on allosteric properties (rabbit muscle), 129, 892
and pyrophosphate-fructose-6-phosphate 1-phosphotransferase, interconversion: reevaluation (rabbit muscle), 126, 320
- Phosphoglycerate mutase
and 2,3-bisphosphoglycerate synthase-phosphatase, in vitro hybridization (porcine erythrocytes, skeletal muscle), 129, 658
purification, polymorphism, and inhibition (wheat germ), 131, 743
- Phosphoinositides
hydrolysis induced by muscarinic receptor activation, inhibition by phorbol 12-myristate 13-acetate (PC12 cells), 127, 310
phosphorylation, role of tyrosine-protein kinase (murine lymphoma LYSTRA, MBL₂ cells), 132, 481
receptor-dependent hydrolysis, effect of cellular transformation with EJ/T24/H-RAS oncogene (BALB/3T3 cells), 132, 900
- Phospholipase A₂
inhibition by dexamethasone, additive effect of mepacrine (snake venom), 130, 761
lysyl residues, role in formation of catalytic complex (Aqkistrodon piscivorus piscivorus), 131, 129
pancreatic and splenic, immunochemical relatedness (rat), 128, 788
- Phospholipase C
and phorbol ester-induced chemiluminescence, comparison (murine epidermal cells), 131, 1103
polyphosphoinositide hydrolysis, induction by deoxycholate (human platelets, rat cornea), 129, 411
proteolytic activation, role in leupeptin inhibition of platelet response to thrombin and trypsin (human), 131, 1198
stimulation of oocyte meiotic maturation (rat), 132, 570
types I and II with different Ca²⁺ sensitivities, resolution and purification (rat brain, liver), 132, 582
- Phospholipase inhibitors
reactive in endometrial cells, purification from amniotic fluid and characterization (human), 131, 22
- Phospholipid methyltransferase
phosphorylation by intact hepatocytes, glucagon effect (rat), 131, 477
- Phospholipids
bilayers, transverse motion of spin-labeled 3,3',5-triiodo-L-thyronine, ESR (egg yolk), 131, 408
-deficient cytochrome b₆-f complex, preparation and reconstitution (spinach chloroplasts), 131, 700
and ether-linked phospholipids, content in leukemic lymphocytes, alteration with resistance to vinblastine (human), 133, 539
fatty acyl composition, effect on monolayer hydrolysis by lipoprotein lipase, 128, 670
- membrane
effect of chain unsaturation on bilayer phase transitions, Raman spectroscopy, 127, 220
synthesis, low oxygen tension effects (rabbit hepatic, pulmonary microsomes), 126, 551
N-methylation, Ca²⁺-ATPase activation (rat cardiac sarcoplasmic reticulum), 130, 472
residual, and copurified proteins, role in reconstitution of mitochondrial ATPase complex (bovine heart), 133, 807
role in activation of Ca²⁺-dependent neutral proteinase (human erythrocytes), 129, 389
-transferring proteins, synthesis in vitro and analysis by HPLC (corn), 133, 75
vesicles, bovine insulin-mediated fusion, 128, 68
- Phosphoprotein phosphatase
activation by Mg²⁺-dependent autode-

Subject Index

- phosphorylation (bovine heart), 128, 1203
- active on phosphorylated acetyl-CoA carboxylase, purification and characterization (rat liver), 130, 1132
- inhibition by regulatory subunit of cAMP-dependent protein kinase (rabbit skeletal muscle), 130, 567
- messenger ribonucleoprotein-dephosphorylating, identification and characterization (*Artemia salina* cryptobiotic gastrulae), 131, 84
- types I and II, from crude tissue extracts, measurement of potential activity (porcine brain), 133, 1132
- Phosphoproteins
- P₁, interferon-induced, monoclonal and polyclonal antibody production and partial characterization (human), 133, 168
- Phosphorylase kinase
- autophosphorylation, stimulatory effects of acidic phospholipids (rabbit muscle), 131, 712
- Ca²⁺-dependent activation by calmodulin (porcine uterine smooth muscle), 126, 544; erratum, 128, 486
- inhibition by quercetin, 131, 1
- nonactivated, inhibition by polymyxins A, B, D, and E (rabbit skeletal muscle), 133, 891
- phosphorylation by cyclic AMP-dependent protein kinase, stimulation by spermine (rabbit), 130, 1308
- Phosphorylase phosphatase
- latent and spontaneously active forms, chromatographic separation (rabbit liver), 128, 705
- Phosphorylation, see also Protein kinase
- 2-5A core 5'-diphosphate to 2-5A (murine L cells), 126, 917
- asialoglycoprotein receptor, analysis (rat hepatocytes), 126, 1054
- auto-, see Autophosphorylation
- band 4.1-like proteins (bovine lens), 126, 1166
- class I HLA antigens, enhancement by phorbol 12-myristate 13-acetate (human leukemia cells, lymphocytes, platelets), 126, 206
- C-protein, by protein kinase C (bovine heart), 132, 1187
- fodrin, by purified insulin receptor kinase (porcine brain), 127, 493
- formycin B, role of adenosine kinase (Chinese hamster ovary cells), 130, 910
- β -glucuronidase: identification of serine- and threonine-phosphates (human pulmonary adenocarcinoma), 126, 818
- glycogen synthase, changes during gestation (fetal rat liver), 126, 1215
- glycophorin A, in intact erythrocyte membranes (human), 127, 878
- growth hormone in vitro and in vivo (sheep pituitary), 128, 713
- high-mobility-group protein 14, effect on affinity for single-stranded DNA (bovine thymus), 133, 343
- hormone-dependent
- 1,25-dihydroxyvitamin D₃ receptors (murine fibroblasts), 131, 378
- generation of progesterone receptor nuclear-bound form (rabbit uterus), 131, 421
- insulin-like growth factor-II receptor in vitro (rat embryo fibroblasts, hepatic BRL-3A3 cells), 130, 793
- oxidative mitochondrial, anion flux effect (rat liver), 127, 473
- phosphoinositides, role of tyrosine-protein kinase (murine lymphoma LYSTRA, MBL₂ cells), 132, 481
- phospholipid methyltransferase, by intact hepatocytes, glucagon effect (rat), 131, 477
- platelet proteins
- induction by platelet monoclonal antibodies (human), 133, 306
- by wheat germ agglutinin (human), 132, 313
- polyphosphoinositide, enhancement by phorbol ester (murine splenic lymphocytes), 129, 431
- proteins
- alteration by aflatoxin B₁ (rat liver), 129, 342
- effect of polyamines (bovine, murine, rat thyroid cytosol), 133, 354
- in isolated nuclei, stimulation by Ca²⁺ and phytochrome (pea), 128, 1403
- in leukemia cells, by CP-46,665-1 (human), 127, 590
- nuclear 42-kDa/pI 5.9, induction by spermine (human tumor cells), 130, 700
- in synaptic membranes, inhibition by calcitonin (rat brain), 130, 669
- S-II, effect of RNA synthesis inhibitors (mouse), 131, 524
- state
- B-50 protein, role in phosphatidylinositol-4-phosphate kinase regulation (rat brain), 128, 1219
- effect on calmodulin regulation of cholinergic muscarinic receptor in

Subject Index

- synaptic membrane (rat brain),
133, 1193
- and thiophosphorylation, chromatin
proteins in vitro, comparison (bo-
vine thymus), 126, 103
- threonine residues of glycogen syn-
thase (rat liver), 130, 987
- tyrosine, association with B-cell dif-
ferentiation stages (human lym-
phoid leukemia), 133, 598
- Phosphotyrosyl-protein phosphatase
types I, II, and III, purification and
characterization (rat spleen),
133, 929
- Phosvitin kinase
detection in plasma and serum (bovine,
human), 133, 8
- Photoirradiation
diaziquone, formation of hydroxyl rad-
icals and semiquinone, 132, 445
- Photoreceptors
membrane structure, calmodulin effect
(bovine eye), 129, 517
- Photoreduction
oxygenic, methyl viologen during plas-
tid development, role of photosys-
tems I and II (cucumber), 126,
1114
- Photosynthesis
reaction center, cytochrome c_2 bind-
ing: role of cytochrome backside
surface domain (Rhodospirillum
rubrum), 128, 120
- Photosystem I
role in methyl viologen and NADP oxy-
genic photoreduction during plas-
tid development (cucumber), 126,
1114
- Photosystem II
oxidizing side, localization of high-
affinity binding site for Ca^{2+}
(spinach chloroplasts), 128, 464
role in methyl viologen and NADP oxy-
genic photoreduction during plas-
tid development (cucumber), 126,
1114
- Phototaxis
negative, role of S-rhodopsin long-
lifetime photointermediate (Halo-
bacterium halobium), 127, 99
- Phototransduction
role of inositol triphosphate, genetic
analysis (Drosophila melanogaster
mutant norpa), 132, 513
- Phycobilisomes
resonance Raman spectra (Anacystis
nidulans), 130, 358
- Phycocyanins
resonance Raman spectra (Anacystis
nidulans), 130, 358
- Phytochrome
stimulation of
- Ca^{2+} uptake by protoplasts (maize),
128, 1455
- protein phosphorylation in isolated
nuclei (pea), 128, 1403
- Phytohemagglutinin
-resistant mutants, neoreceptor devel-
opment after fusion with liposomes
containing receptor glycoproteins
(Chinese hamster ovary cells),
132, 1024
- Phytolaccin
ribonuclease activity (rabbit retic-
ulocytes), 130, 879
- Pimozide
effect on plasma membrane redox system
in vitro (carrot cells), 126, 262
- Pinocytosis
role in amino acid cellular uptake
(rat visceral yolk sac), 127, 733
- Pirenzepine
competitive inhibition of phosphatidic
acid synthesis stimulation by car-
bachol (rat cerebral cortical syn-
aptosomes), 130, 282
- Pituitary
anterior, specific binding of synthe-
tic human pancreatic growth hor-
mone-releasing factor (bovine),
126, 33
- GAWK polypeptide, immunocytochemical
localization (human), 126, 602
regulation of cytochrome P-450 sex-
specific forms (rat liver), 130,
1247
- Plasma
atrial natriuretic factor
levels, anesthesia effects (rat),
129, 651
molecular forms, detection (various
mammals), 129, 248
radioimmunoassay (human), 128, 1350;
130, 553
total kininogen levels, increase in
adjuvant arthritis (rat), 129, 280
- Plasma membranes
adipocyte, $^{45}Ca^{2+}$ binding, effect of
ascochlorin derivative AS-6 (db/db
mice), 127, 247
adrenal medullary, interaction with
chromaffin granules, analysis with
monoclonal antibodies (bovine),
133, 1006
adrenocortical, identification of
high-density lipoprotein-binding
protein (sheep), 129, 759
-associated Ca^{2+} -binding protein, re-
lationship to porcine intestinal
epithelial proteins and bovine
hepatic calelectrins (human lym-
phocytes), 128, 571
-bound alkaline phosphatase
molecular size determination (human

Subject Index

- liver), 131, 328
pH-dependent conversion to serum-soluble form by *n*-butanol extraction (rat liver), 126, 89
-bound protease, activation of protein kinase C (rat liver), 131, 1262
histamine H₁ receptor characterization and quantitation (rat liver), 127, 885
oxidation of reduced pyridine nucleotides (soybean hypocotyl), 131, 943
protease-activated protein kinase, identification and properties (rat liver), 131, 246
redox system, Ca²⁺-calmodulin control *in vitro* (carrot cells), 126, 262
vasoactive intestinal peptide binding, characterization (bovine thyroid), 128, 1336
- Plasmids
Bacillus subtilis α -amylase secretion vector, for production of *Escherichia coli* β -lactamase, 128, 601
BR322, tryptophan gene cloning from *Brevibacterium lactofermentum* to *Escherichia coli*, 133, 1013
hybrid, containing kanamycin resistance genes, construction (*Escherichia coli*), 133, 1112
Ti-, *Agrobacterium tumefaciens*, distinct insertion patterns in isogenic sunflower genomes, 131, 152
- Plasmin
substrate specificity, analysis with tripeptidyl-p-nitroanilide substrates (human), 131, 928
- Plasminogen activator
-fibrinogen antibody conjugates, preparation and characterization (human), 130, 91
-like protein, mRNA generation, exon-intron boundary sliding (porcine LLC-PK₁ cells), 132, 563
production stimulation by calcitonin and calcitonin gene-related peptide (porcine LLC-PK₁ cells), 131, 537
synergistic stimulation by vitamin A and C (bovine endothelial cells), 130, 182
tissue-type, kringle domain, amino acid sequence, comparison with bovine seminal plasma protein PDC-109 (human), 130, 1010
- Plasminogen activator receptors
binding to endogenous urokinase (human foreskin fibroblasts), 133, 994
cryptic and exposed, detection on fibroblasts (human foreskin), 133, 475
- Plastocyanin
-chlorophyll *a* nonfluorescent complex, preparation (spinach), 126, 610
- Platelet-activating factor
and 1-acyl-2-acetyl-sn-glycerol-3-phosphorylcholine, concomitant production by stimulated neutrophils (rabbit), 128, 1409
amidophosphonate analog, synthesis and biological activity, 133, 851
binding to platelet receptor, inhibition by analog (human), 126, 502
and formyl-methionyl-leucyl-phenylalanine, synergistic activation of NADPH oxidase (human neutrophils), 128, 297
-induced bronchoconstriction, role of alveolar macrophage (guinea pig), 131, 42
isolation from lesional scales and structural analysis (psoriatic patients), 126, 192
-mediated effects on neutrophil function
effects of pertussis toxin and phorbol 12-myristate 13-acetate (rabbit), 130, 677
inhibition by pertussis toxin (human), 129, 632
platelet desensitization, effect on platelet function and binding (human), 127, 24
produced by stimulated neutrophils, molecular species, fast atom bombardment-mass spectrometry (human), 129, 868
renin secretion inhibition in cultured juxtaglomerular cells (rat kidney), 127, 903
role in endotoxin-induced hypertension, analysis with kadsurenone (rat), 127, 799
specific and saturable binding to pulmonary membranes (human), 128, 972
stimulation of
arachidonate incorporation into phosphatidylinositol and phosphatidylcholine (guinea pig peritoneal neutrophils), 127, 1045
ATP-dependent H⁺ transport in microsomes (zucchini hypocotyls), 133, 1160
glycogenolysis, role of generated cyclooxygenase products (perfused rat liver), 132, 204
high-affinity hormone-sensitive GTPase (human platelets), 131, 307
transmembrane movement and metabolism, inhibition by BN 52021 (rabbit platelets), 132, 460
- Platelet-derived growth factor
-like protein

Subject Index

- receptor detection on osteosarcoma cells (human), 129, 56
- secretion by simian virus 40-transformed BHK cells, 130, 753
- ornithine decarboxylase induction in NIH/3T3 cells (human), 127, 843
- stimulation of porcine aortic endothelial cell proliferation (human), 126, 83
- Platelet-derived growth factor receptors modulation by phorbol myristate acetate (NR-6 cells), 129, 854
- Platelets
- activation by ADP, effect on cytosolic free Ca^{2+} and phosphatidylinositol-4,5-bisphosphate hydrolysis (human), 129, 958
 - ADP- or collagen-stimulated fibrinogen binding, effect of type III collagen-derived octapeptide (human), 128, 547
 - aggregation and cytosolic free Ca^{2+} , independent effects of cAMP (human), 127, 339
 - 1-O-alkyl-2-acetyl-sn-glycero-3-phosphorylcholine binding, inhibition by analog (human), 126, 502
 - Ca^{2+} entry mechanism, role of voltage-dependent channels (human), 127, 161
 - collagen-induced serotonin secretion, effect of ATP depletion by permeation with saponin (human), 131, 620
 - cytoskeletal proteins, interaction with isolated membranes (human), 126, 566
 - desensitization by platelet-activating factor, effect on function and binding (human), 127, 24
 - diacylglycerol- or phorbol ester-stimulated, cytoplasmic Ca^{2+} accumulation, detection with aequorin, 133, 98
 - glycoprotein IIb/IIIa complex expression, diamide and iodoacetamide effects (human), 127, 822
 - [^3H]inositol phosphate formation by palmitoyl lysophosphatidic acid, inhibition by indomethacin (human), 132, 555
 - irreversible aggregation, role of lipoxygenase metabolites of arachidonic acid (human), 131, 50
 - 12-lipoxygenase increase (spontaneously hypertensive rats), 127, 642
- membranes
- inositol triphosphate-induced Ca^{2+} release, kinetics (human), 128, 1274
 - molecular organization during aggregation, relationship to membrane-bound Ca^{2+} release, 126, 1048
 - thromboxane A_2 /prostaglandin H_2 antagonist binding site, hydrodynamic properties (human), 132, 961
 - metabolism of endogenous and exogenous arachidonic acid, differential effects of external Ca^{2+} (human), 130, 1109
 - monoclonal antibodies, induction of protein phosphorylation and diacylglycerol formation (human), 133, 306
 - protein phosphorylation and activation by wheat germ agglutinin (human), 132, 313
 - specific IgG, identification (human), 129, 206
- cis-Platinum(II), see Cisplatin
- Poliovirus
- protein proteolytic processing, inhibition by chicken cystatin (HeLa, WISH cells), 127, 1072
- Poly(ADP-ribose) polymerase
- associated with free cytoplasmic mRNA-protein particles, characterization (murine plasmacytoma), 133, 654
- Poly(ADP-ribosylation)
- histones, effect of phorbol 12-myristate 13-acetate (murine embryo fibroblasts), 132, 811
 - induction by phorbol 12-myristate 13-acetate (human monocytes), 126, 1208
 - inhibition of DNA polymerase α and β , terminal deoxynucleotidyl transferase, and DNA ligase II in vitro (bovine brain), 128, 61
 - RNA polymerase II in vitro (wheat germ), 127, 526
- Polyamide
- coated silica gel affinity matrix for pectinase purification, evaluation (*Aspergillus niger*), 131, 666
- Poly(dA-dT)•poly(dA-dT) and poly(dA-dU)•poly(dA-dU), differences in circular dichroism and temperature-induced changes, 132, 95
- Poly(dA-dU)•poly(dA-dU) and poly(dA-dT)•poly(dA-dT), differences in circular dichroism and temperature-induced changes, 132, 95
- Polydeoxyribonucleotide synthase (ATP) catalytically active, structural variation during repair and replication process (monkey kidney), 132, 857
- Polydeoxyribonucleotide synthase (NAD^+) catalytically active, structural variation during repair and replica-

Subject Index

- tion process (monkey kidney), 132, 857
- inhibition by poly(ADP)-ribosylation in vitro (bovine thymus), 128, 61
- Polyethylene glycol
- modified lipoprotein lipase, ester-exchange catalysis, 131, 532
- Polyinosinic-polycytidylic acid
- activation of macrophages for tumor cell killing, implications for natural triggering signal (murine bone marrow), 131, 395
 - and mycoviral dsRNA, adjuvant effects on immune responses, comparison (mouse), 131, 949
- Polymerization
- actin, stimulated increase, cholera and pertussis toxin effects (rabbit neutrophils), 126, 1174
 - Ca²⁺-dependent, synexin, stimulation by cis-unsaturated fatty acids (bovine liver), 132, 505
 - N-(1-pyrenyl)iodoacetamide-labeled actin: evaluation of fluorescence signal as measure of monomer incorporation into polymer, 128, 1058
 - ubiquitin, in ubiquitin-protein conjugates (human erythrocytes), 128, 1079
- Polymyxins
- A, B, D, and E, inhibition of nonactivated phosphorylase kinase (rabbit skeletal muscle), 133, 891
 - B, inhibition of phorbol ester-stimulated protein kinase C and B-cell proliferation, 128, 1364
- Polynucleotides
- differential effects of adriamycin and daunomycin, analysis with terbium probe (bovine thymus), 131, 1033
 - pyrimidine mobility, 2D-COSY aromatic cross-peaks as monitors, 133, 380
- Polypeptides
- altered, specific recognition by methyltransferases, 132, 1144
 - α -atrial natriuretic, identification and distribution in brain (rat), 127, 413
 - in kidney (rat), 128, 1281
 - GAWK, isolation, amino acid sequencing, and immunocytochemical localization (human pituitary), 126, 602
 - high-molecular-weight, associated with junctional sarcoplasmic reticulum, criterion for SR functional identification (canine ventricular muscle), 128, 793
 - major intrinsic, reconstituted into vesicles, channel-forming activity, inhibition by peptide anti-
 - serum (bovine, human lens membranes), 128, 993
- Polyphosphoinositides
- hydrolysis
 - by phospholipase C, induction by deoxycholate (human platelets, rat cornea), 129, 411
 - stimulation by thyrotropin-releasing hormone with guanine nucleotide-modulated mechanism (pituitary GH₃ cell membranes), 132, 721
 - metabolism
 - chemoattractant receptor-mediated, role of guanine nucleotide regulatory protein (human neutrophils), 127, 450
 - compound 48/80-induced, inhibition by phorbol myristate acetate (rat peritoneal mast cells), 132, 110
 - enhancement by luteinizing hormone-releasing hormone in granulosa cells (rat), 130, 1201
 - platelet-activating factor-induced, effects of pertussis toxin and phorbol 12-myristate 13-acetate (rabbit neutrophils), 130, 677
 - stimulation by ergosterol (Saccharomyces cerevisiae strain GL7), 133, 844
 - phosphorylation, enhancement by phorbol ester (murine splenic lymphocytes), 129, 431
 - ³²P-labeled, levels in platelets, elevation by calmodulin antagonists (human), 131, 370
- Polyribonucleosinic-polyribocytidylic acid
- xanthine oxidase induction and cytochrome P-450 depression: genetic difference in responses (C57Bl/6J, C₃H/HeJ mice), 131, 109
- Polyribosomes
- isolation from intestine and characterization (fasted, fat-fed rats), 126, 373
- Polysaccharides
- protein-bound PSK, effect on gene expression (rat ascites hepatoma cells), 126, 884
- Polyvinyl alcohol films
- embedded chloroplasts and thylakoids, photophysical properties, analysis by polarized light spectroscopy (pea leaf), 126, 254
- Porphyria cutanea tarda (PCT)
- associated uroporphyrinogen decarboxylase intrinsic abnormality (human erythrocytes), 127, 517
- Positron emission transaxial tomography
- ¹⁸F, with dihydroxyphenylalanine as scanning agent, significance of ring-fluorination effect on rate

Subject Index

- of catechol-O-methyltransferase-catalyzed O-methylation, 130, 1123
- Potassium
 - effect on inhibition of protein synthesis by trimer and tetramer triphosphates of 2',5'-oligoadenylate (rabbit reticulocyte lysates), 130, 821
 - induced catecholamine secretion
 - in cultured chromaffin cells, phorbol ester effect (bovine adrenal medulla), 129, 511
 - tetanus toxin effect (nerve growth factor-treated PC12 cells), 128, 249
 - intracellular concentration, effects of ATP, complement, and β -lipoprotein (murine L cells), 132, 290
- Prealbumin
 - gene localization to chromosome 18 (human), 129, 753
 - mRNA, levels in choroid plexus (rat brain), 127, 890
- Pregnenolone
 - production by granulosa cells, stimulation by human somatomedin C (porcine ovary), 130, 234
- Prekallikrein
 - tryptase effect (human mast cells), 129, 76
- Probasin
 - immunofluorescent localization in prostate (rat), 130, 293
- Procarboxypeptidase
 - type A
 - activity and mRNA levels, regulation by food content (rat pancreas), 127, 937
 - and type B, sequential homologies (porcine pancreas), 130, 97
- Procollagen
 - mRNA levels after acute lung injury, bleomycin effects (rat), 131, 836
- Procollagenase
 - activation, effect of human lung mast cell tryptase (human skin fibroblast, porcine synovial tissue), 132, 453
- Procollagen-proline,2-oxoglutarate 4-dioxygenase
 - reduction by microsomal protein and cysteinyl-cysteine derivative as cofactors (L-929 microsomes), 131, 277
 - stimulation by prostaglandin E₂ in vitro (murine osteoblastic clone MC3T3-E1 cells), 126, 340
- Proelastase
 - secretion from isolated pancreatic acini, effect of various secretagogues (rat), 128, 872
- Proenkephalin B
 - cleaving endopeptidase, purification and characterization (human cerebrospinal fluid), 131, 1069
- Progastrin
 - like immunoreactivity, identification and characterization with region-specific antisera (porcine antitum), 126, 72
- Progesterone
 - induced NADPH-cytochrome c reductase, resolution and reconstruction (*Rhizopus nigricans*), 133, 1057
 - L-lactate dehydrogenase stimulation (human breast cancer T-47D cells), 128, 520
 - production by granulosa cells, stimulation by human somatomedin C (porcine ovary), 130, 234
 - regulation of growth hormone and epidermal growth factor receptor expression (human breast cancer cells), 131, 767
 - secretion by Leydig tumor cells, inhibition by atrial natriuretic factor (mouse), 133, 800
- Progesterone 21-hydroxylase
 - activity variations, analysis by serial biopsy (rabbit liver), 130, 43
- Progesterone receptors
 - nuclear-bound form, generation by hormone-dependent phosphorylation (rabbit uterus), 131, 421
- Progestin, see Progesterone
- Proinsulin
 - fast atom bombardment mass spectrometry (bovine), 127, 1032
- Prolactin
 - amino acid composition, sexual dimorphism (mouse), 130, 1209
 - homogenous induction of tRNA population in mammary explants (mouse), 129, 233
 - ovine, and cyclosporin A, independent binding to prolactin receptors (rabbit mammary gland), 133, 753
 - secretion in permeable GH₃ pituitary cells, stimulation by Ca²⁺ and protein kinase C activators in vitro (rat), 130, 524
- Prolactin receptors
 - independent binding of cyclosporin A and ovine prolactin (rabbit mammary gland), 133, 753
- Prolyl endopeptidase inhibitors
 - effect on thyrotropin-releasing hormone degradation (rat serum), 132, 787
- Prolyl hydroxylase, see Procollagen-proline,2-oxoglutarate 4-dioxygenase

Subject Index

- Promazine
 elevation of ^{32}P -labeled polyphosphoinositide levels in platelets (human), 131, 370
- Pronatriodilatin
 atrial storage before secretion as active atrial natriuretic polypeptide (rat heart), 129, 82
- Proopiomelanocortin
 -derived β -endorphin (1-18), radioimmunoassay (rat pituitary), 130, 1226
 N-terminal-derived peptides, acute hemorrhagic stress-induced secretion (conscious sheep), 133, 648
- 1,2-Propanediol, see Propylene glycol
- Propericiazine see Pericyazine
- Prophenolase
 activation in hemolymph, inhibition by endogenous protease inhibitors (*Sarcophaga bullata*, *Manduca sexta*), 132, 1124
- Propylene glycol
 production, induction by chronic administration of ethanol (rat), 129, 426
- Propylparaben
 role in Narcan inhibition of alcohol dehydrogenase (human liver), 131, 299
- 2-n-Propyl-4-pentenoic acid
 inhibition of decanoic acid β -oxidation in vitro (rat liver), 132, 245
- Prorenin
 identification as inactive renin with site-directed antibody (human), 126, 641; 132, 1038
- Prostacyclin
 angiotensin II-induced synthesis, inhibition by calcium antagonists and calmodulin inhibitors (isolated canine renal arteries), 126, 464
 synthesis in cultured mesenchymal non-myocardial cells, role of atrial natriuretic factor receptors (rat heart), 131, 222
- Prostaglandin D_2
 ultimate metabolite, inhibition of cell growth (murine leukemia cells), 127, 739
- Prostaglandin E_1
 adenylate cyclase stimulation, effect of nonpurified adenosine 5'-(β , γ -imino)triphosphate and guanosine 5'-O-(2-thiodiphosphate) (human platelets), 126, 983
- Prostaglandin E_2
 adenylate cyclase response, gold effects (chick osteoblast membrane), 130, 580
- angiotensin II-induced synthesis, inhibition by calcium antagonists and calmodulin inhibitors (isolated canine renal arteries), 126, 464
 -induced cAMP accumulation, inhibitory effects of 12-O-tetradecanoylphorbol-13-acetate and other tumor promoters (murine thymocytes), 133, 904
 production stimulation by growth hormone-releasing factor: role in GRF-induced growth hormone release (rat anterior pituitary), 126, 725
 stimulation in vitro of collagen and noncollagen protein synthesis and prolyl hydroxylase (murine osteoblastic clone MC3T3-E1 cells), 126, 340
 suppression of interleukin-1 production by peritoneal macrophages (mouse), 128, 892
 synthesis in cultured skin fibroblasts, stimulation by breast milk (human), 129, 972
- Prostaglandin H_2
 thromboxane A_2 antagonist, binding site hydrodynamic properties (human platelets), 132, 961
- Prostaglandin H synthase
 peroxidase and cyclooxygenase activities, symbiotic relationship, 130, 918
- Prostaglandin I_2 , see Prostacyclin
- Δ^{12} -Prostaglandin J_2
 inhibition of cell growth (murine leukemia cells), 127, 739
- Prostaglandins
 A series, tumor cell differentiation induction and growth inhibition, requirement of α , β -unsaturated carbonyl group, 129, 34
 production, synergistic stimulation by transforming growth factor- α and 12-O-tetradecanoylphorbol-13-acetate or 1-oleoyl-2-acetyl-glycerol (rat liver), 130, 110
 synthesis by mesenchymal cells, epidermal growth factor effects (murine embryonic palate), 130, 1037
- Prostate
 epithelium, Ca^{2+} growth stimulatory effects, inhibition by selenium (human), 127, 871
- Protamine kinase
 detection in plasma and serum (bovine, human), 133, 8
- Protease inhibitors
 endogenous, prevention of prophenolase activation in hemolymph (*Sarcophaga bullata*, *Manduca sexta*), 132, 1124

Subject Index

- Proteases, see also specific proteases
 alkaline and neutral, distribution in subnuclear fractions from normal and regenerating liver and sarcoma cells (rat), 132, 1110
 Ca^{2+} -activated neutral, associated protein kinase, characterization and neurofilament phosphorylation (bovine brain), 129, 804
 cleaving Lys-Arg sequences in prohormones, partial purification from chromaffin granules (bovine adrenal medulla), 128, 884
 effect on apo- and zinc-carboxypeptidase A, comparison, 133, 787
 membrane-bound, activation of protein kinase C in plasma membrane (rat liver), 131, 1262
 α_1 -Proteinase inhibitor
 association with porcine pancreatic elastase, rate constant, effects of cigarette smoke (human plasma), 126, 275
 glycosylated and unglycosylated, plasma half-life determination (rat), 126, 630
 Proteinases
 Ca^{2+} -dependent neutral, activation, phospholipid role (human erythrocytes), 129, 389
 effect on RNA polymerase II subunits, assessment in enzyme conformational analysis, 129, 141
 urinary, characterization (human, rat), 127, 191
 Protein kinase, see also Phosphorylation
 Ca^{2+} -activated phospholipid-dependent, see Protein kinase C
 Ca^{2+} /calmodulin-dependent, phosphorylation of endogenous neurofilament proteins (rat brain), 130, 957
 calmodulin-dependent type-II
 self-regulation by autophosphorylation (rat brain), 129, 213
 α - and β -subunits, early postnatal development (rat brain), 132, 878
 synaptosomal, endogenous dephosphorylation (bovine brain), 131, 1212
 cAMP-dependent
 Ca^{2+} -activated neutral protease-associated, characterization and neurofilament phosphorylation (bovine brain), 129, 804
 -catalyzed phosphorylation, inhibition of 25-hydroxyvitamin D 1α -hydroxylase (chicken), 132, 1095
 phosphorylase kinase phosphorylation, stimulation by spermine (rabbit), 130, 1308
 -phosphorylated acetyl-CoA carboxylase, active protein phosphatase, purification and characterization (rat liver), 130, 1132
 regulatory subunits
 and catalytic subunits, differential responses to $1\alpha,25$ -dihydroxyvitamin D₃ and thyroparathyroidectomy (rat liver), 129, 766
 inhibition of phosphoprotein phosphatase (equine heart), 130, 567
 cyclic nucleotide-independent, nuclear, purification and characterization: ionic strength requirement (HeLa cells), 133, 981
 hepatocyte plasma membrane, 2,3,7,8-tetrachlorodibenzo-p-dioxin effects (guinea pig, rat), 127, 296
 insulin receptor-associated
 and epidermal growth factor receptor-related, substrate specificities (rat liver), 127, 254
 fodrin phosphorylation (porcine brain), 127, 493
 role of receptor sialic acid residues (human placental membranes), 129, 739
 protease-activated, identification in plasma membrane and properties (rat liver), 131, 246
 Protein kinase C
 activation
 proteolytic, by membrane-bound protease in plasma membrane (rat liver), 131, 1262
 role in Na^+/H^+ antiport stimulation by epidermal growth factor and insulin (Swiss 3T3 cells), 130, 646
 by 12-O-tetradecanoylphorbol-13-acetate, inhibition by phospholipid-interacting compounds, mechanism (rabbit platelets), 130, 654
 caldesmon phosphorylation (chicken gizzard smooth muscle), 132, 56
 C-protein phosphorylation (bovine heart), 132, 1187
 detection in renal microvillar membranes (rabbit), 128, 494
 effect on cAMP surface subpopulation in membrane (*Dictyostelium discoideum*), 128, 185
 hepatocyte plasma membrane, 2,3,7,8-tetrachlorodibenzo-p-dioxin effects (guinea pig, rat), 127, 296
 inhibition by
 CP-46,665-1 (human leukemia cells), 127, 590
 17-kDa Ca^{2+} -binding protein (bovine brain), 129, 603
 interaction with arachidonic metabolites, effect on neutrophil function (human), 127, 916
 membrane-bound, relationship to Ca^{2+}

Subject Index

- dependent proliferation (BALB/c 3T3 cells), 126, 741
- phorbol 12,13-dibutyrate binding, inhibition by 1,2-diolein, 133, 1051
- phorbol ester-stimulated, inhibition by polymyxin B, 128, 1364
- 6-phosphofructokinase phosphorylation, effect on allosteric properties (rat brain), 129, 892
- purification and characterization (bovine thyroid), 130, 971
- regulation by diacylglycerols, molecular modification effects (rat), 126, 532
- relationship to antidiuretic hormone in urinary bladder epithelium (toad), 133, 717
- role in 1-oleoyl-2-acetyl glycerol inhibition of fluorescein transfer between cultured epidermal cells (mouse), 126, 1109
- subcellular distribution, differential effects of concanavalin A and phorbol myristate acetate (human monocytes), 133, 1139
- thyrotropin-releasing hormone-induced translocation from cytosol to membrane (GH₃ pituitary cells), 128, 531
- Protein kinase C activators
 - stimulation of oocyte meiotic maturation (rat), 132, 570
 - structural analogies, 127, 969
- Protein kinase inhibitors
 - 25-kDa, detection in high-mobility-group protein preparations (rat liver), 130, 149
- Protein phosphatase, see Phosphoprotein phosphatase
- Proteins
 - actin-binding, interaction with isolated platelet membrane (human), 126, 566
 - amyloid, associated with chronic hemodialysis, identification as β_2 -microglobulin (human), 129, 701
 - amyloidogenic Bence Jones NIG-77, variable region, amino acid sequence (human), 126, 1228
 - B-50, phosphorylated and dephosphorylated, regulation of phosphatidylinositol 4-phosphate kinase, comparison (rat brain), 128, 1219
 - bacterial, Ca^{2+} -independent, activation of cyclic-nucleotide phosphodiesterase and $\text{Ca}^{2+}/\text{Mg}^{2+}$ -ATPase (human brain, erythrocytes), 132, 591
 - band 3, cytoplasmic domain crosslinking and cleavage (human, llama erythrocyte membranes), 130, 493
 - band 4.1-like, phosphorylation (bovine lens), 126, 1166
 - bone-inductive, comparison (rat, porcine bone matrix), 131, 37
 - bovine leukemia virus post-envelope gene-encoded, purification and partial amino acid sequencing: evidence for expression in natural infection (FLK cells), 131, 347
 - branched-chain α -keto acid dehydrogenase phosphatase heat-stable inhibitory, specificity (bovine kidney), 133, 878
 - C-, phosphorylation by protein kinase C (bovine heart), 132, 1187
 - Ca^{2+} -binding
 - associated with lymphocyte plasma membrane, relationship to porcine intestinal epithelial proteins and bovine hepatic calelectrins (human), 128, 571
 - autoradiographic identification (bovine brain), 128, 1138
 - duodenal, 1,25-dihydroxyvitamin D₃ and 24,25-dihydroxyvitamin D₃ synergistic effects (rachitic chicks), 126, 799
 - high-affinity, identification in *Escherichia coli*, 127, 31
 - 17-kDa, protein kinase C inhibition (bovine brain), 129, 603
 - Ca^{2+} -modulated, interaction with arthropod and mammalian junctional membrane proteins, 126, 825
 - calelectrin-like, isolation from smooth muscle plasma membrane (porcine stomach), 132, 526
 - calmodulin- and S-100-binding, isolation by affinity chromatography (bovine brain), 128, 1118
 - cAMP receptor, see Cyclic AMP receptor protein
 - carcinogen-binding, purification with affinity chromatographic resin (murine liver), 129, 155
 - cellular retinol-binding, cDNA cloning and sequencing (human), 130, 431
 - cGMP-binding methylisobutylxanthine-stimulated, identification in various tissues (rat), 127, 226
 - chlorophyll a- and b-containing, antenna complex-deficient mutants, characterization (clover), 131, 182
 - chromatin, phosphorylation and thio-phosphorylation in vitro, comparison (bovine thymus), 126, 103
 - coat
 - African cassava latent, tomato golden mosaic, and maize streak viruses, sequence homology, 130, 892
 - one- and two-dimensional $^{15}\text{N}/^{1}\text{H}$

Subject Index

- NMR in solution (filamentous bacteriophages), 127, 540
- copurified, and residual phospholipids, role in reconstitution of mitochondrial ATPase complex (bovine heart), 133, 807
- core, skin proteodermatan sulfate, antibodies: immunoreactive cartilage proteoglycans, isolation and characterization (bovine), 129, 95
- Clq-anti Clq precipitin ring-enhancing, isolation and purification from serum of rheumatoid arthritis patients, 128, 1288
- cytolytic and mosquitocidal, separation (*Bacillus thuringiensis* subsp. *israelensis*), 126, 961
- cytoplasmic and nuclear, antigenically related to β -galactoside-binding lectin, transformation- and growth-related changes (human lymphocytes), 127, 680
- dicarboxylate transport system, comparative partial purification (rat cardiac, hepatic, renal mitochondria), 133, 498
- disulfide bond assignment by mass spectrometric analysis, 126, 1122
- Epstein-Barr virus, sequence homology with N-terminal portion of bovine erythropoietin-like peptide, 133, 404
- extracts from adult and fetal organs, repair of DNA O-alkylation damage (human), 133, 589
- G, and rod outer segment cGMP phosphodiesterase, effects of fluoride (bovine retina), 131, 146
- globular, all-or-none transition, role of topological constraints: theory of helix-coil transition in doubly crosslinked coiled coils, 129, 848
- glycogen covalent binding via tyrosine-glycosyl linkage (rabbit skeletal muscle), 132, 829
- glycogen synthase β -activating, identification and characterization (rat liver), 126, 170
- ^1H NMR spectra, simplification by one-dimensional multiple quantum filtration, 131, 1094
- helix-destabilizing 1, identification by antibody probing of Western blots (murine myeloma MOPC 104E), 131, 362
- high-density lipoprotein-binding, identification in adrenocortical membranes (sheep), 129, 759
- high-mobility-group, see High-mobility-group proteins
- histidine and tyrosine residues, danylation, 130, 350
- H-ras, associated GTPase activity, effects of glycerol and metal ions (*Escherichia coli*), 128, 1440
- inhibitory guanine nucleotide-binding, in adenylate cyclase system functionally active, identification in ovary (swine), 131, 1168
- interaction with guanyl nucleotides, pertussis toxin-catalyzed ADP-ribosylation effects (NG108-15 cells), 127, 999
- role in
- chemoattractant receptor-mediated polyphosphoinositide metabolism, Ca^{2+} mobilization, and biological responses by neutrophils (human), 127, 450
 - ninhibin attenuation of atrial natriuretic factor-mediated adenylate cyclase inhibition (rat), 129, 171
 - superoxide anion production by stimulated neutrophils (guinea pig), 130, 939
 - specific binding to tubulin (rat brain), 132, 193
- integrative host factor and NusA, effects on regulation of λ cII gene expression (*Escherichia coli*), 127, 1026
- interphotoreceptor retinoid-binding, cDNA clone isolation (bovine retina), 131, 1086
- iodination in thyroid follicles, thyrotropin-like stimulation by forskolin and 12-O-tetradecanoylphorbol-13-acetate (mouse), 128, 858
- islet-activating, effect on superoxide anion production in neutrophils stimulated by various agents (guinea pig), 130, 939
- junctional membrane, interaction with calmodulin and Ca^{2+} -modulated proteins (arthropods, mammals), 126, 825
- 37-kDa, encoding *in vitro* by 1.5 kb mRNA expressed in various tumor cells (rat), 131, 800
- Ki-ras p21
- amplified expression in hormone-dependent mammary carcinomas (human, rat), 127, 699
 - intact, expression in *Escherichia coli*, 132, 126
 - stimulation by adenylate cyclase early in G_1 phase (NRK cells), 132, 780
- L and NS, vesicular stomatitis virus, function and requirement in transcription process *in vitro*, 126, 40
- lens junction, C-terminal arm, role in channel gating (bovine), 133, 688

Subject Index

- leukemia cell, phosphorylation by CP-46,665-1 (human), 127, 590
- lipid ratio in reconstituted sarco-plasmic reticulum vesicles, effect on fluorescence of fluorescein-labeled Ca^{2+} , Mg^{2+} -ATPase (rabbit), 133, 176
- major acute phase α_1 -, structure, molecular cloning, and regulation of mRNA levels (rat), 126, 719
- membrane
- ATP- and Ca^{2+} -induced conformational changes (sarco-plasmic reticulum), 128, 1159
 - separated by SDS-polyacrylamide gel electrophoresis, detection by detergent blotting (*Escherichia coli*), 133, 214
- metJ gene-encoded, effect on *in vitro* expression of metB, metL, and metJ genes (*Escherichia coli*), 133, 731
- microsomal, and cysteinyl-cysteine derivative, action as reducing co-factors for prolyl hydroxylase (L-929 cells), 131, 277
- microtubule-associated, identification: use of heat stability as criterion (bovine brain), 133, 128
- mosquitocidal, identification in protein inclusion bodies (*Bacillus thuringiensis* subsp. *israelensis*), 126, 953
- mRNA free cytoplasmic particles, associated poly(ADP-ribose) polymerase, characterization (murine plasmacytoma), 133, 654
- myelin-associated, isolation and chemical characterization (bovine brain), 127, 484
- myelin basic, see Myelin basic protein
- N_S , copurified peptide: substrate for pertussis toxin-catalyzed ADP-ribosylation (rabbit cardiac membranes), 128, 809
- neurofilament, phosphorylation by endogenous Ca^{2+} /calmodulin-dependent protein kinase (rat brain), 130, 957
- nitroxide-conjugated, identification in spin-labeled erythrocyte membranes (human), 127, 793
- nonspecific lipid transfer, primary structure (bovine liver), 127, 333
- nuclear
- c-Ha-ras oncogene-associated, analysis (HeLa S3 cells), 128, 226
 - 42-kDa/pI 5.9, spermine-induced phosphorylation (human tumor cells), 130, 700
 - microinjection into leukemia cells by cell fusion technique: search for intracellular growth-suppressive factors, 130, 257
 - scaffold, ADP-ribosylation, variations during cell cycle (HeLa cells), 126, 840
- oligomycin sensitivity-conferring, azido derivatives, photolabeling of mitochondrial F_1 -ATPase (bovine heart), 129, 819
- oncofetal, induced by carcinogens and released by transformed cells, immunological identification (rat), 127, 779
- p422, tissue-specific expression in adipocytes and function as lipid carrier (mouse), 132, 850
- parathyroid secretory, and chromogranin A, N-terminal sequences, homology (bovine, human), 127, 380
- P/C mRNA-specified, Sendai virus, role of conformational changes in translation, 131, 91
- PDC-109, amino acid sequence, comparison with bovine fibronectin gelatin-binding domain and human tissue-type plasminogen activator kringle domain (bovine seminal plasma), 130, 1010
- phase separation associated with cataract induction, permanent suppression with amine modification agents (bovine lens), 133, 239
- phospholipid-transferring, HPLC (corn), 133, 75
- phosphorylation
- alteration by aflatoxin B_1 (rat liver), 129, 342
 - effects of polyamines (bovine, murine, rat thyroid cytosol), 133, 354
 - in isolated nuclei, stimulation by Ca^{2+} and phytochrome (pea), 128, 1403
- plasma, luteinizing hormone-releasing hormone- and nafarelin acetate-binding, comparison (human, rat, rhesus monkey), 127, 673
- platelet, phosphorylation
- induction by platelet monoclonal antibodies (human), 133, 306
 - by wheat germ agglutinin (human), 132, 313
- platelet-derived growth factor-like, secretion by simian virus 40-transformed BHK cells, 130, 753
- poliovirus, proteolytic processing, inhibition by chicken cystatin (HeLa, WISH cells), 127, 1072
- ptsM/pel-encoded, role in bacteriophage λ DNA transport into host cell (*Escherichia coli*), 130, 1093

Subject Index

- quantitation and staining by nonradioactive iodination on nitrocellulose paper, 131, 883
- retrovirus transmembrane, detection of conserved region by antibody to synthetic peptide (baboon), 126, 672
- ribosome-inactivating, purification and N-terminal sequence analysis (*Saponaria officinalis* seeds), 129, 934
- S-100, purification by melittin-Sepharose chromatography (bovine brain), 133, 256
- S-100-binding, isolation by affinity chromatography (bovine brain), 128, 1118
- somatomedin-binding, from hepatoma cells and amniotic fluid, comparison (human), 128, 1071
- synaptic membrane, phosphorylation inhibition by calcitonin (rat brain), 130, 669
- 3,3',5-triiodo-L-thyronine-binding, from pituitary tumor GH₃ cell membrane, solubilization and characterization (rat), 133, 837
- ubiquitin conjugates, occurrence of polyubiquitin chains (human erythrocytes), 128, 1079
- uncoupling, in GDP-sensitive mitochondria, partial purification and functional reconstitution with octyl glucoside (hamster brown adipose tissue), 127, 509
- urinary, from multiple myeloma patient with associated Fanconi syndrome, amino acid sequence and relationship to variable domain of λ -light chain, 126, 848
- vitamin B₁₂-binding, purification and characterization (horseshoe crab), 128, 241
- vitamin D-binding in serum, effect on 1,25-dihydroxyvitamin D₃ receptor quantitation, elimination by differential displacement, 130, 1020
- Z, purification and characterization (rabbit hepatic cytosol), 132, 575
- Z-DNA-binding, characterization (radiation-resistant bacteria), 130, 1294
- zinc absorption-enhancing, isolation from human milk, 130, 264
- Protein synthesis
- glucose-regulated proteins, role of Ca²⁺ (rat hepatoma cells), 131, 868
- inhibition by
- ginseng extract (human fibroblasts), 126, 636
- trimer and tetramer triphosphates of 2',5'-oligoadenylate, effect of K⁺ concentration (rabbit reticulocyte lysates), 130, 821
- mitochondrial
- long-term inhibition by tetracycline, effect on NADH dehydrogenase complex (rat), 128, 1190
- stimulation by L-triiodothyronine (rat myocardium), 128, 1425
- p21^{ras}, inhibition by cAMP analogs (retrovirus-transfected NIH/3T3 cells), 130, 1193
- phospholipid-transferring proteins *in vitro* (corn), 133, 75
- reconstruction *in vitro*, requirements, 126, 792
- and secretion in isolated pancreatic acini, effects of *Pseudomonas aeruginosa* exotoxin A (rat), 127, 198
- stimulation *in vitro* by prostaglandin E₂ (murine osteoblastic clone MC3T3-E1 cells), 126, 340
- Protein-tyrosine kinase
- identification in *Rhodospirillum rubrum*, 126, 685
- inhibition by quercetin (rat lung), 131, 1
- partial purification and characterization (human erythrocytes), 126, 304
- role in phosphorylation of phosphoinositides (murine lymphoma LYSTRA, MBL₂ cells), 132, 481
- stimulation by dimethyl sulfoxide (rat lung), 126, 1042
- Proteodermatan sulfate
- skin, core protein antibodies, isolation and characterization of immunoreactive cartilage proteoglycans (bovine), 129, 95
- Proteoglycans
- cartilage, immunoreactive with antibodies to skin proteodermatan sulfate core protein, isolation and characterization (bovine), 129, 95
- degradation, effect of human lung mast cell tryptase (bovine nasal cartilage), 132, 453
- synthesis enhancement by cartilage-derived growth factors (chicken embryo chondrocytes), 132, 770
- Proteolysis
- inhibition by ginseng extract (human fibroblasts), 126, 636
- limited
- α_1 -antitrypsin, relationship to protein microheterogeneity (human sera), 128, 199
- membrane-bound Ca²⁺-ATPase: characterization of calmodulin-binding

Subject Index

- fragments (human erythrocytes), 126, 214
- mitochondrial, effect of endogenous free radical generation (rat liver), 126, 1082
- neutral endopeptidase, posttreatment role of disulfide bridges (human), 133, 1187
- phenylalanine ammonia-lyase, protection (yeast), 131, 557
- Prothrombin
 - conversion to thrombin by mast cell tryptase, role of factor Xa and trypstatin (bovine plasma), 132, 613
- Proton gradients
 - coupled uphill transport of glycylsarcosine in renal brush border membrane vesicles (rabbit), 132, 946
- Protons
 - translocation by mitochondrial H⁺-ATPase, enhancement by diamide, 132, 985
- Proximal tubules
 - glutathione intracellular compartmentation (rabbit), 133, 1001
- Psoriasis
 - lesional scales, platelet-activating factor isolation and structural analysis (human), 126, 192
- Pulegone
 - destruction of cytochrome P-450 *in vitro* and *in vivo* (rat liver), 128, 921
- Puromycin
 - induction of cytochrome P-450 decrease (hypophysectomized male rat), 128, 683
 - superinduction of interferon- γ mRNA (human peripheral blood lymphocytes), 133, 274
- Putrescine
 - effect on
 - endogenous protein phosphorylation (bovine, murine, rat thyroid), 133, 354
 - globin and hemoglobin chain synthesis (human reticulocytes), 129, 546
 - microtubule formation (bovine brain), 132, 147
 - hepatic concentration, response to surgical stress (rat), 129, 885
 - isoproterenol-stimulated increase in tissue concentration, association with mucin secretion (rat submandibular gland), 132, 118
 - role in mediation of Ca²⁺ fluxes and neurotransmitter release in depolarized synaptosomes (rat cerebral cortex), 133, 563
- Pyrene
 - antigen-coupled, electrochemical luminescence, application in homogeneous immunoassay, 128, 987
- N-(1-Pyrenyl)iodoacetamide
 - labeled actin, polymerization: evaluation of fluorescence signal as measure of monomer incorporation into polymer, 128, 1058
- Pyridine
 - inhibition of neutrophil respiratory burst, role of cytochrome b₅₅₈ (human, pig), 130, 621
- Pyridinolone
 - analog, isolation and partial characterization (human skin), 126, 1222; erratum, 128, 485
- Pyridoxal 5-phosphate
 - analog, binding to aminobutyrate aminotransferase catalytic domain (porcine brain), 127, 346
 - and tryptophan residues, energy transfer at active site of ribulose-1,5-bisphosphate carboxylase/oxygenase, effect of activation state (spinach), 129, 256
- N-(4-Pyridylcarbonyl amino)-1,2,3,6-tetrahydropyridine
 - effect on glucose transport in isolated fat cells (rat), 130, 194
- 2-[(2-Pyridylmethyl)sulfinyl]benzimidazoles
 - acid-sensitive inhibition of proton transport system in gastric parietal cells, mechanism, 128, 477
- Pyrilamine
 - ³H-labeled, specific binding to histamine H₁ receptors (porcine aortic, coronary sarcolemma), 126, 594
- Pyrimidine
 - 2D-COSY aromatic cross-peaks, monitors of base mobility in oligo- and polynucleotides, 133, 380
- Pyroglutamyl diazomethyl ketone
 - synthesis and inhibition of pyroglutamyl-peptide hydrolase (mouse), 130, 662
- Pyroglutamyl-peptide hydrolase, see 5-Oxopropyl-peptidase
- Pyrophosphate
 - inorganic, exchange by reconstituted adenine nucleotide translocator, characterization (bovine cardiac mitochondria), 127, 129
- Pyrophosphate-fructose-6-phosphate 1-phosphotransferase
 - and 6-phosphofructokinase, interconversion: reevaluation (rabbit muscle), 126, 320
- Pyruvate
 - inhibition of

Subject Index

- mitochondrial pyruvate dehydrogenase kinase (rat adipose tissue, brain, heart, kidney), 126, 992
- 2-oxoglutarate oxidation in mitochondria (cauliflower, pea, turnip), 133, 397
- oxaloacetate exchange in renal mitochondria (rat), 129, 1
- Pyruvate dehydrogenase
 - subcomplex, reactivity with lipoamide dehydrogenase from various sources (rat heart), 129, 479
- Pyruvate dehydrogenase activator
 - serum levels, elevation after glucose ingestion and relationship to insulin mediator (human), 129, 41
- Pyruvate dehydrogenase kinase
 - mitochondrial, inhibition by pyruvate (rat adipose tissue, brain, heart, kidney), 126, 992

Q

- Quercetin
 - inhibition of phosphorylase kinase and tyrosine-protein kinase, 131, 1
- Queuine
 - type tRNA, alteration by Cd²⁺, detection by reverse-phase 5 chromatography (*Drosophila melanogaster*), 123, 1027; erratum, 129, 318
- Quin 2
 - analysis of Ca²⁺ role in cytoplasmic membrane transient depolarization induced by phage adsorption (*Escherichia coli*), 131, 856
 - based measurement of free Ca²⁺ changes and total Ca²⁺ release in striated muscle fiber (barnacle), 128, 1180
 - and Fura 2, as indicators of agonist-induced changes in cytosolic Ca²⁺, comparison (human platelets), 132, 652
- Quinidine
 - interactions with muscarinic receptors from brain and heart (rat), 127, 326

R

- Radiodecay
 - induced DNA damage, extent, relationship to cellular growth rate (murine lymphoma cells), 128, 204
- Radioimmunotherapy
 - human B-cell lymphoma in athymic nude mice, ³¹P NMR, 131, 1020

Renin

- atrial natriuretic factor antiserum effects (rat plasma), 132, 954
- inactive, identification as prorenin with site-directed antibody (human plasma), 126, 641; 132, 1038
- inhibition by dipeptide glycol derivatives (human), 132, 155
- secretion in cultured juxtaglomerular cells, inhibition by platelet-activating factor (rat kidney), 127, 903

Replritase

- complex allosteric interaction, role in thymidylate synthase inhibition associated with DNA synthesis arrest (human, murine tumor cells), 128, 345

Reserpine

- effect on number and binding affinity of α_1 -adrenergic receptors and putative voltage-dependent Ca²⁺ channels (rat seminal vesicles), 132, 844

Resins

- chromatographic
 - development for purification of hepatic carcinogen-binding proteins (mouse), 129, 155
 - myelin basic protein binding, analysis (bovine brain), 126, 233
- Resonance Raman spectroscopy
 - phycocyanin, allophycocyanin, and phycobilisomes (*Anacystis nidulans*), 130, 358

Respiration

- in cytochrome-c oxidase-containing sonicated proteoliposomes, regulation by gated and ungated ionophores (bovine heart), 128, 1025

Retina

- dendrite role in contractile responses to electric or light stimulation (*Rana catesbeiana*), 131, 456
- rod membranes, inositol-1,4,5-trisphosphate physiological effects (salamander), 126, 59

Retinal

- induction of alkaline phosphatase in neutrophilic granulocytes (human bone marrow), 131, 1181

Retinoic acid

- induction of
 - alkaline phosphatase in neutrophilic granulocytes (human bone marrow), 131, 1181
 - neuroblastoma cell differentiation *in vitro*, effect on N-myc gene expression (human), 126, 1189
- metabolism *in vivo* by cornea after topical application (rabbit), 131, 320

Subject Index

- modulation of 1,25-dihydroxyvitamin D₃ receptors and bioresponse in osteoblast-like cells, species differences (mouse, rat), 132, 74
- Retinol, see Vitamin A
- Retinol fatty-acyltransferase
enhancement by retinyl acetate and competitive inhibition by N-(4-hydroxyphenyl)retinamide (rat liver, mammary tumor), 128, 7
- Retinyl acetate
acyl CoA:retinol acyltransferase enhancement (rat liver, mammary tumor), 128, 7
- Retroviruses
endogenous
related to murine intracisternal A particles, associated reverse transcriptase, isolation and characterization (rat liver), 131, 492
sequence identification in lymphoid leukemia cells (human), 133, 945
transmembrane protein conserved region, detection by antibody to synthetic peptide (baboon), 126, 672
- Reverse transcriptase, see DNA polymerase
- Reye's syndrome
-associated fatty liver, role of mitochondrial fatty acid oxidation inhibition by ammonium (rat), 127, 565
- Rheumatoid arthritis
-associated Clq-anti Clq precipitin ring-enhancing serum protein, isolation and purification (human), 128, 1288
- Rhodamine 123
interaction with mitochondria isolated from drug-sensitive and -resistant cells (Friend leukemia cells), 127, 1039
- Rhodanese, see Thiosulfate sulfurtransferase
- Rhodopsin
altered accessibility to anti-rhodopsin antisera in retinal dystrophic mouse, 132, 804
-containing phospholipid vesicles, structural state, calmodulin effect (bovine eye), 129, 517
in extradiscal regions, light-induced conformational changes (bovine retina), 127, 816
s-, long-lifetime photointermediate, role in negative phototaxis (Halo bacterium halobium), 127, 99
synthetic peptides, antisera as probes of disc membrane changes (retinal dystrophic dogs), 132, 438
- Rhodospirillum rubrum
tyrosine kinase identification, 126, 685
- Riboflavin
biosynthesis: intermediate in formation of 6,7-dimethyl-8-ribityllumazine from pentose phosphate (Candida guilliermondii), 127, 175
-sensitized photo-oxidation of bovine α -crystallin: thiol group micro-environmental change, 128, 1322
- Ribonuclease
-associated activity of ricin A, phytolectin, and Shiga toxin (rabbit reticulocytes), 130, 879
- Ribonuclease B
carbohydrate chain types, fast atom bombardment mass spectrometric determination, 132, 1
- Ribonucleoproteins
messenger
cytoplasmic nonpolysomal, dephosphorylation (Artemia salina cryptobiotic gastrulae), 131, 1241
-dephosphorylating protein phosphatases, identification and characterization (Artemia salina cryptobiotic gastrulae), 131, 84
- Ribonucleoside-diphosphate reductase
detection in ascites tumor cells by EPR spectroscopy (mouse), 132, 1137
inhibition by gossypol (mouse), 133, 300
sedimentation analysis in Pseudomonas stutzeri extracts, 128, 1044
- Ribonucleotide reductase, see Ribonucleoside-diphosphate reductase
- Ribosomes
-inactivating protein, purification and N-terminal sequence analysis (Saponaria officinalis seeds), 129, 934
scanning during translational modulation in vitro of Sendai virus mRNA encoding overlapping genes, 131, 91
- N^T-Ribosylhistidine
formation from histidine and NAD(P)⁺ by NAD(P)⁺ glycohydrolase system (human, rat), 130, 501
- Ribulose-bisphosphate carboxylase
active site-bound tryptophan residues and pyridoxal 5'-phosphate, energy transfer, effect of activation state (spinach), 129, 256
carbonic acid substrate, pK dissociation constants, calculation, 131, 1075
subunits, heterologous hybridization (Aphanethece halophytica, Chroma-

Subject Index

- tium vinosum, Synechoccus ACMM 323), 126, 698
- Ribulose-1,5-bisphosphate carboxylase/oxygenase, see Ribulose-bisphosphate carboxylase
- Ricin
- binding properties of lysosomal acid hydrolases, role of prior processing by trans-Golgi apparatus terminal transferases (human), 133, 614
- Ricin A
- ribonuclease activity (rabbit reticulocytes), 130, 879
- Rifampicin
- induced cytochrome P-450 isozyme, isolation and characterization (rabbit hepatic microsomes), 126, 833
- RNA
- adriamycin and daunomycin differential effects, analysis with terbium probe (bovine thymus), 131, 1033
 - like conformational properties of synthetic poly(dA-dT)·poly(dA-dT) and poly(dA-dU)·poly(dA-dU), 132, 95
- messenger
- albumin and malic enzyme, insulin-mediated asynchronous accumulation (rat liver), 130, 317
 - aldolase A, cDNA isolation and nucleotide sequence (human), 131, 413
 - angiotensinogen, responses to induction of acute inflammation (rat brain, liver), 129, 826
 - apoprotein, in vitro translation (rat pulmonary surfactant), 127, 106
 - detection in promyelocytic leukemia cells during phorbol-induced differentiation with cDNA clones (human), 132, 100
 - epidermal growth factor, interleukin 2, transferrin, and respective receptors, regions of complementarity, 128, 1373
 - fatty acid synthetase, characterization (rat liver), 126, 1235
 - ferritin H, complementarity with 28 S ribosomal RNA (human), 131, 863
 - glycerol-3-phosphate dehydrogenase, regulation by dibutyryl cyclic AMP (3T3-L1 adipocytes), 131, 1193
 - interferon- γ , superinduction by protein synthesis inhibitors (human peripheral blood lymphocytes), 133, 274
 - intestinal, isolation and translation in cell-free system, 126, 373
 - lymphocyte, induced by concanavalin A and cycloheximide, cDNA cloning (human), 129, 619
 - major acute-phase α_1 -protein, levels during acute-phase response (rat liver), 126, 719
 - myosin, increased levels in spontaneous hypertension (rat heart), 132, 820
 - 1.5kb expressed in various tumor cells, encoding of 37-kDa protein in vitro (rat), 131, 800
 - [poly A⁺], encoding of S-antigen (bovine retina), 132, 934
 - prealbumin and transferrin, levels in choroid plexus (rat brain), 127, 890
 - procollagen and fibronectin, levels after acute lung injury, bleomycin effects (rat), 131, 836
 - protease, concentrations in pancreas, regulation by food content (rat), 127, 937
 - protein free cytoplasmic particles, associated poly(ADP-ribose) polymerase, characterization (murine plasmacytoma), 133, 654
 - proto-oncogene c-fos, c-myc, c-Ha-ras, and c-Ki-ras, levels in PCC4 and PCD1 teratocarcinoma cells (mouse), 128, 513
 - Sendai virus, encoding overlapping genes, translational modulation in vitro: ribosome scanning and role of conformational changes, 131, 91
 - serine dehydratase, cDNA molecular cloning (rat liver), 132, 232
 - thyroglobulin, size heterogeneity in congenital goiter (Afrikaner cattle), 126, 240
 - thyrotropin β -subunit, thyroidectomy-induced increase (rat), 128, 1152; erratum, 129, 319
 - translatable
 - enolase isozyme, concentration changes in skeletal muscle during development (chicken), 133, 868
 - Mn-superoxide dismutase, reduced levels in simian virus 40-transformed fibroblasts (human), 129, 300
 - urokinase-like plasminogen activator, generation, exon-intron boundary sliding (porcine LLC-PK₁ cells), 132, 563
 - mycoviral double-stranded, and polyinosinic·polycytidylic acid, adjuvant effects on immune responses, comparison (mouse), 131, 949
 - nucleo-cytoplasmic translocation, in-

Subject Index

- hibition by anti-nuclear antibody (FL cells), 127, 864
- polyadenylated small, identification and characterization (*Cryptococcus dinii*), 127, 552
- ribosomal 28 S, complementarity with ferritin H mRNA (human), 131, 863
- transfer
- initiator tRNA^{Met}, fluorescent bi-mane derivative, characterization (*Escherichia coli*), 127, 49
- interaction with cognate amino acid, CD and fluorescence spectroscopy (*Escherichia coli*), 129, 679
- in mammary explants, homogeneous induction by prolactin (mouse), 129, 233
- queuine-type, alteration by Cd²⁺, detection by reverse-phase 5 chromatography (*Drosophila melanogaster*), 123, 1027; erratum, 129, 318
- U4 small nuclear, pseudogene isolation and characterization (rat), 130, 828
- RNA polymerase
- content in *Trypanosoma brucei* nuclei, 131, 844
- DNA complexes, specific and nonspecific, sedimentation analysis (*Escherichia coli*), 129, 321
- type II
- DNA transcription rate, effect of DNA exposure to methyl mercury (bacteriophage λ , bovine thymus), 127, 849
- poly ADP-ribosylation *in vitro* (wheat germ), 127, 526
- subunits, proteinase effects, assessment in enzyme conformational analysis (Ehrlich ascites tumor cells), 129, 141
- type III, transcription of repeat DNA, species-specific inhibition (HeLa, MDBK cells), 131, 551
- RNase L
- effect of phosphatase-resistant γ -decyl-NHpppA2'p5'A2'p5'A (interferon-treated HeLa cell extract), 128, 695
- RNA synthesis
- p33, stimulation by insulin and concanavalin A (H4IIE rat hepatoma cells), 133, 1168
- RNA synthesis inhibitors
- effect on S-II phosphorylation (mouse), 131, 524
- Rubidium
- uptake by
- bone marrow-derived macrophages, stimulation by colony stimulating factor (mouse), 132, 430
- erythrocytes, effect of synthetic
- atrial natriuretic factor (human), 130, 1066
- Ruthenium(II)
- bleomycin A₂, photo-induced nicking of DNA in presence of air, 133, 1145
- Ruthenium red
- effect on Ca²⁺-ATPase from sarcoplasmic reticulum (rabbit skeletal muscle), 127, 836
- Ryanodine
- Ca²⁺ receptor complex in skeletal and cardiac muscle, identification and characterization (rabbit), 128, 449
- S
- Saccharomyces cerevisiae*
- proliferation and polyphosphoinositide metabolism, stimulation by ergosterol, 133, 844
- Salmonella minnesota*
- human lymphocyte interaction, effect of lymphocyte irradiation by He-Ne laser, 130, 546
- Salt
- effect on self-association of folate molecules, ¹H NMR, 130, 1273
- Saponin
- induced ATP depletion, effect on collagen-induced serotonin secretion (human platelets), 131, 620
- Sarcoplasmic reticulum
- Ca²⁺ release, inositol 1,4,5-trisphosphate effects (lobster, rabbit skeletal muscle), 128, 1064
- cardiac, calmodulin distribution, ischemia effects (rabbit), 130, 617
- doxorubicin-enhanced hydrogen peroxide and hydroxyl radical formation, effect on Ca²⁺ uptake (rat heart), 130, 739
- junctional, functional identification by associated high-molecular-weight polypeptide (canine ventricular muscle), 128, 739
- membrane proteins, ATP- or Ca²⁺-induced conformational changes, 128, 1159
- Secretin
- effect on secretion of digestive enzymes from isolated pancreatic acini (rat), 128, 872
- related helodermin-like peptides, detection in brain, gut, and salivary glands (rat), 130, 333
- Secretory granules
- activation mechanism, role of *de novo*

Subject Index

- membrane generation (rat peritoneal mast cells), 132, 134
- Selenium
- deficiency, selective inhibition of leukotriene B₄ biosynthesis (rat pulmonary alveolar macrophages), 132, 397
 - inhibition of cadmium growth stimulatory effects on prostatic epithelium (human), 127, 871
 - DU-145 prostate carcinoma cell growth *in vitro* (human), 130, 603
- γ-Seminoproteins
- N-glycosidic carbohydrate units, occurrence of Y determinant (human), 131, 507
- Semiquinone
- formation by diaziquone photoirradiation, 132, 445
- Sendai virus
- P/C mRNA-specified proteins, role of conformational changes in translation, 131, 91
- Sephadex
- melittin, preparation, properties, and application to calmodulin and S-100 protein purification (bovine brain, testis), 133, 256
- Serine
- β-glucuronidase, phosphorylation (human pulmonary adenocarcinoma), 126, 818
- L-Serine dehydratase
- mRNA, cDNA molecular cloning (rat liver), 132, 232
- Serine protease
- preferential recognition of p-guanidino-L-phenylalanine residues in ascitic plasma (Ehrlich ascites tumor-bearing mouse), 128, 1233
- Serotonin
- collagen-induced secretion, effect of ATP depletion by permeation with saponin (human platelets), 131, 620
 - and muramyl peptides, interaction at specific binding sites on macrophages and enhancement of superoxide release (mouse), 131, 1160
- Serotonin receptors
- S₂, size, comparison with dopamine D₂ receptors (rat brain), 133, 1181
- Sertoli's cells
- demonstration of nuclear 1,25-dihydroxyvitamin D₃ receptors (adult rat), 127, 303
 - secreted proteins, role in *in vitro* regulation of Leydig's cell function by follicle-stimulating hormone (porcine testis), 132, 729
- Serum albumin
- coupled pyrene, electrochemical luminescence, application in homogeneous immunoassay, 128, 987
 - and dinitrophenylated derivative ultrathin films, direct current electrical conductivity measurements (bovine), 133, 1152
 - gene, and Kirsten-ras oncogene, methylation state, comparison (rat hepatic nonparenchymal cells, hepatocytes), 126, 879
 - monokine effects (rat peritoneal leukocytes), 130, 30
- Sexual dimorphism
- prolactin amino acid composition (mouse), 130, 1209
- Shiga toxin
- ribonuclease activity (rabbit reticulocytes), 130, 879
- Sialic acid
- binding agglutinin, purification and characterization (rat uterus), 130, 1301
 - insulin receptor, role in insulin-binding and kinase activities (human placental membranes), 129, 739
 - lutropin, role in charge heterogeneity and biological potency (rat pituitary), 127, 501
- Sialidase
- isozyme phenotypes, electrophoretic analysis (murine hepatic extracts), 126, 1182
- Sialyltransferase
- monokine effects (rat peritoneal leukocytes), 130, 30
- Siderophores
- growth and production, effect of elevated temperature (*Candida albicans*), 132, 1160
 - phenolate and hydroxamate types, production by *Candida albicans*, 130, 885
- Silymarin
- inhibitory effect on phenylhydrazine-induced hemolysis and lipid peroxidation (rat erythrocytes), 126, 712
- Simian virus 40
- DNA synthesis initiation, inhibition by dihydroxyanthraquinone, 130, 249
 - minichromosome, interaction with coupled endo-exodeoxyribonuclease from HeLa cell nuclei, 126, 805
 - replication, inhibition by cGMP analog, 128, 1329
 - transformed cells
 - c-sis gene expression and platelet-derived growth factor-like protein secretion (BHK cells), 103, 753

Subject Index

- reduced levels of translatable mRNA for Mn-superoxide dismutase (human fibroblasts), 129, 300
- S-II nuclease, see Nuclease S-II
- Sodium
- Ca²⁺ exchange
 - mitochondrial, inhibition by clonazepam and diltiazem (guinea pig heart), 128, 290; erratum, 130, 1325
 - sarcolemmal, effect of genetically determined cardiomyopathy (hamster), 133, 491
 - cytoplasmic levels in in situ frozen cerebral cortex, electron probe X-ray microanalysis (rat), 132, 1071
 - H⁺ exchange
 - in epithelial cells, inhibition by amiloride and derivatives (porcine kidney), 127, 759
 - relationship to ATP turnover stimulation by epidermal growth factor and/or insulin in quiescent 3T3 cells, 133, 265
 - stimulation by epidermal growth factor and insulin, role of protein kinase C activation (Swiss 3T3 cells), 130, 646
 - or H⁺, -melibiose symport, kinetic parameters: membrane potential effects (*Escherichia coli*), 129, 626
 - ion pump inhibitor, purification (human urine), 131, 1234
 - Mg²⁺ antiport, amiloride-sensitive, role in Mg²⁺ efflux (chicken erythrocytes), 130, 540
 - occlusion by Na⁺, K⁺-ATPase with oligomycin (*Squalus acanthias*), 127, 857
 - stimulation of atrial natriuretic polypeptide secretion (rat atria), 126, 375
 - urinary excretion, effect of atrial natriuretic factor antiserum (rat), 132, 954
- Sodium butyrate
- pretranslational regulation of ectopic human chorionic gonadotropin and α -subunit production in ChaGo lung cancer cells (human), 133, 972
- Sodium channels
- detection in brush border membranes by ²³Na NMR (rabbit renal proximal tubules), 128, 746
 - voltage-dependent, identification by receptor sites for tetrodotoxin and scorpion and sea anemone toxins (house fly brain), 131, 1226
- Sodium molybdate
- stabilized nontransformed glucocorticoid receptors, heterogeneity (rat liver), 131, 1139
- Sodium pyrophosphate-glycerol
- solubilization of epidermal filaggrin (rat), 132, 1196
- Somatomedin C, see Insulin-like growth factor I
- Somatomedins
- basic, serum immunoreactive: fluctuations, anesthesia effect (male rat), 128, 424
 - binding protein from hepatoma cells and amniotic fluid, comparison (human), 128, 1071
- Somatostatin
- binding to isolated acinar cells, inhibition by tumor promoters (guinea pig pancreas), 128, 850
 - effect on splenic lymphocyte proliferation in vitro (mouse), 129, 52
 - inhibition of GRF-stimulated adenylate cyclase in GH₃ cells (rat), 127, 986
 - interaction with GRF, effect on adenylate cyclase activation (bovine, human, rat pituitary), 127, 977
 - like material, identification in *Bacillus subtilis*, 127, 713
 - octapeptide analogs, synthesis and inhibitory effects on growth hormone secretion by anterior pituitary cells (rat), 132, 922
 - S-14 and S-28-(1-12) peptides, simultaneous generation by somatostatin-28 convertase (rat brain), 128, 1051
- Somatostatin-28 convertase
- generation of somatostatin-28 (1-12), somatostatin-14, arginine, and lysine (rat brain), 128, 1051
- Somatotropin
- growth hormone-releasing factor-induced release, prostaglandin E₂ role (rat anterior pituitary), 126, 725
 - induced decrease of cytochrome P-450 (hypophysectomized male rat), 128, 683
 - phosphorylation in vitro and in vivo (ovine pituitary), 128, 713
 - secretion by anterior pituitary cells, inhibition by somatostatin octapeptide analogs (rat), 132, 922
- Somatotropin receptors
- expression in breast cancer cells, regulation by progestins (human), 131, 767
- Sorbinil
- binding to isolated renal glomeruli (rat), 129, 530
- Spectrin
- dimers, N-ethylmaleimide-induced accumulation in erythrocyte mem-

Subject Index

- branes (rat), 130, 157
- Spermatozoa
- activating peptides, structure-activity relationship (sea urchin eggs), 126, 974
 - agglutinating lectin from Jack fruit seeds, isolation and properties (human, rat), 128, 833
- Spermidine
- effect on microtubule formation (bovine brain), 132, 147
 - hepatic concentration, response to surgical stress (rat), 129, 885
 - isoproterenol-stimulated increase in tissue concentration, association with mucin secretion (rat submandibular gland), 132, 118
 - role in mediation of Ca^{2+} fluxes and neurotransmitter release in depolarized synaptosomes (rat cerebral cortex), 133, 563
 - stimulation of
 - endogenous protein phosphorylation (bovine, murine, rat thyroid), 133, 354
 - globin and hemoglobin chain synthesis (human reticulocytes), 129, 546
 - phosphorylase kinase phosphorylation by cyclic AMP-dependent protein kinase (rabbit), 130, 1308
- Spermidine synthase
- inhibition by 1-aminooxy-3-aminopropane (bovine brain), 130, 596
- Spermine
- effect on microtubule formation (bovine brain), 132, 147
 - hepatic concentration, response to surgical stress (rat), 129, 885
 - induced phosphorylation of 42-kDa/pI 5.9 nuclear protein (human tumor cells), 130, 700
 - isoproterenol-stimulated increase in tissue concentration, association with mucin secretion (rat submandibular gland), 132, 118
 - role in mediation of Ca^{2+} fluxes and neurotransmitter release in depolarized synaptosomes (rat cerebral cortex), 133, 563
 - stimulation of
 - endogenous protein phosphorylation (bovine, murine, rat thyroid), 133, 354
 - globin and hemoglobin chain synthesis (human reticulocytes), 129, 546
 - phosphorylase kinase phosphorylation by cyclic AMP-dependent protein kinase (rabbit), 130, 1308
 - synthesis inhibition by S-methyl-5'-methylthioadenosine, effect on
 - cell growth (SV-3T3 cells), 133, 82
- Sphingomyelinase
- deficient fibroblasts, correction with dimethylsulfoxide (Niemann-Pick patients), 126, 756
 - fibroblast, dimethylsulfoxide effects in vitro (human), 126, 756
- Spores
- coat-lacking, germinability, role of Ca^{2+} binding (*Bacillus megaterium*), 128, 728
- Stearic acid
- inhibition of endotoxin-induced thromboplastin (human monocytes), 132, 67
- Stem cells
- hemopoietic, macromolecule introduction with erythrocyte ghost-mediated system (human), 128, 193
- Steroid 17 α -monooxygenase
- microsomal, effect of Fe^{2+} -induced lipoperoxidation (porcine adrenal cortex), 128, 657
- Steroid 21-monooxygenase
- microsomal, effect of Fe^{2+} -induced lipoperoxidation (porcine adrenal cortex), 128, 657
- Steroidogenesis
- lutropin-induced, cAMP regulatory role (rat Leydig cells), 128, 1164
- Steroids
- Ru38486, binding-mediated activation of hepatic glucocorticoid receptor (rat), 133, 745
- Steryl-sulfatase
- isozymes, biochemical characterization (human fibroblasts), 128, 1388
- Streptozocin
- effect on insulin binding and degradation in isolated hepatocytes (rat), 128, 487
- Streptozotocin, see Streptozocin
- Submaxillary gland
- removal, induction of uterine biochemical and histological changes (rat), 133, 462
- Substance K
- identification as endogenous substrate for angiotensin-converting enzyme in brain, 128, 317
 - induction of inositol phospholipid hydrolysis (rat brain), 127, 616
- Substance P
- cation-dependent activation of guanylate cyclase (rat), 128, 141
 - conformationally restricted cyclic analogs, receptor binding, analysis (guinea pig ileum, rat brain), 127, 656
 - degradation by neuroblastoma cells and membranes (mouse), 129, 694

Subject Index

- identification as endogenous substrate for angiotensin-converting enzyme in brain, 128, 317
- induction of inositol phospholipid hydrolysis (rat brain), 127, 616
- mitogenic effects on smooth muscle cells in vitro (rat aorta), 130, 104
- peptides, inhibition of γ -endorphin-generating endopeptidase, structure-activity relationship (rat brain), 133, 897
- Succinate dehydrogenase
- iron clusters, detection in vivo (*Escherichia coli*), 131, 653
 - tetranuclear iron-sulfur center, EPR (*Escherichia coli*), 131, 756
- O-Succinylbenzoate
- precursor in vitamin K biosynthesis, purification and structure (*Escherichia coli*), 131, 956
- Sugar transport
- regulation independent of glucose metabolism or carrier-substrate interaction (human fibroblasts), 128, 1418
- S-Sulfates
- 4-nitrobenzyl mercaptan, formation, pH effects (rat hepatic cytosol), 131, 687
- Sulfides
- FAD-containing monooxygenase and cytochrome P-450, oxygenation mechanism, comparison (porcine liver), 131, 567
- Sulfonate
- aromatic, arylsulfatase-inhibitory, reduction of natural killer activity (human), 126, 540
- Sulfonate salts
- amino acid-derived, human leukocyte elastase inhibition, 128, 90
- Sulfonolipids
- biosynthesis in gliding bacteria (*Cytophaga johnsonae*), 130, 873
- Sulfotransferase
- catalysis of hydroxymethyl sulfate ester formation from 7,12-dihydroxymethylbenz[a]anthracene (rat hepatic cytosol), 131, 694
- Sulfur
- incorporation into thiamin, metabolic origin, determination (*Escherichia coli*), 132, 217
 - iron tetranuclear center, fumarate reductase, EPR (*Escherichia coli*), 131, 756
- Superoxide dismutase
- Cu, Zn⁻ and Mn-containing, synthesis in vitro (rat liver), 129, 89
 - Mn-containing, translatable mRNA, reduced levels in simian virus 40-transformed fibroblasts (human), 129, 300
- Superoxide radicals
- cell-mediated thiol-dependent production, effect of light-dependent Cu(II) reduction (*Dunaliella tertiolecta*), 128, 1031
 - dismutation during melanin autooxidation, mechanism (bovine eye), 131, 659
 - formation, catalytic action of 1-methyl-4-phenyl-1,2,3,6-tetrahydropyridine, 131, 1284
 - free, generation in erythrocytes, measurement by cytochrome c reduction, requirement for cytochrome c oxidase blockade (human), 127, 354
 - increased production rate in erythrocytes from Fanconi anemia patients (human), 130, 127
 - interferon γ -induced release from macrophages, effect on kinetic properties of NADPH oxidase (human), 132, 908
 - production by neutrophils
 - inhibition by low mercury levels (human), 128, 1145
 - stimulated by various agents, role of Ni protein (guinea pig), 130, 939 - reaction with 6-hydroxy-2,2,5,7,8-pentamethylchroman
 - HPLC, 129, 461
 - spectroscopic analysis, 126, 873 - release from macrophages, enhancement by muramyl peptides and serotonin (mouse), 131, 1160
- Suramin
- inhibition of cellular and viral DNA polymerases, characterization, 128, 1395
- Synaptosomes
- depolarized, Ca²⁺ fluxes and neurotransmitter release, mediatory role of polyamines (rat cerebral cortex), 133, 563
 - N-methyl-4-phenylpyridine uptake, characterization (murine brain), 128, 1228
 - phosphatidic acid synthesis, stimulation by carbachol, competitive inhibition by pirenzepine (rat cerebral cortex), 130, 282
- Synexin
- Ca²⁺-dependent polymerization, stimulation by cis-unsaturated fatty acids (bovine liver), 132, 505
 - isotopes α , β , and μ , in liver and adrenal medulla, comparison (bovine), 132, 382
- Systemic lupus erythematosus
- serum free fatty acid composition and

Subject Index

6-keto-prostaglandin $F_{1\alpha}$ levels
(human), 128, 803

T

Tachykinins

major, in plasma and tumor tissues
from carcinoma patients, identification as neuropeptide K, 131, 77

Tamoxifen

effect on
dolichol pathway in T47D-c11 cells
(human), 126, 382
estrogen receptor binding ability
(rat uterus), 132, 336
elevation of ^{32}P -labeled polyphosphoinositide levels in platelets (human), 131, 370
high-affinity binding sites, oxygenated cholesterol metabolite binding (chicken liver), 127, 786
inhibition of histamine-induced contraction (canine smooth muscle), 131, 750

Teleocidin

enhancement of basal and growth hormone-releasing factor-stimulated cAMP accumulation in anterior pituitary cells (rat), 129, 404
and 12-O-tetradecanoylphorbol-13-acetate, mitogenic effects on lymphocytes, comparison (human), 130, 724

Temperature

dependence of
conformational changes in elastin polypeptide, correlation with elastomeric force, 130, 50
dielectric relaxations in α -elastin coacervate: evidence for peptide librational mode (bovine ligamentum nuchae), 128, 1000
neutrophil respiratory burst activation, role of membrane fusion (human), 132, 696
redistribution of Y_b -glutathione S-transferase multiple forms (rat liver), 127, 425
spectral changes of Fe- or Ni-containing hemoglobins and derivatives, α -subunit role (human), 128, 721
effect on
receptor-estradiol complex conversion to nondissociable form (rat uterine cytosol), 131, 58
siderophore growth and production (*Candida albicans*), 132, 1160
high, cellular injury, potentiation by interferon (murine Swiss 3T3 cells), 128, 179

low, induced thyroxine 5'-deiodinase stimulation in brown adipose tissue, defect in genetically obese mice, 130, 188

optimal, NADPH-cytochrome P-450 reductase and cytochrome P-450-linked monooxygenase, determination by membrane-bound cytochrome P-450 (rat, trout hepatic microsomes), 127, 571

Terminal deoxynucleotidyl transferase, see DNA nucleotidyltransferase

Terminal transferases

trans-Golgi apparatus-associated, processing of lysosomal acid hydrolases, role in hydrolase ricin-binding properties (human), 133, 614

Testosterone

effect on
alcohol dehydrogenase expression in hepatocyte monolayer cultures (rat), 128, 12
number of estradiol receptors in nuclear matrix (rat prostate), 128, 1381
-estradiol-binding globulin, binding to prostatic cell membranes (human), 128, 432
human chorionic gonadotropin-stimulated production, inhibition by human leukocyte interferon (porcine Leydig cells), 127, 809

Tetanus toxin

effect on K^+ -stimulated catecholamine release (nerve growth factor-treated PC12 cells), 128, 249
induction of phosphatidylinositol-containing lipid vesicle fusion and aggregation at low pH, 128, 840
-malaria peptide conjugate coupled to muramyl dipeptide derivative, anti-sporozoite antibody production response in vitro and in vivo (mouse), 131, 70

monoclonal antibodies, secretion by human lymphocyte-murine myeloma hybridomas, 129, 26

2,3,7,8-Tetrachlorodibenzo-p-dioxin

effect on hepatocyte plasma membrane protein kinases (guinea pig, rat), 127, 296

Tetracycline

long-term inhibition of mitochondrial protein synthesis, effect on NADH dehydrogenase complex (rat), 128, 1190

12-O-Tetradecanoylphorbol-13-acetate and A23187, stimulation of histamine and arachidonic acid release from mast cells, inhibition by hydrocortisone (rat peritoneum), 130, 640

Subject Index

- biological effects *in vivo*, inhibition by cyclosporin A (murine ear, skin), 126, 327
- and bryostatins, mitogenic effects, comparison (Swiss 3T3 cells), 132, 939
- and Ca^{2+} , stimulation of prolactin secretion in permeable GH₃ pituitary cells *in vitro* (rat), 130, 524
- and diacylglycerol, inhibition of granulosa cell maturation, comparison (rat), 133, 468
- differential effects on cAMP production induced by prostaglandin E₂, isoproterenol, and cholera toxin (murine thymocytes), 133, 904
- effect on
- A23187-, carbachol-, and high K^{+} -induced catecholamine secretion in cultured chromaffin cells (bovine adrenal medulla), 129, 511
 - β -adrenergic response of normal and H-ras-transformed NIH/3T3 fibroblasts, comparison, 133, 702
 - basal and insulin-stimulated D-glucose transport and on insulin binding in isolated adipocytes (rat), 128, 824
- enhancement of
- long-term maintenance of pancreatic islet β -cell differentiated function in tissue culture (rat), 128, 1315
 - polyphosphoinositide phosphorylation and reduction of phosphatidylinositol accumulation (murine splenic lymphocytes), 129, 431
- fluorescent derivatives, cellular uptake and localization (C3H 10T1/2 cells), 131, 920
- and forskolin, thyrotropin-like stimulation of protein iodination in thyroid follicles (mouse), 128, 858
- induction of
- calcitonin secretion, synergism with A23187 and additivity with dibutyl cAMP (rat C cells), 132, 424
 - promyelocytic leukemia cell differentiation, countertranscript identification with cDNA clones (human), 132, 100
 - skin carcinomas, expression of long-terminal repeat sequences (mouse), 127, 391
- inhibition of somatostatin binding to isolated acinar cells (guinea pig pancreas), 128, 850
- and ionophore A23187
- or dibutyl cAMP, synergistic effects on pepsinogen secretion from isolated gastric glands (guinea pig), 131, 314
 - effect on atrial natriuretic peptide secretion by isolated perfused heart (rat), 133, 581
 - synergistic stimulation of luteinizing hormone release (rat pituitary), 130, 848; *erratum*, 133, 368
- and phospholipase C-induced chemiluminescence, comparison (murine epidermal cells), 131, 1103
- protein kinase C activation, inhibition by phospholipid-interacting compounds, mechanism (rabbit platelets), 130, 654
- stimulation of
- deoxyglucose uptake by neutrophils (human), 126, 450
 - glucose transport system (murine embryonic fibroblasts), 128, 1303
 - glycogenolysis, role of generated cyclooxygenase products (perfused rat liver), 132, 204
 - platelets, cytoplasmic Ca^{2+} accumulation, detection with aequorin, 133, 98
 - protein kinase C and B-cell proliferation, inhibition by polymyxin B, 128, 1364
 - VIP/PHM-27 gene expression in neuroblastoma cells (human), 132, 885
- and teleocidin, mitogenic effects, comparison (human lymphocytes), 130, 724
- and transforming growth factor- α , synergistic stimulation of prostaglandin production (rat liver), 130, 110
- Tetrahydrobiopterin**
- biosynthesis
 - from dihydroneopterin triphosphate: formation of tetrahydropterin intermediates (bovine adrenal medulla; rat brain, liver), 128, 1099
 - related phosphate-eliminating enzyme, purification and properties (human liver), 127, 213
- 5,6,7,8-Tetrahydrofolic acid
- self-association in aqueous solution, effect of salt, ¹H NMR, 130, 1273
- Tetrahydropterin**
- intermediates, formation during tetrahydrobiopterin biosynthesis (bovine adrenal medulla; rat brain, liver), 128, 1099
- Tetramers**
- cyclic hydrogen-bonded, detection in tetramethylammonium guanosine 5'-monophosphate aqueous solutions, 128, 980

Subject Index

- Tetramethylammonium guanosine 5'-mono-phosphate
aqueous solutions, detection of hydrogen-bonded cyclic tetramers, 128, 980
- Tetranitromethane
modification of muscarinic receptors (rat brain, heart), 131, 1124
- Tetrapeptides
conformational stability, analysis with screened electrostatic potential hydration model, 126, 247
- Tetrodotoxin
use in identification of voltage-sensitive Na^+ channels (house fly brain), 131, 1226
- $\delta\beta$ -Thalassemia
-associated non- α -globin gene cluster deletion, identification (human), 126, 185
- Thermolysin, *see* Bacillus thermoproteolyticus neutral proteinase
- Thiamin
sulfur incorporation, metabolic origin, determination (Escherichia coli), 132, 217
- Thiol groups
-dependent cell-mediated superoxide production, effect of light-dependent Cu(II) reduction (Dunaliella tertiolecta), 128, 1031
microenvironmental change during methylene blue- or riboflavin-sensitized photo-oxidation of α -crystallin (bovine), 128, 1322
- Thiol methyltransferase
effect of S-adenosylmethionine:S-adenosylhomocysteine ratio (rat hepatic microsomes), 128, 965
- Thiolpeptides
synthetic, corresponding to cytochrome P-450 active site, complexes with hemin, characterization by optical and ESR spectrometries, 130, 1254
- Thiol protease
conversion of dynorphin B-29 to dynorphin B by single-step cleavage (rat brain), 130, 1168
- Thioltransferase
in vitro release from polymorphonuclear neutrophils by immune complex and inhibition by chloramphenicol (rabbit), 127, 458
- Thionein
Cu(I)-, conversion to Co(II) derivative (yeast), 132, 277
- Thiophosphorylation
and phosphorylation, chromatin proteins *in vitro*, comparison (bovine thymus), 126, 103
- Thiopurine methyltransferase
effect of S-adenosylmethionine:S-adenosylhomocysteine ratio (rat hepatic cytosol), 128, 965
-glutathione reaction, analysis (rat kidney), 126, 1201
- Thioredoxin
fructose-bisphosphatase activation, species specificity (soybean, wheat seedlings), 127, 401
- Thiosulfate sulfurtransferase
synthesis in adrenocortical cells, characterization (bovine), 130, 407
- Threonine
 β -glucuronidase, phosphorylation (human pulmonary adenocarcinoma), 126, 818
glycogen synthase, phosphorylation (rat liver), 130, 987
- Thrombin
-induced phosphoinositide metabolism, role of adrenoceptors (rat platelets), 132, 1051
and ionophore A23187, synergistic stimulation of thromboxane biosynthesis (human platelets), 130, 717
platelet response, inhibition by leupeptin, role of phospholipase C proteolytic activation (human), 131, 1198
prothrombin conversion, induction by rat peritoneal mast cell tryptase (bovine plasma), 132, 613
- Thrombin inhibitors
heparin-binding sequence, corresponding synthetic pentasaccharide, mono- and bidimensional ^1H NMR spectra: conformational peculiarity of sulfated iduronate residue, 128, 134
- Thromboplastin
endotoxin-induced, inhibition by hydroxyicosatetraenoic and other unsaturated fatty acids (human monocytes), 132, 67
- Thromboxane A_2
-prostaglandin H_2 antagonist, binding site hydrodynamic properties (human platelets), 132, 961
- Thromboxane B_2
biosynthesis, synergistic stimulation by ionophore A23187 and 4β -phorbol 12-myristate 13-acetate or thrombin (human platelets), 130, 717
- Thylakoids
oriented in polyvinyl alcohol films, photophysical properties, analysis by polarized light spectroscopy (pea leaf), 126, 254
- Thymidine
atrial natriuretic polypeptide-stimulated incorporation into DNA of adrenal glomerulosa cells (bo-

Subject Index

- vine), 132, 261
- Thymidine kinase
herpes simplex virus type-1
gene-containing drug-resistant
cells, screening: detection of 9-(1,3-dihydroxy-2-propoxymethyl)-
guanine-associated cytotoxicity
(human), 133, 195
phosphorylation of (E)-5-(2-halogen-
ovinyl)-2'-deoxyuridine carbocyclic
analogs, role in analog selective
antiherpetic activity, 126,
397
- Thymidylate synthase
inhibition in cells with arrested DNA
synthesis, role of allosteric in-
teraction in replitase complex
(human, murine tumor cells), 128,
345
- Thyroglobulins
carboxy-terminal third, secondary
structure, prediction (rat), 133,
766
conformational analysis by crosslink-
ing with dimethylsuberimide,
128, 37
mRNA, size heterogeneity in congenital
goiter (Afrikander cattle), 126,
240
- Thyroid
cellular electrical excitation, induc-
tion by thyrotropin (swine), 129,
275
function, role of pituitary 1,25-dihy-
droxyvitamin D₃ receptors (hyper-,
hypothyroid rats), 131, 122
- Thyroidectomy
effect on insulin receptor phosphory-
lation and insulin binding (rat
adipocytes), 126, 1061
-induced increase in thyrotropin β -
subunit mRNA (rat), 128, 1152;
erratum, 129, 319
- Thyroliberin, see Thyrotropin-releasing
hormone
- Thyroparathyroidectomy
effects on cAMP-dependent protein ki-
nase regulatory and catalytic sub-
units, comparison (rat liver),
129, 766
- Thyrotropin
carbohydrate moiety, role in hormone
action (bovine), 133, 680
effect on intracellular Ca²⁺ concen-
tration (canine thyroid), 131,
1041
induction of electrical excitation
(porcine thyroid cells), 129, 275
-like protein, iodination stimulation
by forskolin and 12-O-tetradeca-
noylphorbol-13-acetate (murine
thyroid follicles), 128, 858
 β -subunit, genetic analysis: thyroid-
ectomy effect on mRNA levels
(rat), 128, 1152; erratum, 129,
319
- Thyrotropin-releasing hormone
degradation in serum, effect of prolyl
endopeptidase and pyroglutamyl-
peptide hydrolase inhibitors
(rat), 132, 787
induction of protein kinase C translo-
cation from cytosol to membrane
(GH₃ pituitary cells), 128, 531
modulation of cAMP accumulation in GH₃
cells (rat), 129, 898
precursors, detection in neonatal pan-
creas (rat), 128, 664
stimulation of polyphosphoinositide
hydrolysis by guanine nucleotide-
modulated mechanism (GH₃ pituitary
cells), 132, 721
- Thyrotropin-releasing hormone receptors
chlordiazepoxide competitive antago-
nism (GH₃ pituitary tumor cells),
127, 63
- Thyroxine
D- and L-, enhancement of glucocorti-
coid binding by hepatic cytosol
(rat), 129, 447
- Thyroxine 5'-deiodinase
defective cold-induced stimulation in
brown adipose tissue (genetically
obese mouse), 130, 188
- Tomato golden mosaic virus
coat protein, amino acid sequence, ho-
mology with African cassava latent
and maize streak viruses, 130, 892
- Topoisomerase II
characterization (human leukemic, lym-
phoblastoid cells), 130, 325
- Na-p-Tosyl-L-arginine methyl ester
effect on insulin function (rat adipo-
cytes, hepatic particulate frac-
tions), 126, 489
- Toxins, see also specific toxins
 α -, conformational alteration concomi-
tant with water-soluble monomer
transformation into membrane hexa-
mer (*Staphylococcus aureus*), 130,
175
Clostridium botulinum type E, heavy
and light chains, partial amino
acid sequences, 127, 768
mosquito larvicidal, associated pep-
tides, identification (*Bacillus*
thuringiensis var. *israelensis*
crystals), 132, 19
Pseudomonas aeruginosa exotoxin A, ef-
fect on protein synthesis and se-
cretion in isolated rat pancreatic
acini, 127, 198
scorpion and sea anemone, use in iden-
tification of voltage-sensitive

Subject Index

- Na⁺ channels (house fly), 131, 1226
- Transcription
- fibroblast collagen, regulation by activated mononuclear cell supernatants (human), 131, 1028
 - repeat DNA, by RNA polymerase III, species-specific inhibition (HeLa, MDBK cells), 131, 551
 - strand-specific, satellite DNA I in ascites hepatoma cells (rat), 130, 897
 - vesicular stomatitis virus *in vitro*, L and NS protein function and requirement, 126, 40
- Transcription factors
- S-II, immunological analysis (HeLa cell lysate), 127, 956
- Transducin
- interactions with guanyl nucleotides, pertussis toxin-catalyzed ADP-ribosylation effects (NG108-15 cells), 127, 999
- Transfection
- serial, exogenous DNA sequences into fibroblasts, fate and biological activity (murine NIH/3T3 cells), 132, 635
- Transferrin
- mRNA
 - levels in choroid plexus (rat brain), 127, 890
 - and receptor mRNA, regions of complementarity, 128, 1373
- Transformation
- electric field-mediated: isolation and characterization of herpes simplex virus type-1 TK⁺ subclone (C1D, CHO cells), 129, 611
 - Kirsten sarcoma virus-mediated, and adenylate cyclase modulation by guanine nucleotides, relationship (murine fibroblasts), 127, 318
 - phenotypic, NIH/3T3 cells transfected with retroviral DNA, inhibition by cAMP analogs, 130, 1193
- Transforming growth factor
- like mitogens in anterior pituitary, identification and characterization (human), 133, 951
- type α
- stimulation of testicular ornithine decarboxylase (immature mouse), 132, 1180
 - synthetic fragment, receptor binding and antigenic properties (rat), 129, 226
 - and 12-O-tetradecanoylphorbol-13-acetate or 1-oleoyl-2-acetyl-glycerol, synergistic stimulation of prostaglandin production (rat liver), 130, 110
- type β
- high-molecular-weight latent form, conversion to low-molecular-weight active form under acidic conditions (chicken embryo fibroblasts), 133, 1026
 - inhibition of DNA synthesis in cultured hepatocytes (rat), 133, 1042
- Translation
- cell-free, osteocalcin (neonatal rat calvaria), 132, 240
 - regulation, role in inhibitor-increased intracellular ornithine decarboxylase content (Ehrlich ascites tumor cells), 131, 239
 - Sendai virus P/C mRNA, ribosome scanning and role of conformational changes, 131, 91
- Triazine aromatic dyes
- inhibition of galactocerebroside sulfotransferase: interaction with 3'-phosphoadenosine 5'-phosphosulfate-binding site (rat brain), 129, 522
- Trifluoperazine
- effect on
 - phosphate transport inhibition by parathyroid hormone and 8-bromocyclic AMP (rabbit renal brush border membranes), 128, 278
 - plasma membrane redox system *in vitro* (carrot cells), 126, 262
 - elevation of ³²P-labeled polyphosphoinositide levels in platelets (human), 131, 370
 - enhancement of DNA-binding antitumor drug cytotoxic effects in doxorubicin-resistant leukemia cells (mouse), 131, 912
- Triglyceride
- production in hepatocytes after triiodothyronine treatment, glycerol requirement (rat), 132, 1001
- 3 α ,7 α ,12 α -Trihydroxy-5 β -cholestane
- conversion to cholestanetetrol in hepatic peroxisomes (rat), 130, 708
- 3,5,3'-Triiodo-L-thyronine
- binding protein from pituitary tumor GH₃ cell membrane, solubilization and characterization (rat), 133, 837
 - effect on myosin heavy chain gene expression, dot-blot mRNA assay (rat), 130, 1161
 - multiple binding sites, identification on nuclear envelopes (rat liver), 132, 35
 - posttreatment triglyceride and ketone body production, glycerol requirement (rat hepatocytes), 132, 1001
 - short-term stimulation of lipogenesis in hepatocyte cultures (eu-, hypo-

Subject Index

- thyroid rats), 128, 525
- spin-labeled, transverse motion in phospholipid bilayers, ESR, 131, 408
- stimulation of mitochondrial translation system (rat myocardium), 128, 1425
- 3,5,3'-Triiodo-L-thyronine receptors solubilization from erythrocyte membranes and characterization (human), 133, 442
- Trimethylamine dehydrogenase
specific activity variability, suicide inhibition as cause (bacterium *W₃A₁*), 132, 352
- 2,2,4-Trimethylpentane, see Isooctane
- O,O,S*-Trimethyl phosphorodithioate
-induced unwinding of supercoiled PM2 DNA, analysis, 126, 1251
- O,O,S*-Trimethyl phosphorothioate
-induced unwinding of supercoiled PM2 DNA, analysis, 126, 1251
- Trinitrophenylation
smooth muscle myosin, analysis (turkey gizzard), 126, 748
- Tripeptidyl-p-nitroanilide
analysis of plasmin substrate specificity (human), 131, 928
- Tripeptidyl peptidase
purification and partial characterization (porcine ovary), 126, 63
- Trisomy
chromosome 21, gene dosage effect on cystathionine β -synthase gene expression (human fibroblasts), 128, 40
- Tropoelastin
aortic, amino acid composition changes in spontaneously hypertensive rats, 129, 179
- Tropomyosin
-enhanced actin-myosin interaction, regulation by caldesmon₁₅₀ (chicken gizzard smooth muscle), 132, 645
- variants, detection in GM1386 skin fibroblasts (human), 128, 1247
- β -Tropomyosin
homopolymeric analog, doubly cross-linked, helix-coil transition, theoretical predictions (rabbit), 129, 848
- Troponin C
effect on melittin hemolytic activity (rabbit erythrocytes), 130, 22
- Trypsin
-activated protein kinase, identification in plasma membrane and properties (rat liver), 131, 246
- effect on erythrocyte membrane surface topology, reevaluation (human), 126, 50
- platelet response, inhibition by leupeptin, role of phospholipase C proteolytic activation (human), 131, 1198
- Trypsin inhibitors
amino acid sequence and association equilibrium constant (cucumber, summer squash, zucchini seeds), 126, 646
- pancreatic secretory, cDNA molecular cloning and nucleotide sequencing (human), 131, 605
- α_1 -Trypsin inhibitors
inter-, light chain-encoding cDNA, characterization and partial nucleotide sequence (human liver), 131, 1146
- proteolytic cleavage and microheterogeneity, relationship (human sera), 128, 199
- recombinant DNA-directed *Escherichia coli*-produced, evaluation as neutrophil elastase inhibitor for potential use as replacement therapy of α_1 -antitrypsin deficiency, 130, 1177
- Trypsinogen
pancreatic, activity and mRNA levels, regulation by food content (rat), 127, 937
- secretion from isolated pancreatic acini, effect of various secretagogues (rat), 128, 872
- Tryptase
conversion of bovine prothrombin to thrombin (rat peritoneal mast cells), 132, 613
- effect on
prekallikrein (human mast cells), 129, 76
- procollagenase activation and proteoglycan degradation (human pulmonary mast cells), 132, 453
- Tryptophan
cytochrome P-450 isozyme 2, fluorescence properties (rabbit hepatic microsomes), 128, 676
- epsilon toxin, role in lethal activity (*Clostridium perfringens*), 128, 760
- gene cloning and expression in *Escherichia coli* (*Brevibacterium lactofermentum*), 133, 1013
- identification in α -amylase active center (*Bacillus amyloliquefaciens*), 126, 966
- and pyridoxal 5'-phosphate, energy transfer at active site of ribulose-1,5-bisphosphate carboxylase/oxygenase, effect of activation state (spinach), 129, 256

Subject Index

Tubulin

- alkylation, inhibition by antitumor drug TN-16 (bovine brain), 129, 200
- colchicine binding, inhibition by reduced glutathione (bovine brain), 128, 506
- E-site GDP, incorporation during microtubule elongation *in vitro* (bovine brain), 131, 386
- guanine nucleotide binding at exchangeable site, inhibition by maytansine and vinblastine, 128, 1239
- mediation of linkage between cerebral membranes, 126, 559
- microtubule interactions, 4',6-diamidino-2-phenylindole role (porcine brain), 133, 662
- polymerization, facilitation by polyamines (bovine brain), 132, 147
- specific binding to guanine nucleotide-binding inhibitory protein in adenylate cyclase system (rat brain), 132, 193

Tumor cells

- adenocarcinoma, β -glucuronidase protein phosphorylation: identification of serine- and threonine-phosphates (human lung), 126, 818
- astrocytoma, epidermal growth factor receptor gene amplification, overexpression, and rearrangement (human), 131, 207
- carcinoid, detection of neuropeptide K (human), 131, 77
- ChaGo lung cancer, human chorionic gonadotropin and α -subunit production, pretranslational regulation by sodium butyrate (human), 133, 972

colon

- associated circulating antigen with epitope shared by cytokeratins, monoclonal antibody definition (human), 128, 34
- DNA crosslinking by 3'-(3-cyano-4-morpholinyl)-3'-deaminoadriamycin *in vitro* (human HT-29 cells), 131, 336

- crown gall, *Agrobacterium tumefaciens* Ti plasmid-induced, distinct DNA insertion patterns (isogenic sunflower genomes), 131, 152

- differentiation induction and growth inhibition by A series prostaglandins, requirement of α,β -unsaturated carbonyl group, 129, 34

Ehrlich ascites

- cisplatin distribution and binding to metallothionein, 130, 786
- derived uridine diphosphate reduc-

tase, sensitivity to hydroxyurea (mouse), 126, 1104

detection of ribonucleotidediphosphate reductase by EPR spectroscopy (mouse), 132, 1137

intracellular ornithine decarboxylase content, increase with inhibitors: role of translational regulation, 131, 239

ornithine decarboxylase genes, difluoromethylornithine-induced amplification, 126, 734

epidermoid carcinoma A431 and glioblastoma SF268, epidermal growth factor receptor binding affinities, comparison (human), 132, 284

erythroleukemic, α -globin gene, nucleosomal repeat pattern preservation after cellular induction (mouse), 130, 364

fibrosarcoma, myo-inositol uptake, 5-hydroxyl requirement (mouse), 130, 1139

glioma, sulfated glycoprotein *in vitro* synthesis and release, 126, 778

HeLa

clavulone effects, 130, 515

cyclic nucleotide-independent nuclear protein kinase purification and characterization: ionic strength requirement, 133, 981

intact and broken, chromosomal protein ADP-ribosylation, comparison, 127, 896

O⁶-methylguanine and O⁶-n-butylguanine exposure, effect on sensitivity to cytotoxic effects of alkylating agents, 132, 178

methylthioadenosine phosphorylase, cell proliferation- and cycle-dependent changes, 127, 546

nuclear scaffold protein ADP-ribosylation, variations during cell cycle, 126, 840

hepatoma

AH60C, strand-specific transcription of satellite DNA I (rat), 130, 897

2-amino-3-methylimidazo[4,5-f]quinoline-induced, activated c-raf gene identification (rat), 132, 186

c-myc transcript levels (human), 132, 264

early stages of development, association with phosphatidylinositol kinase enhanced activity (rat), 132, 969

ectoCa²⁺-ATPase expression and growth, epidermal growth factor effects (human), 126, 8

gene expression, effect of protein-bound polysaccharide PSK (rat), 126, 884

Subject Index

- glycoprotein secretion, carbohydrate role (human), 128, 368
- interleukin 1 high-level production (human), 130, 768
- and mammary carcinoma, carcinogen-induced, identification of released oncofetal protein (rat), 127, 779
- rapidly growing, association with increase in hexokinase gene transcription (rat), 133, 608
- hepatoma-derived, synthesis and secretion of heparin cofactor II (human), 132, 368
- intestinal, cultured in serum-free medium, biosynthesis of Lewis antigenic glycolipid in cell-free extracts (human), 131, 736
- leukemic and lymphoblastoid, topoisomerase-II characterization (human), 130, 325
- Leydig, cyclic nucleotide levels and progesterone secretion, atrial natriuretic factor effects (mouse), 133, 800
- lymphoma
- in athymic nude mice, radioimmunotherapy, ³¹P NMR (human), 131, 1020
 - growth rate, relationship to extent of radiodecay-induced DNA damage (mouse), 128, 204
 - identification of endogenous retroviral sequence (human), 133, 945
 - 5'-nucleotide phosphodiesterase purification and characterization (mouse), 130, 1072
 - phosphoinositide phosphorylation, role of tyrosine-protein kinase (murine LYSTRA, MBL₂ cells), 132, 481
- mammary
- estrogen dependency, correlation with cytosolic phorboid receptors (human), 133, 814
 - growth hormone and epidermal growth factor receptor expression, regulation by progestins (human), 131, 767
 - hormone-dependent, p21 ras protein amplified expression (human, rat), 127, 699
 - tolerance, glycemic modulation (mouse), 132, 1174
- mastocytoma, killing by lipopolysaccharide- and polyribonucleotide-activated macrophages, implication for natural triggering signal (mouse), 131, 395
- MCF-7, proliferation in serum-free culture, effect of estradiol and high-density lipoprotein interaction (human), 133, 105
- MDA-468, with amplified epidermal growth factor gene, growth inhibition by EGF (human breast), 128, 898
- medullary thyroid carcinoma, calcitonin secretion, Bay k 8644 effects (rat), 130, 454
- monocytic leukemia THP-1, synthesis and secretion of apolipoprotein E and lipoprotein lipase (human), 126, 526
- myeloma
- helix-destabilizing protein-1, identification by antibody probing of Western blots (mouse), 131, 362
 - 25-hydroxyvitamin D₃ metabolism in vitro (human), 127, 635
- neuroblastoma
- cGMP levels, regulation by neurotensin, 129, 117
 - degradation of substance P (mouse), 129, 694
 - detection of stable ornithine decarboxylase in vitro and in vivo (human), 126, 96
 - monoclonal antibodies, ganglioside GD2 specificity (human), 127, 1
 - nonopioid binding sites, photoaffinity labeling with 2-nitro-4-azidophenylsulfenyl chloride- β -endorphin complex (human), 128, 1310
 - opiate receptors, characterization (human), 133, 60
 - purging from bone marrow, role of 6-hydroxydopamine-derived reactive oxygen compounds (human), 130, 168
 - retinoic acid-induced differentiation in vitro, effect on N-myc gene expression (human), 126, 1189
 - Y79, gene sequence amplification (human), 130, 508
- 1.5kb mRNA, encoding of 37-kDa protein in vitro (rat), 131, 800
- pancreatic carcinoma, c-K-ras oncogene activation (human), 127, 168
- pituitary
- ACTH secretion, independent modulatory effect of adenylate cyclase inhibitory guanine nucleotide-binding regulatory subunit (mouse), 126, 941
 - cAMP accumulation, modulation by phorbol ester and thyroliberin (rat), 129, 898
 - prolactin secretion, stimulation by Ca²⁺ and protein kinase C activators in vitro (rat), 130, 524
 - thyrotropin-releasing hormone-induced protein kinase C translocation from cytosol to membrane, 128, 531

Subject Index

- 3,3',5-triiodo-L-thyronine-binding protein from membrane, solubilization and characterization (rat), 133, 837
- promyelocytic leukemic HL-60
clavulone effects (human), 130, 515
- c-myc gene and N-ras oncogene expression during differentiation induction (human), 126, 999
- expression of dihydrofolate reductase with altered properties (human), 129, 536
- insulin-like peptide secretion, regulating factors (human), 129, 293
- microinjection with macromolecules by cell fusion technique: search for intracellular growth-suppressive factors, 130, 257
- monocytic differentiation, induction by monosialo-ganglioside GM3, 132, 223
- phorbol-induced differentiation, countertranscript identification with cDNA clones (human), 132, 100
- produced cyclooxygenase metabolite, identification, 126, 143
- resistant, sensitization to induction of terminal differentiation by recombinant interferon α (human), 130, 379
- prostatic
DU-145, growth inhibition *in vitro* by selenium (human), 130, 603
- expression of cellular oncogenes (human), 132, 548
- pulmonary carcinoma, gene sequence amplification (human), 130, 508
- retinoblastoma H69, gene sequence amplification (human), 130, 508
- skin carcinoma
carcinogen-induced, expression of long-terminal repeat sequences (mouse), 127, 391
- formation and stimulation by $1\alpha,25$ -dihydroxyvitamin D_3 after 7,12-dimethylbenz[*a*]anthracene treatment (mouse), 130, 924
- teratocarcinoma PCC4 and PCD1, c-fos, c-myc, c-Ha-ras, and c-Ki-ras expression (mouse), 128, 513
- U-2 osteosarcoma, identification of receptors for platelet-derived growth factor-like mitogen (human), 129, 56
- Tyrosine
 β -galactosidase, substitution by *m*-fluorotyrosine, effect on catalytic activity, 131, 675
- glycosyl linkage in glycogen covalent binding to protein (rabbit skeletal muscle), 132, 829
- H_2O_2 -horseradish peroxidase system, chemiluminescence: tyrosine cation radical formation, 128, 936
- in peptides and proteins, dansylation, 130, 350
- phosphorylation, association with B-cell differentiation stages (human lymphoid leukemia cells), 133, 598
- Tyrosine aminotransferase
hormonal induction, inhibition by phorbol ester (Reuber H35 hepatoma cells), 131, 815
- Tyrosine-protein kinase, *see* Protein-tyrosine kinase
- U
- Ubiquinones
isolation and characterization (methane-oxidizing bacteria), 133, 1125
- Ubiquitin
-protein conjugates: occurrence of polyubiquitin chains (human erythrocytes), 128, 1079
- Unspecific monooxygenase
cutaneous and hepatic, induction by nitropyrene topical application (rat), 129, 134
- Urea
cycle defects, associated fatty liver, role of mitochondrial fatty acid oxidation inhibition by ammonium (rat), 127, 565
- effect on dithiothreitol-induced release of insulin receptor α -subunit from membrane (3T3-L1 cells, IM-9 lymphocytes), 133, 389
- Ureogenesis
hepatic, acute effects of tumor-promoting phorbol esters (rat), 129, 721
- Uric acid
and ascorbic acid, vitamin E, and linoleate and oleate esters, ozonation rates, comparison, 133, 773
- Uridine-diphosphate reductase
Ehrlich ascites tumor cell, sensitivity to hydroxyurea (mouse), 126, 1104
- Urokinase, *see* Plasminogen activator
- Uroporphyrinogen decarboxylase
reduced substrate affinity, role in porphyria cutanea tarda pathogenesis (human erythrocytes), 127, 517
- Uterus
biochemical and histological changes induced by submaxillary gland removal (rat), 133, 462

V

- Vaccinia virus**
replication inhibition by cGMP analog, 128, 1329
- Valine aminopeptidase**
isolation and characterization (*Dic-tyostelium discoideum*), 127, 962
- Valine⁵-angiotensin I**
purification and identification as opioid antagonist (bovine brain), 126, 587
- Valine⁵-angiotensin II**
purification and identification as opioid antagonist (bovine brain), 126, 587
- Valproic acid**
inhibition of decanoic acid β -oxidation in vitro (rat liver), 132, 245
- Vanadium**
-bleomycin complex with H₂O₂, cleavage of pBR322 DNA, 129, 368
- Vanadyl**
inhibition of adenylate cyclase (rat adrenal membranes), 130, 945
- Vasoactive intestinal peptide**
autoantibodies, detection in plasma (human), 130, 479
binding to plasma membranes and stimulation of cAMP production (bovine thyroid), 128, 1336
with/without cholecystokinin octapeptide, effect on amylase secretion from isolated acinar cells (rat pancreas), 129, 63
effect on intracellular cyclic AMP formation in cultured smooth muscle cells (rat aorta), 132, 1079
gene expression, synergistic stimulation by dibutyryl cAMP and phorbol esters in neuroblastoma cells (human), 132, 885
high levels, detection in human milk, 133, 228
-induced cAMP accumulation in smooth muscle cells, enhancement by angiotensin II and phorbol ester (rat aorta), 131, 30
-preferring receptor sites, interaction with hypothalamic GRF, role in GRF biological action in GH₃ cells (rat), 127, 992
purification and sequence analysis, comparison with other mammals (guinea pig), 128, 1093
-related helodermin-like peptides, detection in brain, gut, and salivary glands (rat), 130, 333
- Vasoactive intestinal peptide receptors**
functional, detection in cultured smooth muscle cells (rat aorta), 132, 1079
- Vasopressin**
arginine, see Arginine vasopressin
interaction with neurophysin, effect of perdeuterated peptide binding by neurophysin, comparative NMR analysis (bovine), 128, 1211
relationship to Ca²⁺/phospholipid-dependent protein kinase (toad urinary bladder epithelium), 133, 717
stimulation of atriopeptin release, correlation with right atrial pressure (rat), 133, 937
- Vesicles**
dipalmitoyl phosphatidylcholine-phosphatidylserine, fusion induction by Zn²⁺, Cd²⁺, and Hg⁺, comparison, 128, 389
phosphatidylinositol-containing, tetanus toxin-induced fusion and aggregation at low pH, 128, 840
phospholipid, bovine insulin-mediated fusion, 128, 68
rhodopsin-containing, structural state, calmodulin effect (bovine eye), 129, 517
- Vesicular stomatitis virus**
replication inhibition by adenosine analogs, correlation with S-adenosylhomocysteine hydrolase inhibition, 129, 306
transcription process in vitro, L and NS protein function and requirement, 126, 40
- Vinblastine**
inhibition of guanine nucleotide binding at tubulin exchangeable site, 128, 1239
resistance, alteration of phospholipid and ether-linked phospholipid content in leukemic lymphocytes (human), 133, 539
- VIP, see Vasoactive intestinal peptide**
- Vitamin A**
-binding protein, cellular, cDNA cloning and sequencing (human), 130, 431
metabolism in vivo by cornea after topical application (rabbit), 131, 320
and vitamin C, synergistic stimulation of plasminogen activator (bovine endothelial cells), 130, 182
- Vitamin B₁₂**
-binding proteins, purification and characterization (horseshoe crab), 128, 241
- Vitamin C, see Ascorbic acid**
- Vitamin E**
and ascorbic acid, uric acid, and lin-

Subject Index

oleate and oleate esters, ozonation rates, comparison, 133, 773

Vitamin K
effect on linoleic acid oxidation, 128, 211
-like molecule, isolation and characterization (*Eubacterium lentum*), 133, 322

Vitamin K₂
biosynthetic intermediate prior to o-succinylbenzoate, purification and structure (*Escherichia coli*), 131, 956

Vitamin K hydroquinone, see Dihydroxy-vitamin K

Volatile compounds
fecal, traced to ingested licorice and apple, olfactory, gas chromatographic, and mass-spectral analyses (human), 131, 339

W

W5, see N-(6-Aminohexyl)-1-naphthalene-sulfonamide

W7, see N-(6-Aminohexyl)-5-chloro-1-naphthalenesulfonamide

Warfarin
regioselective and stereoselective hydroxylation, analysis (human placenta), 126, 1013

Water
-exposed area, cholera toxin free in solution or bound to liposomes containing ganglioside G_{M1}, comparison, 130, 835

-NADH exchange reaction catalyzed by mitochondrial NADH dehydrogenase, characterization (bovine heart), 129, 584

X

Xanthine oxidase
induction by interferon inducers: genetic differences in response (C57Bl/6J, C₃H/HeJ mice), 131, 109

D-Xylose isomerase
gene cloning and expression in *Bacillus subtilis* (*Escherichia coli*), 126, 1154

Z

Zellweger syndrome
deficiency of peroxisomal β -oxidation enzymes (human), 126, 1269

Zinc
absorption-enhancing protein, isolation from human milk, 130, 264
binding by *Aeromonas* aminopeptidase, effect of l-butaneboronic acid, 130, 1154
and Cd²⁺ and Hg²⁺, phospholipid vesicle fusion induction, comparison, 128, 389
high-affinity binding sites, identification in cytochrome-c oxidase (bovine heart), 129, 840