CUMULATIVE SUBJECT INDEX FOR VOLUMES 118-125

A

A23187, <u>see</u> Ionophore A23187
2-Acetamido-2-deoxy-3-O-(2'-D-lactyl-L-alanyl-D-glutamylamine)-D-glucose
-bound mannosylated bovine serum
albumin, tumoricidal activation
of alveolar macrophages (mouse, rat), 122, 579

Acetaminophen

with thiols, peroxidase-catalyzed
 metabolism, thiyl radical formation, 125, 109

Acetate ion

effect on basal and isoprenalineand GTP-stimulated adenylate cyclase (rabbit heart), <u>118</u>, 561

Acetic anhydride

nucleosome modification, induction of single- and double-stranded DNA release (chicken erythrocytes), 121, 907

Acetoacetate

succinate reverse electron transfer, ATP-driven, thermodynamics (rat hepatic mitochondria), 125, 8

Acetoacetyl-CoA thiolase, <u>see</u>
Acetyl-CoA acetyltransferase

Acetolactate synthase

valine-sensitive basal unit, purification and stabilization (<u>Neu-rospora crassa</u>), <u>123</u>, 418

2-Acetylaminofluorene, <u>see N</u>-2-Fluorenylacetamide

Acetylcholine

synthesis, choline liberation,
synaptosomal phospholipase-D role
(rat brain), 124, 945

Acetylcholine receptors

cation flux, inhibition by caprine acetylcholine receptor antibodies (Torpedo californica), 120, 368

membranes, reconstituted, multiple
 binding sites for local anesthet ics (<u>Torpedo californica</u>), <u>123</u>,
 862

nicotinic

4-(N-maleimidobenzyl)trimethylammonium-binding site, immunochemical identification (Torpedo californica), 122, 602 structural characterization by antibodies to synthetic peptides (Torpedo californica), 122, 1225 a-subunit, antibodies, induction by synthetic peptide from receptor sequence (Torpedo californica),

121, 673 Acetylcholinesterase

inactivation by divicine and isouramil, mediation by Cu ions (human erythrocyte ghosts), <u>122</u>, 297

turnover <u>in vivo</u>, analysis with radioactive methylphosphonothiate irreversible inhibitor (rat brain), 123, 71

Acetyl-CoA acetyltransferase and β-hydroxy-β-methyl-glutaryl-CoA synthase, -deficient mutants, isolation and characterization (yeast), 123, 424

Acetyl-CoA carboxylase subunits, molecular weight determination (rat hepatic cytoplasm), 122, 694

N-Acetylcysteine

in peroxidase-catalyzed acetaminophen
 metabolism, thiyl radical forma tion, 125, 109

N-Acetylgalactosamine

residues on Cad erythrocytes, interaction with B₄ lectin (<u>Vicia</u> <u>villosa</u> seeds), <u>123</u>, 1099

N-Acetyl-glycosamine

and derivatives, binding to wheat germ agglutinin, fluorescence and NMR spectroscopy, 119, 603

B-N-Acetyl-D-glucosaminidase

a-chain precursor, identification in hexosaminidase A-deficient adults (cultured human skin fibroblasts), 119, 101

deficiency, frequency in lymphoblastoid cell lines, 119, 841

isoenzyme, separation from leukemic lymphocytes and myelocytes (human), <u>122</u>, 966

N-Acetyllactosamine

-type glycopeptides, identification of terminal α(1→3)-linked galactose, NMR (bovine), 122, 859

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

<u>N</u>-Acetyl-5-methoxy kynurenamine prostaglandin biosynthesis inhibition (bovine, ovine seminal vesicle microsomes), <u>121</u>, 372

2'-Acetyltaxol

preparation and biological activity 124, 329

7'-Acetyltaxol

preparation and biological activity 124, 329

Acid a-D-mannosidase

complex oligosaccharide- and high
 mannose-containing forms, identi fication (Macaca radiata brain),
 123, 1185

Acid phosphatase

carbohydrates, crosslinking and structural characterization (<u>Saccharo-</u> myces cerevisiae), <u>122</u>, 1083

Acrosin

and proacrosin, amino terminal
 sequences, comparison (boar
 sperm), 121, 884

ACTH (adrenocorticotropic hormone), see Adrenocorticotropin

Actin

antibody-stimulated DNA synthesis and protein phosphorylation, effects of prostaglandins \mathbf{E}_1 and $\mathbf{F}_{2\alpha}$ (murine L cells), 124, 23

-binding proteins, phosphorylation, role in platelet cytoskeleton assembly (human), <u>118</u>, 508

cellular levels in ataxia telangiectasia lymphoblastoid cell culture, regulation by cell density (human), 119, 561

chemoattractant-mediated accumulation
 in cytoskeleton, refractoriness
 and adaptation (<u>Dictyostelium</u>
 <u>discoideum</u>), <u>123</u>, 1076

F-, cytochalasin binding, inhibition by p-hydroxymercuribenzoate, mechanism (rabbit skeletal muscle), 122, 244

gene expression in proliferating L6
myoblasts and differentiated L6
myotubes (rat), 119, 630

identification in oncornaviruses
 (chicken embryo fibroblasts),
 118, 580

polymerization, induction by platelet activation, agonist-specific de-sensitization (bovine), 120, 846

-protein complex, 90-kD, and cytochalasin D: actin filament shortening, phalloidin and tropomyosin effects, comparison (bovine brain), 123, 596

role in Ca²⁺ transport through
 plasma membrane (bovine chromaffin cells), <u>119</u>, 652

-spectrin-band 4.1 complex, cytochalasin binding, inhibition by
p-hydroxymercuribenzoate,
mechanism (human erythrocyte
membranes), 122, 244

α-Actin

gene expression, sodium butyrate
 effects (rat L6 myoblasts), 125,
1129

α-Actinin

phosphorylation, Ca²⁺-activated
 phospholipid-dependent protein
 kinase effect (chicken gizzard),
 118, 736

susceptibility to Ca²⁺-activated protease (human platelets), <u>124</u>, 877

Actinomycin D, <u>see</u> Dactinomycin Acyl

-carrier protein subunit of citrate
lyase, repetitive structure
(Escherichia coli), 122, 1253

side-chains, shortening in xenobiotic compounds, role of peroxisomal B-oxidation system (rat hepatocytes), 125, 123

N-Acylation

palmitic acid in sphingomyelin, enhancement in antiserum-stimulated L cells (mouse), 121, 605

Acyl-CoA desaturase

modulation by dexamethasone (<u>Tetra-hymena</u> microsomes), <u>119</u>, 401

Acyl-CoA:dihydroxyacetone phosphate acyltransferase, <u>see</u> Dihydroxyacetone-phosphate acyltransferase

1-Acy1-2-[6-[(7-nitro-2,1,3-benzoxadiazo1-4-y1)amino]-caproy1]phosphatidylcholine

hydrolysis by bovine lipoprotein lipase and porcine phospholipase A₂, <u>118</u>, 894

Adenosine

and derivatives in cardiac extracts,
hypotensive effects on anesthetized rats (rabbit), 125, 1074

efflux and influx in adenosine deaminase-deficient lymphoma cells, dipyramidole and nitrobenzylthioinosine effects (human), <u>121</u>, 514

Adenosine deaminase

-deficient lymphoma cells, adenine nucleoside efflux and influx, dipyridamole and nitrobenzylthioinosine effects (human), 121, 514

P1-(Adenosine-5')-P3-(glucose-6)triphosphate

hexokinase inhibition by binding to discrete regulatory site (rat brain), <u>118</u>, 90 Adenosine receptors

adenylate cyclase-coupled, detection (rat renal papillae), <u>121</u>, 434

S-Adenosylethionine

betaine-homocysteine methyltransferase inactivation (rat liver), <u>118</u>, 14

S-Adenosylmethionine

betaine-homocysteine methyltransferase inactivation (rat liver), <u>118</u>, 14

biosynthesis, methionine analog inhibitor effects (murine L1210 leukemia cells), 122, 350

Adenovirus type 5

DNA, replication initiation and elongation, inhibition in vitro and in vivo by actinomycin D (He-La cells), 121, 1033

Adenylate cyclase

Bordetella pertussis toxin effect (rat pancreatic islets), 124, 190

adenosine receptors, detection (rat renal papillae), <u>121</u>, 434

B-adrenergic receptors, identification in developing palate (mouse), <u>119</u>, 193

desensitization, catecholamine and
 phorbol diester effects (duck
 erythrocytes), 121, 973

inhibition by synthetic atrial
 natriuretic factor (rat aortic
 particles; mesenteric, renal ar teries), 121, 855

maximal activation, choleragen and
 pertussis toxin requirement
 (NG108-15 cell culture), 119, 1068
stimulation by

chloride, mechanism (rabbit heart)
118, 555

isoprenaline and GTP, anion and
 cation effects (rabbit heart),
 118, 561

stimulator-inhibitor antagonism,
 cytoplasmic platelet Ca regulation by cAMP (human), 120, 579

vasoactive intestinal peptide partial sequence effect in epithelial membranes (human, rat intestine), 121, 493

Adipocytes

plasma membrane structural and functional abnormalities in obese diabetic strains, ascochlorin derivative AS-6 effects (mouse), 125, 64

3T3, glucose utilization, human growth hormone effect, 125, 237

Adipose tissue

brown, primary target in 2,3,7,8tetrachlorodibenzo-p-dioxin-

induced wasting syndrome (rat), 125, 996

ADP (adenosine 5'-diphosphate)

liberation in diadenosine triphosphate-mediated platelet aggregation (human), <u>118</u>, 704

-mediated pyruvate,P₁ dikinase inactivation, ATP-dependent catalytic phosphorylation requirement (Zea mays), 118, 65

phosphofructokinase-2 inhibition (rat liver), 124, 793

regulatory effects on plasma membrane ATPase (corn roots), 122, 1367

ADP-glucose synthetase, <u>see</u> Glucose-1phosphate adenylyltransferase

ADP-ribosylation

islets of Langerhans (rat), <u>118</u>, 663 membrane proteins, effect of <u>Borde-</u> <u>tella pertussis</u> toxin (rat pancreatic islets), 124, 190

role in repair of naturally occurring
 DNA breaks (murine lymphocytes),
 122, 366

ADP-ribosylation inhibitors

deoxyglucose uptake inhibition in cultured cells (3T3-L1, OK, UMR-106 cells), 123, 785

ADP-ribosyltransferase

cholera toxin, inhibition by MDL 12330A and chlorpromazine (rat liver), 120, 700

Adrenal gland

regional distribution of neuromedins B and C, comparison (rat), <u>124</u>, 925

Adrenalin, <u>see</u> Epinephrine

a-Adrenergic receptors

response inhibition by 12-0-tetradecanoylphorbol-13-acetate (rabbit, rat), 125, 1103

a,-Adrenergic receptors

and $\rm B_2$ -adrenergic receptors, coexpressed on cloned cells, characterization (Madin-Darby canine kidney), <u>118</u>, 73

a,-Adrenergic receptors

solubilization by zwitterionic detergent, preservation of agonist binding and sensitivity to GTP (bovine cerebral cortex), 1116

subtypes, characterization by
 [3H]yohimbine binding (human
lymphocytes), 121, 1

B-Adrenergic receptors

adenylate cyclase-coupled, identification in developing palate (mouse), 119, 193

agonist-induced internalization, mechanism (BC3H-1 cells), <u>124</u>, 863 characterization in fresh tissue and cell culture, comparison (bovine corneal epithelium), <u>121</u>, 664

and muscarinic receptors, simultaneous assay with double isotope technique (bovine smooth muscle), 120, 665

phosphorylation, catecholamine and phorbol diester effects (duck erythrocytes), 121, 973

subtype binding properties, identification and comparison (human, rat left ventricle), 121, 346

B,-Adrenergic receptors

photoaffinity labeling, peptide
 heterogeneity, preparation pro cedure role (turkey erythro cytes),119, 458

B,-Adrenergic receptors

and α₁-adrenergic receptors, coexpressed on cloned cells, characterization (Madin-Darby
canine kidney), 118, 73

Adrenochrome

formation by cardiac sarcolemma (bovine), 120, 22

Adrenocorticotropic hormone (ACTH), see Adrenocorticotropin

Adrenocorticotropin

angiotensin-II receptor regulation
 in vitro (bovine adrenal glomerulosa cells), 121, 441

-induced protein mRNA cell-free translation (rat adrenal gland), 119,

steroidogenesis stimulation, lysinerich protein role (rat adrenal cells), <u>118</u>, 400

synthetic, and growth hormone: lipolytic activity in isolated rabbit adipocytes, comparison (human, ovine, porcine, rabbit), 122, 197 Adrenorphin

distribution, comparison with dynorphin[1-8] (rat brain), 120, 1030

Affinity chromatography

Ca²⁺-dependent hydrophobic, calelectrin and calmodulin purification, comparison (bovine), <u>123</u>,

heparin-Sepharose, separation of lipoprotein lipase and monoacylglycerol lipase (bovine brain), 122,

with naltrexone derivative, opioid binding site solubilization (bovine, rat, toad cerebral membranes), 119, 624

Afibrinogenemia

congenital, fibrinogen gene analysis (human liver), <u>120</u>, 376

Aflatoxin B,

distribution and intracellular trans-

location (isolated rat hepatocytes), 122, 1

Aging effects

[3H]nitrendipine binding displacement by tetrodotoxin (fetal murine spinal cord culture), <u>124</u>, 979

microsomal lipid

composition, UDPglucuronosyltransferase role (rat neonate liver), 119, 29

fatty acid composition after longand short-term cholesterol feeding (chick neonate liver), 124, 677

myelin basic protein-specific protein methylase-I levels in brain (dysmyelinating mutant, normal mice), 123, 468

uv-induced unscheduled DNA synthesis (rat hepatocytes), <u>118</u>, 730

Aglycosyl

-IgG2, binding-fluorescence analysis with 8-anilinonaphthalene-1-sulfonic acid (human), 124, 605

Agrobacterium tumefaciens

crown gall transformation of tobacco callus cells after cocultivation, 123, 458

D-Alanine aminotransferase

enzyme-activated temperature-dependent inhibition by 8-cyano-D-alanine (<u>Bacillus sphaericus</u>), <u>122</u>, 485

Albumin

long-term production by hepatocytes
 cocultured with epithelial cells
 (adult rat liver), 120, 311

serum, see Serum albumin

two-dimensional peptide mapping by
polyacrylamide-gel electrophoresis with limited proteolysis in
sodium dodecyl sulfate (mouse),
122, 932

Alcohol dehydrogenase

Cu-facilitated chemiluminescence (yeast), <u>125</u>, 425

placental, ethanol metabolism (human) 119, 1047

Raman spectroscopy (equine liver), 122, 225

Alcohols

allylic, formation during monosubstituted olefin oxidation by rat hepatic microsomal cytochrome P-450 and heme models, 119, 319

chronic feeding, effect on lipid peroxidation, role in hydroxyl radical generation (rat hepatic microsomes), 118, 233

Aldehyde dehydrogenase

catalytic activity in liver (Asian individuals), <u>118</u>, 97

Aldehyde dehydrogenase inhibitor cyanamide conversion in vitro and in vivo, catalase role (rat), 122, 358

Aldehyde oxidase

cytosolic

-NADPH-cytochrome c reductase system, nicotinamide N-oxide reduction (rabbit hepatic microsomes), 125, 1117

role in

nicotinamide N-oxide reduction (rabbit liver), 120, 602 tertiary amine N-oxide reduction (mammalian liver), 121, 749

Aldehydes

formation during monosubstituted olefin oxidation by rat hepatic microsomal cytochrome P-450 and heme models, 119, 319

Aldolase, <u>see</u> Fructose-bisphosphate aldolase

Aldosterone

biosynthesis in reconstituted cytochrome P-450₁₁₆ (bovine adrenocortical mitochondria), 119, 365 secretion

inhibition by atrial natriuretic factor-related peptides, intramolecular disulfide bond role (rat adrenal glomerulosa cells), 122, 171

regulation, metoclopramide-stimulated serum factor role (bovine adrenal glomerulosa cells), <u>119</u>, 95

Aldosterone receptors

binding sites, identification of sulfhydryl groups (porcine renal cytosol), 124, 51

Alkaline phosphatase

1,25-dihydroxyvitamin D₃ effect (murine MC3T3-El osteoblastic cells), 119, 767

isozymes from large intestine, relationship with colon tumor and small intestine isozymes (Fischer 344 rat), 122, 740

parathyroid hormone effect <u>in vitro</u> (osteoblastic MC3T3 cells), <u>123</u>,

l-Alkyl-2-acetyl-sn-glycerols
antihypertensive activity (hypertensive, normotensive rats), 118,
344

conversion to platelet-activating factor and related phospholipids by platelets (rabbit), 124, 156

1-O-Alkyl-2-acetyl-sn-glyceryl-3-phosphorylcholine

effect on Ca release from platelet microsomes (human), 120, 474

formation, and arachidonic acid freeing from ether-linked glyceryl-phosphorylcholine (rabbit platelets), 124, 637

O⁶-Alkylguanine-DNA alkyltransferase repair of methylated pyrimidines in poly(dT), comparison (<u>Escherichia</u> coli, rat liver), 123, 324

1-Alkyl-2-lyso-<u>sn</u>-glycero-3-phosphocholine:acetyl-CoA acetyltransferase phosphorylation-dephosphorylation,

role in platelet—activating factor synthesis regulation (rat splenic microsomes), 120, 834

Alloxan

-induced diabetes, glucose metabolism
 regulation, fructose 2,6-bisphos phate role (rat adrenal gland),
 121, 8

Allylisopropylacetamide

-mediated cytochrome P-450 destruction, functional reconstitution in vitro by mesohemin (rat liver), 121, 95

and phenobarbital, induction of cytochrome P-450 de novo synthesis (cultured chick embryo hepatocytes), 125, 1096

Aluminum

binding to albumin and transferrin, quantitative analysis by chelex competitive binding assay (human serum), <u>125</u>, 1020

-induced conformational changes in calmodulin, citrate effects (bovine brain), <u>119</u>, 376

Alzheimer's disease

cerebrovascular amyloid protein, isolation and characterization (human), <u>120</u>, 885

and Down's syndrome, cerebrovascular
amyloid fibril protein: chemical
relationship (human), 122, 1131

Amelogenin

isolation and amino acid sequence (bovine incisor enamel), <u>121</u>, 592

Amide oxidase (copper-containing)
Cu-free form, preparation and substrate reaction stoichiometry
(lentil seedings), 120, 242

Amide oxidase (flavin-containing)
l-methyl-4-phenyl-1,2,4,5-tetrahydropyridine metabolism (rat
brain), 120, 574

type A, oxidation of and suicide inactivation by l-methyl-4-phenyll,2,3,6-tetrahydropyridine (bovine liver), 125, 831

type B

-monoclonal antibody complex, catalytically active, isolation from

```
hepatic mitochondria (human),
      <u>125</u>, 748
    oxidation of and suicide inactiva-
      tion by 1-methyl-4-phenyl-1,2,3,6-
      tetrahydropyridine (human pla-
      centa), <u>125</u>, 831
Amide protons
  exchange, proteinase inhibitor IIA
      α-helix and antiparallel β-
      sheets, comparison (bovine semi-
      nal plasma), 122, 1174
Amines
  biogenic, noncovalent complexes with
      diadenosine 5',5'''-P1,P4-tetra-
      phosphate, 120, 1037
  primary, transglutaminase inhibitor,
      effect on Shigella toxin activity
      and late antibody rescue (HeLa
      cells), <u>121</u>, 69
Amino acid composition
  Ca<sup>2+</sup>-binding proteins (bovine
      liver), 119, 440
  cell division-active protein (Esch-
      <u>erichia coli</u>), <u>118</u>, 587
  citrate lyase large acyl-carrier pro-
      tein subunit (Escherichia coli),
      <u>122</u>, 1253
  cystatin (human), <u>118</u>, 103
  cytochrome b (Rhodopseudomonas sphaer-
      oides R-26), 123, 1234
  cytochrome c, (Rhodopseudomonas
      sphaeroides R-26), 118, 964
  DNA-binding protein (Escherichia
      <u>coli</u>), <u>119</u>, 1147
  B-galactoside-binding lectin (human
      placenta), 122, 938
  glutathione S-transferase (human
      erythrocytes), <u>125</u>, 1053
  growth hormone-releasing factor C-
      terminal-deleted analogs (human),
      123, 854
  histone Hl subtypes (chicken erythro-
      cyte chromatin), 122, 1136
  H<sub>2</sub>O<sub>2</sub>-treated and native Fe-superoxide
      dismutase, comparison (Pseudo-
      monas ovalis), <u>122</u>, 635
  human alternative complement pathway
      inhibitor (larval fall armyworm
      hemolymph), 122, 1426
  HU-type DNA-binding proteins, compari-
      son (Agrobacterium tumefaciens,
      Rhizobium japonicum, R. meliloti),
      <u>121</u>, 471
  microcin 7 (Escherichia coli), 119,
      779; <u>erratum</u>, <u>121</u>, 741
  neurohypophysial hormones (Didelphis
      <u>virginiana</u>), <u>123</u>, 306
  nucleolar 19-kDa/pI 4.5 phosphoprotein
       (Novikoff hepatoma cells), 122, 47
  post γ-globulin, human and murine,
      comparison, 122, 111
  purified 4-(N-maleimidobenzyl)tri-
```

```
methylammonium peptide fraction,
      comparison with a-subunit cys-
      teinyl residue-flanking sequences
      (Torpedo californica), 122, 602
  synthetic atrial natriuretic peptides,
      role in tissue specificity (chick
      rectum, rabbit aorta, rat), 123,
      338
  water-soluble 33-kDa protein (spinach
      thylakoids), 122, 17
D-Amino-acid oxidase
  analysis in Zellweger syndrome (hu-
      man), <u>123</u>, 1054
Amino acids
  branched-chain, -stimulated protein
      synthesis, inhibition by tunica-
      mycin or 2-deoxy-D-glucose (rat
      muscle), 125, 149
  distribution in brain, d-amphetamine
      and B-phenylethylamine effects
      (rat), <u>122</u>, 143
  in glycerol matrix, SIMS spectra,
      hydrophobicity effect, 123, 27
  hydropathic, anti-complementarity,
      codon role, <u>121</u>, 203
  neurotransmitter, synaptosomal uptake,
      stimulation by insulin, role in
      neuromodulation (rat brain), 119,
      1198
α-Amino acids
  center, 1-aminocyclopropane-1-car-
      boxylic acid, role in stereo-
      chemical course during biosynthe-
      sis (Lycopersicon esculentum),
      <u>121</u>, 181
Amino acid sequence
  amelogenin (bovine incisor enamel),
      121, 592
  amino-terminal
    acrosin and proacrosin, compari-
      son (boar sperm), 121, 884
    DNA-binding protein (Escherichia
      coli), 119, 1147
    epidermal growth factors I and II
       (murine saliva), <u>125</u>, 218
    melanoma antigens, variations
       (murine Bl6 cells), 121, 196
    nonspecific phospholipid exchange
      protein (bovine liver), <u>120</u>, 232
    progastrin (human gastrinoma cells),
      123, 404
    pro-opiomelanocortin (bovine poste-
      rior pituitary), 125, 229
    prosomatostatin (rat), 124, 450
    prostate-specific antigen (human),
      <u>123</u>, 482
    protein from pancreatic juice
       (human), <u>125</u>, 516
    thyroglobulin 10K polypeptide (bo-
      vine), <u>119</u>, 335
    vitamin D<sub>3</sub> 25-hydroxylation-
      catalyzing cytochrome P-450 (rat
```

```
hepatic microsomes), 121, 994
amyloid fibril protein, revision
    (familial amyloidotic polyneuro-
    pathy patient), 123, 921
aspartate aminotransferase and porcine
    cardiac cytoplasmic and mitochon-
    drial isoenzymes, comparison
    (Escherichia coli), 122, 62
atrial natriuretic factor
  major peptides (rat), 123, 444
  peptide components (rat), 120, 981
  polypeptides (rat), 121, 585
  rat, 119, 524
α-atrial natriuretic factor (human),
    <u>118</u>, 131
B-atrial natriuretic factor (rat),
    119, 933
atriopeptigen (rat), 121, 802
calcitonin and related peptide cDNA
    clones (human lung, medullary thy-
    roid carcinoma cells), 123, 648
carboxy-terminal
  fibronectin (human plasma), 120,
    1015
  glucose-6-phosphate dehydrogenase
    (human erythrocytes), 118, 332
  thyroglobulin (bovine), 125, 961
cerebrovascular amyloid protein in
  Alzheimer's disease patients, 120,
    885
  Down's syndrome and Alzheimer's
    disease patients, 122, 1131
Clostridium botulinum neurotoxin type-
    A heavy and light chains, 119, 900
corticotropin-releasing factor
  bovine hypothalamus, 122, 899
  caprine hypothalamic median eminence
    tissues, <u>122</u>, 1218
fluorescein 5'-isothiocyanate reac-
    tive site of Na+,K+- ATPase
    (ovine, rat kidney), 125, 767
B-glucocerebrosidase cDNA clones
    from \lambda_{\text{gtll}} expression system
    (human), <u>123</u>, 574
growth hormone-releasing factor from
  caprine and ovine hypothalamus,
    125, 606
  rat hypothalamus, 125, 1005
heat-stable enterotoxin (Yersinia
    enterocolitica), 125, 845
immunopurified cytochrome P-450 iso-
    zymes (guinea pig, mouse, rat),
    123, 1201; addendum, 124, 675
low-molecular-weight prealbumin-
    related amyloid fibril protein
    (Japanese familial amyloidotic
    polyneuropathy patient), 125, 662
a-macroglobulin and C3 chain of
    prostatic steroid-binding protein,
    homology (human, rat), 122, 662
neurokinin a and B, 118, 405
```

```
neuromedin C (porcine spinal cord),
       119, 14
  neuromedin N (porcine spinal cord),
       122, 542
  neuropeptides M I and II by fast
       atom bombardment mass spectrom-
       etry (cockroach), <u>124</u>, 350
  plasmin-cleaved B-casein (human),
       125, 463
  proenkephalin-derived opioid peptide
       (ovine), <u>118</u>, 299
  protein expressed in embryo and chemi-
       cally-induced pancreatic B-cell
       tumor (rat), <u>124</u>, 164
  serum prealbumin variant (familial
       amyloidotic polyneuropathy pa-
      tient), 122, 712
  steroid 21-hydoxylase, determination
      with bovine enzyme cDNA (por-
      cine), <u>125</u>, 734
  thiol proteinase inhibitor (rat epi-
      dermis), <u>121</u>, 149
  thyroxine-containing tryptic peptides
      in thyroglobulin (bovine, ovine,
      porcine), 118, 423
  toxin VII (scorpion venom), 122, 1146
Amino acid starvation
  effect on ribosomal protein synthesis
       (<u>Escherichia coli</u>), <u>118</u>, 246
D-Amino acid transaminase, <u>see</u> D-Alanine
      aminotransferase
Amino acid transport
  serum-dependent post-translational
      control by carrier availability
      (cultured human fetal fibro-
      blasts), 120, 172
3-Aminobenzamide
  effect on DNA repair and deoxy-
      nucleoside triphosphate pools
      (human fibroblasts), 124, 457
2-Aminobicyclo[2.1.1.]hexane-2-carboxylic
  effect on S-adenosylmethionine forma-
      tion, cell growth, leucine incor-
      poration, and polyamine biosyn-
      thesis (murine L1210 leukemia
      cells), <u>122</u>, 350
Y-Aminobutyric acid
  -benzodiazepin receptor complex
    convulsant/barbiturate binding
      activity solubilization (rat
      cerebral membranes), 119, 530
    [35S]-tert-butylbicyclophosphoro-
        thionate-labeled, solubilization
        and anionic regulation (rat
        brain), 120, 692
 carrier-mediated translocation into
      mitochondria (rat brain), 121, 770
  -dependent regulation of chloride ion-
      ophore by benzodiazepines (rat
```

cortical membranes), <u>123</u>, 1130

levels in uterine tissues (rabbit,

rat), 125, 18
γ-Aminobutyric acid receptors
binding site identification in
 uterine tissues (rabbit, rat),
 125, 18

p-Aminoclonidine

binding to \$\alpha_2\$-adrenergic receptors, preservation after receptor solubilization by zwitterionic detergent (bovine cerebral cortex), 119, 1116

1-Aminocyclopropane-1-carboxylic acid biosynthesis, stereochemical course, sulfonium pole and amino acid center roles (<u>Lycopersicon escu-lentum</u>), <u>121</u>, 181

Aminoglycosides

antibiotics, effects on DNA elongation and synthesis initiation (Escherichia coli), 122, 460

Amino groups

substitution in adenosine, effect on
poly(d2NH₂A-dT) B to Z transition, 118, 848

<u>N</u>-(6-Aminohexyl)-5-chloro-1-naphthalene sulfonamide

inhibition of ionophore A23187-induced platelet-activating factor formation (human neutrophils), <u>118</u>, 629

reduction of phorbol ester receptors (murine skin), 124, 726

a-Aminoisobutyrate

uptake by term placenta explants, effect of basic somatomedin receptor binding (human), <u>122</u>, 583 a-Aminoketone

moiety of ketomethyldipeptides, chemical modification, effect on angiotensin-converting enzyme inhibition, 124, 148

L-2-Amino-4-methoxy-<u>cis</u>-but-3-enoic acid effect on <u>S</u>-adenosylmethionine formation, cell growth, leucine incorporation, and polyamine biosynthesis (murine L1210 leukemia cells), <u>122</u>, 350

Aminopyrine

accumulation, 12-Q-tetradecanoy1phorbol-13-acetate effect (isolated rat parietal cells), <u>121</u>, 566

[1,6-α-Aminosuberic acid,3-(p-azidophenylalanine),8-arginine]vasopressin

photoaffinity label for vasopressin receptors, evaluation (bovine kidney), 122, 974

Ammonia

acute intoxication, L-carnitine effect
 on urea synthesis (mouse), 120,
 726

effect on synaptosomal membranes

(murine brain), <u>119</u>, 516
potentiation of ureogenesis inhibition
by pent-4-enoic acid (rat hepatocytes), <u>118</u>, 47

Ammonium

excess in culture with phosphate limitation, nitrate reductase derepression (<u>Cyanidium caldarium</u>), 119, 259

short-term inhibition of nitrogenase (Azotobacter chroococcum), 123,

AMP deaminase

activation by diadenosine tetraphosphate (rat muscle), <u>121</u>, 155 erythrocyte, complete deficiency, genetic and biochemical analysis

(human), 122, 1344

d-Amphetamine

effect on amino acid distribution (rat brain), 122, 143

Amphotericin B

selectivity, enhancement by antibiotic incorporation into gel state vesicles: circular dichroism and permeability analysis, 125, 360

Amylase

release, carbamylcholine-stimulated, inhibition by Ca²⁺ chelators (rat pancreatic acini), <u>119</u>, 876

 α -Amylase

heatstable, cloning, comparison with other cloned α-amylases (<u>Bacil-lus subtilis</u>), <u>122</u>, 175

maltooligosaccharide hydrolysis, subsite binding kinetics (porcine pancreas), 122, 75

Amyloid

proteins, cerebrovascular in Alzheimer's disease patients and Down's syndrome patients, chemical relationship, 122, 1131 isolation and characterization, 120, 885

Amyotropic lateral sclerosis sialosylglobotetraosylceramide marker (human), 118, 82

Anacystis nidulans

O₂-pulsed cells, proton translocation, inhibition by dicyclohexylcarbodiimide and vanadate, <u>123</u>, 358

Analbuminemia

protein-bound Zn distribution in serum
 (rat), 125, 45

Anaphylatoxins

C5a_{desArg}, leukotriene C₄- and
D₄-mediated spasmogenic
activity on lung parenchymal
strips, cyclooxygenase inhibitor
effects, comparison (guinea pig),
125, 852

```
Androgen receptors
```

complex in vitro activation by heat and KCl (rat liver), 120, 953

phosphorylation by nuclear cAMP-dependent protein kinase (rat ventral prostate), 123, 778

Androgens, <u>see also specific androgens</u>
-binding plasma proteins, immunohistochemical detection (human
mammary carcinoma cells), 118, 488

dependence of nuclear membrane peptides (rat ventral prostate), 125, 469

5α-Androstan-3α,17β-diol

dihydrotestosterone-converted, ethanol effect (rat Leydig cells), <u>121</u>, 558

5a-Androstan-3B, 17B-diol

dihydrotestosterone-converted, ethanol effect (rat Leydig cells), <u>121</u>, 558

Anesthesia

pentobarbital-induced, effect on fructose 2,6-bisphosphate levels (rat liver), 122, 1154

Anesthetics

local, multiple binding sites in reconstituted acetylcholine membranes (<u>Torpedo californica</u>),
123, 862

Angiotensin I

peptide aldehyde derivatives, human renin inhibitors, <u>118</u>, 929

Angiotensin II

and extracellular K⁺, effects on cytosolic Ca²⁺ and steroidogenesis, comparison (rat adrenal glomerulosa cells), 123, 810

histidine and phenylalanine ring stacking, interaction, role in receptor activation, NMR, 122, 434

-induced steroidogenesis, effect on polyphosphatidylinositide com- pounds (bovine adrenocortical fasciculata cells), 124, 393

-stimulated glycogenolysis and ureogenesis, phorbol ester effects (rat hepatocytes), 119, 1128

Angiotensin-converting enzyme, see Dipeptidyl carboxypeptidase

Angiotensinogen

analogs, renin-inhibitory, conformational analysis, 122, 700

Angiotensin II receptors

binding site structure, characterization with diaminoalkanes (bovine adrenal cortex), 123, 452

identification in micrococcal endonuclease-generated chromatin fragments (rat hepatic nuclei), 119, 220

regulation in vitro by adrenocorti-

cotropin (bovine adrenal glomerulosa cells), 121, 441

Angiotensins

intracellular formation, renin and angiotensin-converting enzyme identification in Leydig cells (rat testes), 122, 1337

8-Anilinonaphthalene-1-sulfonic acid binding-fluorescence analysis of IgG2 and acid and aglycosyl conformers (human), 124, 605

Anions

effect on phosphoglycerate mutase (rabbit muscle), <u>121</u>, 834

Antibiotics

aminoglycoside, effects on DNA elongation and synthesis initiation (<u>Escherichia coli</u>), <u>122</u>, 460

X-537A, see Lasalocid A

Antibodies, see also Antiserum acetylcholine receptor α-subunit, induction by synthetic peptide from receptor sequence (Torpedo californica), 121, 673

actin, -stimulated DNA synthesis and protein phosphorylation, effects of prostaglandins E_1 and $F_{2\alpha}$ (murine L cells), $\underline{124}$, 23

auto-, myositis-specific, histidyltRNA synthetase inhibition (rat liver), 120, 15

caprine acetylcholine receptor, cation flux inhibition (<u>Torpedo californica</u>), <u>120</u>, 368

chick oviduct progesterone receptor B-subunit, purification and characterization (rabbit), <u>119</u>, 433

cytochrome c oxidase subunit-III monoand divalent fragments, vesicle
proton pumping inhibition, mechanism (goat, rabbit), 120, 52

formation, L-trans-epoxysuccinyl-leucylamido (4-guanidino) butane effect (mouse), 118, 117; erratum,
119, 431

insulin receptor, inhibition of insulin-induced progesterone biosynthesis (cultured porcine granulosa cells), 120, 144

lamin B, inhibition of [3H]uridine
 triphosphate incorporation (per meabilized murine L cells), 120,
 256

monoclonal

extracellular and intracellular C9, inhibition of complement-induced [14C]sucrose release (human erythrocyte ghosts), 118, 616

f(ab)' fragment, covalently linked to diphtheria toxin A chain, immunotoxin for <u>Acanthamoeba cas-tellanii</u>, <u>125</u>, 25

- F₁-ATPase and oligomycin sensitivity-conferring protein, tools for conserved and essential epitope recognition (porcine cardiac mitochondria), <u>123</u>, 254
- glucose-6-phosphate dehydrogenase, cross-reactive material identifi- cation (rat hepatoma cell lines), 118, 854
- HNK-1, reaction with human peripheral nerve ganglioside, <u>122</u>, 1206
- phenobarbital-inducible cytochrome
 P-450, preparation and characterization (rat hepatic microsomes),
 119, 744
- small nuclear RNA, reactive polypeptide subcellular location (He-La cells), 120, 81
- Sm and polyclonal RNP, reaction with
 small nuclear ribonucleoproteins:
 polypeptide pattern, comparison
 (human), 123, 345
- plasma membrane 3,3',5-triiodo-L thyronine-binding protein, characterization and cross-species
 immunoreactivity (rat pituitary
 GH₃ cells), <u>124</u>, 956
- polyclonal characterization of interferonmediated protein kinase (HeLa cells), 125, 1
 - small nuclear ribonucleoprotein particle, reactive polypeptide subcellular location (HeLa cells), 120, 81
- Rh_O(D), binding to erythrocyte membrane, band-3 proteolysis enhancement (human), <u>124</u>, 437
- rubella, firefly luciferin-enhanced
 luminescent horseradish peroxi dase immunoassay (human), 119, 481
- Shigella toxin late rescue, primary amine and lysosomotropic agent effects (HeLa cells), <u>121</u>, 69
- site-specific, erbB oncogene product,
 epidermal growth factor receptor
 immunoprecipitation (chicken em bryo fibroblasts), 123, 797
- surface membrane immunoglobulins,
 pronase effect on immature B-lym phocyte nonresponsiveness
 (mouse), 119, 1
- synthesis by spleen cells, effect of human peripheral blood mononuclear cell mRNA-encoded helper activity (Balb/c, C3H/He mice), <u>119</u>, 868
- synthetic acetylcholine receptor peptides, receptor structural characterization (<u>Torpedo californica</u>), <u>122</u>, 1225

- thrombospondin 23-kDa heparin-binding fragment, platelet aggregation inhibition (bovine), 124, 290
- Antibody response
 - B cells to sheep erythrocytes, restoration and stimulation by interleukins and muramyl dipeptide (mouse), 125, 431
 - enhancement by bovine and human thyrotropin <u>in vitro</u> (murine spleen), <u>125</u>, 30
- Antiestrogens, <u>see specific anti-</u> <u>estrogens</u>

Antigens

- melanoma, amino-terminal variations (murine Bl6 cells), <u>121</u>, 196
- prostate-specific, proteolytic activity (human), 123, 482
- proteins, nitrocellulose-blotted, visualization by immuno-gold staining, 121, 284
- Rh_O(D), antibody binding to erythrocyte membrane, band-3 proteolysis enhancement (human), <u>124</u>, 437
- -stimulated mast cells, polyphosphoinositide metabolism (rat peritoneum), 123, 875

Antioxidants

- synthetic, effect on NADPH-induced chemiluminescence (rat hepatic microsomes), <u>125</u>, 1033
- Antiserum, see also Antibodies
 - apolipoprotein CII and CIII, effect on very-low-density lipoprotein lipolysis <u>in vitro</u> (human), <u>121</u>, 946
 - a-atrial natriuretic polypeptides, production and radioimmunoassay development (human, rat), <u>124</u>, 815
 - murine L-cell, palmitic acid N-acylation enhancement in sphingomyelin (rabbit), 121, 605
- synthetic proenkephalin peptide, highmolecular-weight enkephalin-containing protein recognition (bovine adrenal medulla), <u>120</u>, 650 Aphidicolin
 - and deoxycoformycin, in vitro induction of DNA breaks and cell death (human lymphocytes), 120, 959
- Apolipoprotein A-I
 - gene localization on chromosome 11 (human), <u>118</u>, 934
- Apolipoprotein A-II
 - cDNA nucleotide sequence and structural gene localization on chromosome 1 (human), 123, 1

Subject Index gene localization on chromosome l (human), <u>122</u>, 877; <u>125</u>, 299 precursor, cDNA clone isolation and characterization (human), 120, 734 Apolipoprotein B major form B-100, identification in mesenteric chyle (rat), 123, 1149 Apolipoprotein C-I gene localization on chromosome 19 (human), <u>125</u>, 299 Apolipoprotein C-II antiserum, effect on very-low-density lipoprotein lipolysis in vitro (human), 121, 946 gene analysis in ApoC-II-deficient patients, <u>124</u>, 308 localization on chromosome 19 (human), <u>122</u>, 687 Apolipoprotein C-III antiserum, effect on very-low-density lipoprotein lipolysis in vitro (human), 121, 946 gene localization on chromosome 11 (human), <u>118</u>, 934 Apolipoprotein E -free high-density lipoprotein, binding to cultured endothelial cells, characterization (human), 122, 785 synthesis by recombinant bacteriophage-infected Escherichia coli (rat), 119, 657 Arachidonic acid binding to α -fetoprotein, retinoid and bilirubin interactions (human), 119, 1122 biosynthesis from linoleic acid, capacity of epidermal microsomal preparations (quinea pig, rat), <u>124</u>, 784 freeing, and 1-0-alkyl-2-acetyl-snglceryl-3-phosphorylcholine formation from ether-linked glyceryl-phosphorylcholine (rabbit platelets), <u>124</u>, 637 incorporation in cholesteryl esters,

chronic regulation by thyrotropin

(thyroid cell culture), 119, 537

by cultured malignant keratinocytes,

by cytochrome P-450-dependent mixed-

function oxidase (canine neutro-

inhibitors, effect on thromboplas-

and release by exogenous leuko-

phils (human), 122, 535

triene B_-stimulated neutro-

tin activity (human monocytes),

stimulation by melittin (human

epidermis), <u>124</u>, 303

phils), <u>123</u>, 581

119, 179

metabolism

oxidation inhibitors, effect on Cadependent cell aggregation (Mi-430 118, 943 Arachidoyl-CoA 322 Arene oxides 994 <u>124</u>, 443 Aromatic groups 121, 966 Arsenite Ascochlorin

crociona prolifera), 121, 863 with prostaglandin H synthase, 13-cisretinoic acid cooxidation (ram seminal vesicle microsomes), 124, trihydroxytetraene formation and structure (human leukocytes), elongation, stereospecific incorporation of hydrogens from NADPH (swine cerebral microsomes), 124, and azaarene oxides, kinetic and stereochemical recognition by glutathione transferase isozymes A, and C, comparison (rat liver), 121, 980 Arginine residues dynorphin A, cleavage, peptidase assay (Aplysia californica atrial gland), 119, 415; erratum, 124, glutathione reductase, recognition site for NADP+ 2'-phosphate (yeast), <u>124</u>, 572 Arginine vasopressin effect on atrial natriuretic factor release in vitro (rat heart), iodinated, agonists and antagonists: synthesis, purification, characterization, and effect on receptor binding affinity, 121, 878 purification and characterization, analysis of gene evolution (Di-<u>delphis virginiana</u>), <u>123</u>, 306 stereo-orientation in enkephalins, role in opiate receptor recognition (rat cerebral membranes), resistance, production by plasmidencoded arsenite pump (Escherichia coli), 124, 760 derivative AS-6, effect on structural and functional abnormalities in adipocyte plasma membrane (db/db mice), 125, 64 Asparagine codons, basal-level misreading, analysis (Escherichia coli), 121, 487 Aspartate aminotransferase L-aspartate oxidase redesignation, cofactor identification as a-ketoglutarate (cotton callus

cells), 123, 836

and porcine cardiac cytoplasmic and mitochondrial isoenzymes, amino acid sequences, comparison (Escherichia coli), 122, 62

Aspartate kinase II

-homoserine dehydrogenase II polypeptide chain, triglobular structure (<u>Escherichia coli</u>), <u>123</u>, 16

D-Aspartate oxidase

substrates, thiazolidine-2-carboxylate derivatives formed from L-cysteine or L-cysteinylglycine and glyoxylate (bovine kidney), 125, 1039

L-Aspartate oxidase

redesignation as glutamic-oxaloacetic transaminase, cofactor identification as α-ketoglutarate (cotton callus cells), <u>123</u>, 836

Aspartokinase II, <u>see</u> Aspartate kinase II

Aspartyl residues

ATP synthase subunit <u>c</u>, <u>N,N'-dicyclo-hexylcarbodiimide-reactive</u>, effect on F_O conformation (<u>Escherichia</u> coli), 120, 527

Aspirin

effect on thromboplastin activity (human monocytes), <u>119</u>, 179

thromboxane production inhibition, recovery <u>in vitro</u> (guinea pig megakaryocytes), <u>119</u>, 982

Ataxia telangiectasia

lymphoblastoid cell culture, cellular actin levels, regulation by cell density (human), 119, 561

ATP (adenosine 5'-triphosphate)
-binding site

Ca²⁺-ATPase, Mg²⁺-binding subsite identification (rabbit skeletal muscle sarcoplasmic reticulum), <u>124</u>, 183

luciferase, kinetic distinction (firefly), 123, 764

-dependent

Ca²⁺ transport in plasma membranes, identification (bovine spermatozoa), <u>122</u>, 479

catalytic phosphorylation, requirement in ADP-mediated pyruvate,P₁ dikinase inactivation (<u>Zea mays</u>), <u>118</u>, 65

Na⁺ pump, and myocardial sarcolemmal creatine kinase, relationship (canine, guinea pig), <u>124</u>, 696

-driven reverse electron transfer from succinate to acetoacetate, ther- modynamics (rat hepatic mito-chondria), 125, 8

hepatic phosphofructokinase activa-

tion (fed, starved rats), <u>118</u>, 567 intracellular concentration, effects of doxorubicin, epirubicin, and mitoxantrone, comparison (rat heart), <u>125</u>, 954

levels in isolated limb bud cells, benzamide effect (chicken), <u>121</u>, 710

-stimulated factor, enhancement of activated receptor-glucocorticoid complex binding to nuclei (rat hepatic cytosol), <u>121</u>, 940

-ubiquitin proteolytic system, repression of protease inhibitor (rabbit reticulocyte extract), 122, 116

ATPase Ca²⁺-

ATP-binding site, Mg²⁺-binding subsite identification (rabbit skeletal muscle sarcoplasmic reticulum), <u>124</u>, 183

identification in plasma membranes (bovine spermatozoa), 122, 479

stimulation by lipids of phosphatidylinositol cycle (rat cerebral synaptic, erythrocyte plasma membranes), 125, 908

Ca-pumping, sarcoplasmic reticulum, kinetic and structural properties (bovine aortic, cardiac, skeletal smooth muscles), 124, 797

F, -

expression, K⁺ and pH effects (<u>Streptococcus faecalis</u> membranes), <u>122</u>, 151

structural asymmetry induction by dicyclohexylcarbodiimide (<u>Escherichia coli</u>), 121, 331

B-subunit, lysine residue identification with 7-chloro-4-nitro-[14C]benzofurazan (thermophilic bacterium PS3), 123, 1040

α- and β-subunits, monoclonal antibody preparation: tool for conserved and essential epitope recognition (porcine cardiac mitochondria), 123, 254

Mg²⁺-, identification in plasma membranes (bovine spermatozoa), <u>122</u>, 479

modulation by cAMP (rat kidney), 120, 619

Na+,K+-

fluorescein 5'-isothiocyanate reactive site, amino acid sequence (ovine, rat kidney), <u>125</u>, 767 identification in plasma membranes

```
(bovine spermatozoa), 122, 479
    interaction kinetics with Cibacron
      Blue F3GA, nucleotide fold probe
      (guinea pig, human), 119, 423
    physicochemical interactions with
      spin-labeled ouabain, analysis
      (canine kidney), 124, 210
    regulation by inorganic phosphate,
      pH dependence and physiological
      implications (canine renal me-
      dulla), 123, 438
 Na<sup>+</sup>,K<sup>+</sup>,Mg<sup>+</sup>-, activity in eryth-
      rocytes (Ornithorhynchus
      anatinus, Tachyglossus
      aculeatus), 119, 1161
  plasma membrane, ADP regulatory
      effects (corn roots), 122, 1367
  proton-pumping, purification from
      plasma membranes (oat roots),
      121, 735
ATP-citrate lyase
  phosphothreonine, dephosphoryla-
      tion, insulin and isoproterenol
      effects (rat epididymal fat
      pads), 122, 1047
ATP synthase
  subunit c, N,N'-dicyclohexylcarbo-
      diimide-reactive aspartyl resi-
      due, effect on F_O conformation
      (Escherichia coli), 120, 527
Atrial natriuretic factor
  amino acid sequence and disulfide
      linkage requirement (rat), 119,
  conversion from high- to low-molecu-
      lar-weight form (rat), 119, 282
  detection in plasma (rat), 125, 315
  genomic DNA clone, isolation (human),
      125, 797
  levels in atria, hypothalamus, and
      plasma: effect of Na loading, ra-
      dioimmunoassay (rat), 124, 663
  native and synthetic
    effect on cGMP (rat), 123, 515
    vasoactive effects, comparison
      (rabbit), <u>119</u>, 685
  peptides
    aldosterone secretion inhibition.
      intramolecular disulfide bond
      role (rat adrenal glomerulosa
      cells), 122, 171
    component isolation and sequence de-
      termination (rat), 120, 981
    major: isolation, structure, and
      biological activities (rat), 123,
      444
    multiple forms, isolation and amino
      acid sequence (rat), 121, 585
    natriuretic activity in vivo and
      smooth muscle relaxant activity
      in vitro (chick rectum, rat),
```

<u>125</u>, 938

```
synthesis and analysis of struc-
      tural factors in tissue specifi-
      city (chick rectum, rabbit aorta,
      rat), 123, 338
  release, adrenalin and arginine vaso-
      pressin effects in vitro (rat),
      124, 443
 synthetic
    adenylate cyclase inhibition (rat
      aortic particles; mesenteric, re-
      nal arteries), 121, 855
    direct radioimmunoassay (rat),
      122, 593
α-Atrial natriuretic factor
  polypeptides, antiserum produc-
      tion and radioimmunoassay devel-
      opment (human, rat), 124, 815
B-Atrial natriuretic factor
  purification and amino acid sequence
      (rat), 119, 933
Atrial natriuretic factor receptors
  identification in cultured smooth
      muscle cells, effect on intra-
      cellular cGMP levels (rat), 125,
Atriopeptigens
  purification and amino acid sequence
      (rat), <u>121</u>, 802
Atriopeptins
  isolation and characterization (rat),
      120, 333
  release and characterization (perfused
      rabbit heart), <u>124</u>, 711
```

Atropine

and endogenous peptide in pancreatic juice, trypsinogen secretion stimulation, exogenous trypsin inhibitor action mode, comparison (rat duodenum), <u>118</u>, 532

Avian sarcoma virus

src gene product pp60Y-src, mitogenic activity (rat kidney), 123, 411

Axolemma

-stimulated Schwann cell proliferation, mediation, Ca and cAMP roles (rat), 122, 373

AY 9944

effect on low-density lipoprotein
 metabolism (human fibroblast culture), 122, 955

Azaarene oxides

and arene oxides, kinetic and stereochemical recognition by glutathione transferase isozymes A₂ and C₂, comparison (rat liver), <u>121</u>, 980

Azacitidine

demethylation of procollagen type-I
 genes, effect on expression (hu man SVWI-38 cells), 124, 236
and other S-phase inhibitors, effect

Subject Index

on hypoxanthine guanine phosphoribosyltransferase gene expression, comparison (mouse), <u>125</u>, 812 5-Azacytidine, <u>see</u> Azacitidine Azapeptides dipeptidyl carboxypeptidase inhibi-

lipeptidyl carboxypeptidase inhibition, <u>122</u>, 791

Azetidine-2-carboxylic acid incorporation by ovalbumin, effect on denaturation (hen), <u>118</u>, 481

4-Azidoretinol

synthesis and use in photoaffinity labeling of cellular retinol-binding protein (vitamin A-deficient chick liver), 122, 577

В

Bacteria, <u>see also specific bacteria</u> anaerobic, nitropolycyclic aromatic hydrocarbon metabolism (human intestine), 123, 262

nitrogen-fixing, rice embryo lectin binding (rice rhizosphere), <u>119</u>, 549

Bacteriophages

λ, recombinant, -infected <u>Escherich</u>ia <u>coli</u>

rat apolipoprotein-E synthesis, 119, 657

rat transferrin synthesis, 122, 960
\(\lambda_{\text{gtll}}, \text{ expression system, isolation of cDNA clones for human β-glucocerebrosidase, 123, 574; erratum, 125, 843

Bacteriorhodopsin

blue-species and O₆₅₀ photocycle intermediate, effects of purple membrane carboxyl modifications (Halobacterium halobium), 122, 1110

crosslinking by specific carboxyl modifications and proteolytic cleavage, analysis (<u>Halobacterium halobium</u>), <u>124</u>, 565

and halorhodopsin, amplitudes of flash-induced absorption changes, comparison, 122, 91

Barbiturates

binding activity solubilization on γ -aminobutyric acid-benzodiazepine receptor complex (rat cerebral membranes), 119, 530

Bav k 8644

activation of voltage-dependent Ca²⁺ channels (rat heart), <u>125</u>, 405

effect on

catecholamine release evoked by Ca reintroduction (feline adrenal gland), 120, 851

isolated and intact cardiac preparations, pharmacological and radioligand binding correlations (canine, guinea pig, porcine, rat), 125, 387

enhancement of Ca²⁺ uptake and insulin release by pancreatic B cells (rat), <u>123</u>, 1062

³H-labeled, binding to microsomal and synaptosomal membranes (guinea pig brain, rabbit heart), 121, 317

prolactin secretion stimulation (rat
 pituitary GH₄C₁ cells), <u>122</u>, 991

Benzamide

effect on

ATP and NAD levels and cell proliferation (isolated chicken limb bud cells), <u>121</u>, 710

hepatic enzymes <u>in vivo</u> (rat), <u>122</u>, 770

Benzene

catalase activity increase after modification with polyethylene glycol (bovine liver), 125, 761

horseradish peroxidase solubilization and activation by 2,4-bis(O-methoxypolyethylene glycol)-6-chloro-s-triazine-induced modification, 121, 261

Benzodiazepine

-γ-aminobutyric acid receptor complex

convulsant-barbiturate binding activity solubilization (rat cerebral membranes), <u>119</u>, 530

[35S]-tert-butylbicyclophosphorothionate-labeled, solubilization and anionic regulation (rat brain), 120, 692

anticonvulsant action: γ-aminobutyric acid-dependent regulation of chloride ionophore (rat corti-cal membranes), 123, 1130

Benzofuran receptors

microsomal, selective ligand: centchroman <u>cis</u> isomer (rat), <u>125</u>, 346

<u>Mar-Benzoyl-l-arginine ethyl ester</u> inhibition of insulin-stimulated insulin receptor subunit phosphorylation (human placenta, rat adipocytes), <u>119</u>, 465

Benzphetamine

cytochrome <u>P</u>-450-binding site location in membrane lipids (rabbit hepatic microsomes), <u>118</u>, 916

Benzyl viologen

photosynthetic sulfide oxidation inhibition (<u>Chromatium vinosum</u>), 121, 755

Bergapten

binding to low-density lipoproteins (human serum), <u>120</u>, 670

Bernard-Soulier syndrome glycoprotein expression on platelets (human), <u>123</u>, 1091 Betaine-homocysteine methyltransferase inactivation by S-adenosylmethionine and S-adenosylethionine (rat liver), 118, 14 Bilirubin interaction in arachidonic acid binding to a-fetoprotein (human), 119, 1122 Biliverdin role in biliverdin reductase, heme metabolism, and heme oxygenase regulation (rat liver), 122, 40 Biliverdin reductase molecular form conversion, converting enzyme isolation and characterization (rat liver), 121, 249 regulation, biliverdin role (rat liver), 122, 40 Rictin -labeled DNA, binding site identification on surface membranes (human neutrophils), 122, 1034 Biphenyl, see Diphenyl 1,2-Bis(2-aminophenoxy) ethane-NNN'-N'tetracetic acid inhibition of carbamylcholine-stimulated amylase release (rat pancreatic acini), 119, 876 Bis(2-ethylhexyl) phthalate laurate ω -hydroxylase activation (rat hepatic microsomes), <u>121</u>, 304 2,4-Bis(O-methoxypolyethylene glycol)-6chloro-s-triazine -induced horseradish peroxidase modification, enzyme solubilization and activation in benzene, 121, 261 2,3-Bisphosphoglycerate inhibition of phosphoenolpyruvate transport across erythrocyte membrane (human), 122, 609 Bisphosphoglyceromutase mRNA, cell-free translation (human), 120, 441 -phosphoglyceromutase in vitro hybridization, partial characterization (human erythrocytes), 120, 715 Bis(tri-N-butyltin)oxide heme oxygenase induction (rat intestine), 119, 1022 Bityrosine production and identification in horseradish peroxidase-H,O,tyrosine system, 125, 916 Bleomycin and ethidium bromide, synergistic interactions on cellular DNA and

growth inhibition (murine L1210

leukemia cells), 120, 156

Blood groups

A, subgroup A, -specific glycolipid with globo-series structure: chemical basis for A, and A, distribution (human erythrocytes), 124, 523

Bolton-Hunter reagent

-substance P conjugate, 125 I-labeled. binding and internalization by pancreatic acinar cells (guinea pig), <u>124</u>, 578

Bombesin

reduction of epidermal growth factor receptor affinity, role of phosphoinositol breakdown and protein kinase-C activation (Swiss 3T3 cells), <u>123</u>, 377

Rone

inductive extracellular matrix proteins

dependence on vitamin D (rat), 124, 829

mineralized and demineralized, distribution (rat), 119, 949

marrow, and lymphocytes, normal and leukemic, tyrosine phosphorylation, comparison (human), 124, 766

resorption, cysteine proteinase role (murine embryonic calvaria), 125, 441

Borate

-serine complex, effect on [3H]leukotriene C, and [3H]leukotriene D, binding inhibition by leukotrienes C, D, and E, (guinea pig brain, lung homogenates), 119, 612

Bradykinin

stimulation of inositol phosphate release from fibroblasts (human), 123, 663

Brain

cholecystokinin receptor size and subunit structure, comparison with pancreatic receptors (mouse), 124, 497

with normal blood perfusion and bloodless perfluorocarbon substitution, 31P NMR in vivo (rat), <u>119</u>, 913

regional distribution of metorphamide (guinea pig, rat), <u>122</u>, 892

neuromedins B and C, comparison (rat), 124, 925

substance P and neuromedins K and L (rat), <u>124</u>, 731

Breast cancer

genome sequence in lymphocytes, comparison with sequence in tumor cells from mouse mammary tumor virus (human), 118, 324

MCF-7 cells, a-fetoprotein receptor identification (human), <u>122</u>, 1322
N-Bromoacetyl-3,3',5-triiodothyronine

N-Bromoacety1-3,3',5-triiodothyronine iodothyronine deiodinase inactivation and affinity labeling (rat liver), 124, 475

2-Bromoacrolein

metabolic formation from tris(2,3-dibromopropyl) phosphate, mutagenicity (rat hepatic microsomes), 121, 213

Bromocriptine

chronic treatment, effect on dopamine receptors (rat pituitary, estradiol-induced pituitary tumors), 123, 312

4-Bromophenacyl bromide

effect on thromboplastin activity (human monocytes), <u>119</u>, 179

Bufuralol

l'-hydroxylation, stereoselectivity: characterization of cytochrome P-450 debrisoquine-sparteine type genetic polymorphism (human liver), 125, 374

L-Buthionine sulfoximine

glutathione synthesis inhibition <u>in</u>
<u>vitro</u> (rat hepatic cytosol, mitochondria), <u>123</u>, 1116

L-Buthionine-S-R-sulfoximine

glutathione depletion in lymphoma cells, effect on proliferation in tissue culture (mouse), <u>123</u>, 626

tert-Butyl-bicyclophosphorothionate

-labeled sedative-convulsant receptors, solubilization and anionic regulation (rat brain), 120, 692

tert-Butylhydroperoxide

with tetraphenylporphyrinatoiron(III)chloride, diarylpropane-1,3-diol C-C bond cleavage, 122, 1247

2(3)-<u>tert</u>-Butyl-4-hydroxyanisole dietary, glutathione <u>S</u>-transferase isozyme induction (murine intestine), 119, 1015

С

Cadaverine

reversal of <u>Mycoplasma dispar</u> growth inhibition by DL-a-difluoromethyllysine, <u>125</u>, 205

Cadmium ion

alteration of queuine-type tRNA, detection by reverse-phase 5 chromatography (<u>Drosophila mela-nogaster</u>), 123, 1027 binding to Cd,Zn-metallothionein, spectroscopy and protein concentration estimation by Cd saturation methods (rat liver), <u>121</u>, 1006

ornithine decarboxylase induction (rat kidney, liver, testes), 125, 882

Caffeic acid

glutathione <u>S</u>-transferase inhibition <u>in vitro</u> (rat liver), <u>120</u>, 427

Caffeine

effect on 1,25-dihydroxyvitamin D₃ production, comparison with theophylline and dibutyryl cAMP (chick renal tubules), <u>121</u>, 355

Calcelectrins

purification by Ca²⁺-dependent hydrophobic affinity chromatography, comparison with calmodulin (bovine), <u>123</u>, 100

Calcimedins

level changes during cardiomyopathy (UM-X7.1 hamster), <u>121</u>, 915

Calcineurin

-associated phosphotyrosyl-protein phosphatase activity, characterization (bovine brain), <u>121</u>, 141

Calcitonin

and calmodulin, <u>in vitro</u> interactions (human, salmon), 118, 648

effect on human sperm motility <u>in</u> <u>vitro</u> (human, salmon), <u>125</u>, 199

gene localization on chromosome-11 short arm (human), 120, 493

and related peptide, gene structure
 and expression (human lung, med ullary thyroid carcinoma cells),
 123, 648

release from C cells, stimulation by growth hormone-releasing factor (rat), 123, 497

selective activation of cAMP-dependent protein kinase (human lung cancer cells), <u>122</u>, 1040

Calcitriol

inhibition of dimethyl sulfoxide-induced Friend erythroleukemia cell differentiation, 119, 807

Calcium

antagonists, photosystem-II oxygen
 evolution inhibition (stroma-free
 spinach thylakoids), <u>121</u>, 626

-binding proteins

identification and characterization (bovine liver), <u>119</u>, 440 levels in skin, vitamin D effect

(rat), 123, 230
quinate:NAD+ oxidoreductase regulatory subunit, characterization
(dark-grown carrot cells), 125,
774

- vitamin D-dependent, identification
 in intestinal cell cytosol (normal, X-linked hypophosphatemic
 mice), 119, 850
- -calmodulin binding kinetics, stoppedflow fluorescence (bovine testes), 120, 185

channel

- activator BAY K 8644, binding to microsomal and synaptosomal membranes (guinea pig brain, rabbit heart), <u>121</u>, 317
- site in myocardial membranes,[3H]nitrendipine binding, thioridazine diltiazem-like effect
 (rat), 121, 657
- subunit-comigratory 42-kDa membrane protein, identification and iso-proterenol- and nitrendipine-induced phosphorylation (canine heart), 121, 890
- voltage-dependent
 - activation by dihydropyridine
 derivatives (rat heart), 125,
 405
 - dihydropyridine receptor purification with probe (+)[3H]-PN 200-110 (rabbit skeletal muscle transverse tubules), 122, 1357
- compartments and fluxes in temperature-sensitive Rous sarcoma virus-transformed cells, effect of <u>src</u> gene product (Fisher rat cells), <u>125</u>, 337

cytosolic

- decrease, relationship to high
 extracellular K⁺ stimulation of
 parathyroid hormone release (bo vine), 123, 684
- and steroidogenesis, angiotensin II
 and extracellular K⁺ effects
 (rat adrenal glomerulosa cells),
 123, 810
- extracellular, role in hepatocyte injury prevention (rat), 121, 102
- β-glucuronidase stimulation (rat hepatic lysosomes, microsomes), 121, 987
- -induced thyrotropin secretion in vitro, phorbol ester effects (rat pituitary cells), 125, 353 intracellular
 - elevation by ionomycin, effect on phospholipases A and C (human platelets), <u>123</u>, 393 free
 - chemotactic factor-induced increase, inhibition by pertussis toxin: role of G protein (rabbit), <u>124</u>, 644 in isolated ventricular myocytes

- at rest and during K⁺-depolarization, measurement by quin-2 fluorescence (rat), <u>122</u>, 1012 mitogen- and melittin-stimulated increase (human fibroblasts), <u>119</u>, 69
- increase in ventral photoreceptors, induction by inositol-trisphos-phate (<u>Limulus</u>), <u>125</u>, 1137
- regulation by cyclic AMP, adenylate cyclase stimulator-inhibitor antagonism (human platelets), <u>120</u>, 579
- release, inositol 1,4,5-triphosphate effect (porcine coronary
 artery), 120, 481
- role in cholecystokinin- and insulin-regulated insulin-like growth factor-II binding to pancreatic receptors (diabetic mouse), <u>119</u>, 359
- with ionophore A23187, inhibition of volume- and thiol-stimulated Cl- dependent K⁺ transport (ovine erythrocytes), 125, 790
- and Mg²⁺-induced conformational
 changes in S-100a protein, sub nanosecond-pulse fluorometric
 analysis (bovine brain), <u>123</u>, 959

mobilization

- and cGMP synthesis, carbachol-,
 histamine-, and prostaglandin
 E₁-mediated, correlation
 (neuroblastoma cells), <u>122</u>, 333
- by prostaglandin $F_{2\alpha}$ and vasopressin, Na⁺ influx independence (quiescent Swiss 3T3 cells), 123, 803
- and protein kinase-C activation,
 synergistic role in histamine release from mast cells (rat peritoneum), 121, 573
- or phorbol ester with phospholipid, requirement for synthetic peptide phosphorylation by protein kinase C (rat brain), 124, 296
- phospholipase A_2 regulation, calmodulin effect (human, rat platelets), $\underline{121}$, 507
- plasma membrane-bound, phosphatidylinositol 4,5-bisphosphate receptor-linked release site (human platelets), 120, 226
- -quin 2 interaction, stopped-flow kinetics, 123, 604
- -regulated cellular differentiation, phospholipid metabolism (murine keratinocyte culture), 122, 1234
- reintroduction, catecholamine relase
 induction, BAY-K-8644 and nifedipine effects (feline adrenal
 glands), 120, 851

```
release from
    hepatic microsomes, induction by
      inositol(1,4,5)triphosphate
      (rat), 120, 858
    platelet microsomes, 1-Q-alkyl-2-
      acetyl-sn-qlyceryl-3-phosphoryl-
      choline effect (human), 120, 474
  role in
    mediation of axolemma- and myelin-
      stimulated Schwann cell prolifer-
      ation (rat), <u>122</u>, 373
    phorbol ester-stimulated 2-deoxy-
      D-glucose uptake by lymphocytes
      (rat thymus), <u>124</u>, 14
    renin secretion (rat juxtaglomerula
      cells), <u>124</u>, 359
  uptake by pancreatic B cells, dihy-
      dropyridine effects (rat), 123,
      1062
  -zn^{2+} derivatives of lentil and pea
      lectins, preparation and charac-
      terization, comparison with na-
      tive forms, 124, 857
Calcium ionophores
  lipid-associated, in plasma membrane,
      glucose stimulation effect (rat
      pancreatic islet cells), 118, 601
```

Calcium transport ATP-dependent, in plasma membranes, identification (bovine spermato-

zoa), 122, 479 efflux from mitochondria with inorganic pyrophosphate (rat heart), <u>118</u>, 147

NADP⁺-stimulated, membrane thiol group role (rat liver), 119, 305 ruthenium red-induced, inhibition by antibiotic X-537A (rat liver), 124, 80

influx in

erythrocyte membrane channel, effect of membrane cholesterol content (human), <u>124</u>, 822

external and internal platelet membrane fractions, characterization, 123, 50

microsomes and mitochondria, N-methylformamide effect (murine liver), <u>125</u>, 712

pancreatic B-cells, glucose-promoted, blockage effect on glucose-regulated insulin release (mouse), <u>125</u>, 875

platelets, enhancement by CGP 28392 (human), <u>118</u>, 842

plasma membrane, actin and myosin roles (bovine chromaffin cells), <u>119</u>, 652

12-Q-tetradecanoylphorbol-13-acetate effect (rat liver), <u>122</u>, 1057 theophylline and dibutyryl cAMP effects, comparison (chick renal

tubules), <u>121</u>, 355

Callus cells

crown gall transformation after cocultivation with Agrobacterium tumefaciens (tobacco), 123, 458 Calmidazolium

photosystem-II oxygen evolution inhibition (stroma-free spinach thy-

lakoids), <u>121</u>, 626 Calmodulin

antagonists, effect on ovarian carcinoma cell proliferation in vitro (human), 123, 385

-binding proteins, identification and distribution in mitochondria (rat liver), <u>119</u>, 343

-Ca binding, kinetics, stopped-flow fluorescence (bovine testes), <u>120</u>, 185

and calcitonin, in vitro interactions (human, salmon), 118, 648

and calelectrins, purification by Ca²⁺-dependent hydrophobic affinity chromatography, comparison (bovine), 123, 100

cAMP phosphodiesterase activation, inhibition by tamoxifen (bovine brain), <u>118</u>, 27

conditions for reproducible detection by immunoblot analysis (chicken gizzard), 124, 752

conformational changes, aluminuminduced, citrate effects (bovine brain), <u>119</u>, 376

effect on phospholipase A₂ regulation by Ca²⁺ (human, rat platelets), <u>121</u>, 507

hydrophobic sites, spectrofluorometry (bovine brain), <u>119</u>, 1154

interactions with avian and human spectrin (bovine brain), 122, 1194

modulation of Ca2+-dependent K+ permeability of cardiac sarcolemmal vesicles (bovine), 122, 237 role in

cyclic-nucleotide phosphodiesterase activity (rat caudal epididymal sperm), 118, 636

interferon-induced natural killer cell cytotoxicity (murine splenic lymphocytes), 121, 478

-trifluoperazine binding, shift reagent 43Ca NMR (bovine brain, testes), <u>122</u>, 1350

tryptic fragments, high-field proton NMR, native protein comparison (bovine testicles), 118, 225

molecular diversity (human, porcine organs), <u>122</u>, 912

Cannabidiol

effect on sphingomyelin hydrolysis

Subject Index

in vitro (Niemann-Pick patient fibroblasts), 121, 168

Capsids

polypeptides, major and minor yeast viruses, characterization, <u>121</u>, 619

Carbachol

-induced [*H]inositol-l-phosphate
 accumulation, inhibition by phorbol esters (rat hippocampal
 slices), 123, 703
-mediated Ca²⁺ mobilization and cGMP

-mediated Ca²⁺ mobilization and cGMP synthesis, correlation (neuroblastoma cells), <u>122</u>, 333

Carbamoylphosphate synthetase (ammonia) mRNA levels, regulation by glucocorticosteroids and cAMP, demonstration with specific cDNA (rat liver), 124, 882

Carbamylcholine

-stimulated amylase release, inhibition by Ca²⁺ chelators (rat pancreatic acini), <u>119</u>, 876

Carbamyl phosphate synthetase I

in vitro transport and processing in
 mitochondria (murine liver), 118,
514

Carbohydrates

acid phosphatase, crosslinking and structural characterization (<u>Sac-</u> <u>charomyces cerevisiae</u>), <u>122</u>, 1083

dietary, effect on glucose-6-phosphate dehydrogenase synthesis
 (rat hepatocytes), 120, 1022

Carbon

aliphatic, in 7,8- and 9,10-dihy drobenzo[a]pyrenes, stereoselec tive hydroxylation by hepatic mi crosomes (rat), 124, 114

-C bond, diarylpropane-1,3-diol, cleavage by tetraphenylporphyrinato-iron(III)chloride with tert-butylhydroperoxide, 122, 1247

compounds, cyclic 12-, 8-, and 6-, effects on glutathione S-transferase (mouse), 120, 637

Carbonate dehydratase

inhibition, effect on thrombinstimulated platelet aggregation velocity (human), <u>121</u>, 266

monoclonal antibodies, comparative characterization (bovine, chicken, fish, human, mouse), 125, 690 Carbonic anhydrase, see Carbonate dehydratase

Carbon monoxide

-bound mitochondria, cytochrome <u>c</u>
oxidase-dioxygen reaction sites,
ir spectra (blowfly flight muscle; bovine heart, brain; porcine
heart; rat kidney), <u>123</u>, 247
inhibition of leukotriene B₄ ω-oxi-

dation by neutrophils: role of cytochrome \underline{P} -450 in leukotriene B₄ catabolism (human), $\underline{123}$, 475

Y-Carboxyglutamic acid

residues, factor X, chemical modification effect (human), <u>124</u>, 256 Carboxylation

vitamin K-dependent, synthetic peptides, product characterization (rat hepatic microsomes), <u>119</u>, 836 Carboxyl groups

heparin, modification, effect on circular dichroism spectrum, <u>123</u>, 973 membrane protein, methylation, role in erythrocyte response to cytoskeletal stress (human), <u>123</u>, 133

purple membrane, modification, effect on bacteriorhodopsin blue-species and O₆₅₀ photocycle intermediate (<u>Halobacterium halobium</u>), <u>122</u>, 1110

Carboxymethylcysteine

-containing acyclic peptide, enzymatic synthesis of penicillin and cephalosporin nuclei (<u>Streptomyces</u> clavuligerus), <u>120</u>, 607

Carcinogenesis

azo dye-induced, aldolase A and B mRNA
 expression (rat liver), 124, 337

c-Ha- \underline{ras} and c- \underline{myc} gene expression (rat liver), $\underline{119}$, 1096

skin, 3-methylcholanthrene-induced, inhibition by ellagic acid (BALB/C mouse), 119, 751

Cardiomyopathy

-related changes in calcimedin levels (UM-X7.1 hamster), <u>121</u>, 915

Cardionatrin

cDNA, cloned, isolation and nucleotide sequence (rat), <u>122</u>, 1076

L-Carnitine

effect on urea synthesis after acute ammonia intoxication (mouse), 120, 726

Carotene

and glutathione S-transferase, relationship (human platelets), 122, 407

B-Carotene

low-density lipoprotein-associated, resonance Raman spectra (human plasma), 122, 867

orientation in lipid bilayers, angleresolved depolarized Raman spectroscopy, <u>120</u>, 1060

Carrageenan

-induced edema, inhibition by organotin compounds (rat foot), <u>125</u>, 59 Casein

gene expression, estrogen depletion
 effects (adrenalectomized, ovari ectomized rat), 125, 682

B-Casein

cleavage by plasmin and amino acid sequence determination (human), 125, 463

Casein kinase l

and cAMP-dependent protein kinase,
 phosphorylation of tubulin and
 microtubule-associated protein 2,
 comparison, 121, 19

Casein kinase 2

ornithine decarboxylase phosphorylation (rat heart), <u>120</u>, 997

Catalase

activity and intracellular distribution in Zellweger syndrome patients, 123, 1054

cDNA, molecular cloning and nucleotide sequence (rat liver), <u>122</u>, 831

Mn-containing, Cu²⁺-dependent inactivation by hydroxylamine, hydrogen peroxide role (<u>Lactobacillus</u> plantarum), 124, 75

polyethylene glycol-modified, activity increase in benzene (bovine liv-er), 125, 761

role in cyanamide metabolic conversion in vitro and in vivo to aldehyde dehydrogenase inhibitor (rat), 122, 358

Cataracts

cold, protein tyrosine residue microenvironmental change, Raman spectroscopy (rat lens), 119, 989

high-molecular-weight protein aggregates, Western blot analysis (human), <u>122</u>, 1028

Catecholamines

release, Ca reintroduction-evoked, BAY-K-8644 and nifedipine effects (feline adrenal gland), 120, 851

Cathepsin J

purification and characterization (human tissues), <u>124</u>, 909

Cathepsin K

purification and characterization (human tissues), <u>124</u>, 909

Cathepsins

inhibition by γ -trace (human), 120, 631

Cation channels

conductance dispersity in <u>des</u>-L·Val⁷-D·Val⁸-Gramicidin A, sidechain orientation role, <u>118</u>, 885

Cations

-dependent prolactin activation of guanylate cyclase in various or-gans (rat), <u>123</u>, 1084

Cation transport

in erythrocytes (<u>Ornithorhynchus</u>
<u>anatinus</u>, <u>Tachyglossus aculea</u><u>tus</u>), <u>119</u>, 1161
inhibition by caprine acetylcholine

receptor antibodies (<u>Torpedo cal-ifornica</u>), <u>120</u>, 368

CCK, <u>see</u> Cholecystokinin

Celiac disease

pathogenesis, role of gliadin-derived peptides (human K562(S) cells), 121, 428

Cell culture

ataxia telangiectasia lymphoblastoid cell density, cellular actin level regulation (human), 119, 561

effect on complementation of epidermal growth factor binding in nonresponsive 3T3 variants (mouse), 118, 60

Cell cycle

S-phase, DNA-mediated gene transfer efficiency (mouse), <u>118</u>, 310

Cell fusion

role in horizontal oncogenesis by human tumors (nude mice), <u>124</u>, 933 Cell lines, see also Tumor cells

A431, preparation of epidermal growth factor receptor cDNA (human), 124, 125

C, calcitonin, cAMP, and neurotensin release, stimulation by growth hormone-releasing factor (rat), 123, 497

Chinese hamster ovary, insulin receptor identification and characterization: altered binding in glycosylation mutants, 125, 70

erythroleukemic

differentiation and proliferation,
5'-methylthioadenosine effect
(mouse), 124, 172

dimethyl sulfoxide-induced differentiation, inhibition by diacylglycerols and phospholipase C, 125, 491

la,25-dihydroxyvitamin D₃, 119, 807

HeLa, growth, effect of oxidant reduction by plasma membrane electron transport system, <u>125</u>, 649

leukemic

B-hexosaminidase isoenzyme separation (human lymphocytes, myelocytes), 122, 966

K562, hemin-mediated erythroid induction, cell proliferation, and c-abl and c-myc oncogene expression, relationship (human), 125, 90

L1210

inhibition by spermidine catecholamide Fe chelators, <u>121</u>, 848 and L10, macrophage-mediated cytotoxicity, role of Fe depletion (mouse), <u>123</u>, 716

CGP 28392

proliferation

Ceruloplasmin receptors

identification in erythrocyte mem-

branes (human), <u>125</u>, 157

```
activation of voltage-dependent-Ca<sup>2+</sup>
        effect of methionine analog in-
          hibitors of methionine adeno-
                                                   channels (rat heart), 125, 405
                                               Ca influx enhancement (human plate-
          syltransferase (mouse), 122,
                                                   lets), <u>118</u>, 842
                                             CHAPS, see 3-[(3-Cholamidopropyl)-
        tumor-disturbing factor effects
                                                   dimethylammonio]-l-propane sul-
          in vivo and in vitro (human,
          BALB/c murine sera), 120, 520
      ribonucleotide to DNA channeling.
                                             Charcoal
                                               dextran-coated, effect on glucocor-
        analysis, 123, 656
                                                   ticoid-receptor complex dissocia-
    myeloid
                                                   tion kinetics, lipid role (rat
      membrane potential changes in re-
        sponse to formyl-methionyl-leu-
                                                   thymus), <u>119</u>, 1134
        cyl-phenylalanine or 12-Q-tet-
                                             Chelex
        radecanoylphorbol 13-acetate
                                               -based competitive binding assay of
                                                   aluminum binding to albumin and
        (human), <u>123</u>, 937
      ML-1 and HL-60, differentiation
                                                   transferrin (human serum), 125,
        induction, interferon-y role
                                                   1020
                                             Chemiluminescence
        (human), <u>124</u>, 100
    and normal bone marrow cells and
                                               Cu-facilitated, yeast alcohol dehydro-
      lymphocytes, tyrosine phosphory-
                                                   genase, spinach ferredoxin, and
      lation, comparison (human), 124,
                                                   rabbit hepatic metallothionein,
      766
                                                    125, 425
  Leydig cells
                                               from isobutyraldehyde, horseradish
    angiotensin-converting enzyme and
                                                   peroxidase-catalyzed, rate-lim-
      renin identification (rat tes-
                                                    iting factors, 122, 28
      tes), 122, 1337
                                               luminol-dependent and native, in stim-
    secretory proteins, induction by
                                                   ulated neutrophils, simultaneous
      estrogen in vitro and in vivo,
                                                   detection (human), 123, 1047
      analysis (mouse), 124, 277
                                               NADPH-induced, synthetic antioxidant
  lymphoblastic CCRF-CEM, 7-hydroxymeth-
                                                   effects (rat hepatic microsomes),
      otrexate formation (human), 122,
                                                    125, 1033
                                               neutrophils, enhancement by low con-
                                                   centrations of trifluoperazine
  mastocytoma PY815, DNA, chlorproma-
      zine effects (mouse), 125, 184
                                                    (human), 118, 53
  promyelocytic HL-60, differentiation
                                             Chemotaxis
      to macrophage-like cells, stimu-
                                               neutrophils
      lation by 1-0-hexadecyl-2-ace-
                                                 generation in inflammatory sites,
      tyl-sn-glycerol (human), 122, 824
                                                    leukotriene B_-stimulated,
  prostate PC-3 and DU145, prolifera-
                                                    inhibition by dexamethasone
      tion in vitro, reversible inhibi-
                                                    (rat), <u>119</u>, 884
      tion by 1,10-phenanthroline (hu-
                                                 inhibition by
      man), 124, 538
                                                   organotin compounds (rabbit),
  smooth muscle BC3H-1, B-adrenergic
                                                      123, 543
      receptors, agonist-induced inter-
                                                   synthetic peptides (rabbit),
      nalization, mechanism, 124, 863
                                                     118, 682
  3T3, normal and virally transformed,
                                             Chloramphenicol
      substrate-adhesion sites, gangli-
                                               and dipeptidyl analog, peptidyl-
      oside composition (Balb/c mice),
                                                    transferase inhibition, binding
                                                   mode analysis (Escherichia coli
      125, 142
Centchroman
                                                   cell-free system), 122, 748
  cis isomer, selective ligand for mi-
                                             Chloride ion
      crosomal antiestrogen binding
                                               adenylate cyclase stimulation, mech-
      sites (rat), <u>125</u>, 346
                                                    anism (rabbit heart), 118, 555
                                               cotransport with K+ and Na+ in
Cephalosporin
  nuclei, synthesis from carboxymethyl-
                                                    smooth muscle cells, regulation
      cysteine-containing acyclic pep-
                                                    (embryonic rat aorta), 125, 500
      tide (Streptomyces clavuligerus).
                                               effect on basal and isoprenaline-
      120, 607
                                                    and GTP-stimulated adenylate
```

cyclase (rabbit heart), 118, 561

lymphocyte permeability, kinetics

(human), <u>122</u>, 522

Chloride ionophore

γ-aminobutyric acid-dependent regulation by benzodiazepines (rat cortical membranes), <u>123</u>, 1130

4-Chloroaniline

oxidation by microsomal fraction of germinating seeds (<u>Pisum sati</u>-vum), 121, 1001

4-Chlorobenzoate

dehalogenation-hydroxylation, origin
 of incorporated oxygen (Arthrobacter sp.), 124, 669

4-Chlorobenzoate dehalogenase

-catalyzed incorporation of ¹⁸Oenriched water into 4-hydrobenzoic acid (<u>Pseudomonas</u>), <u>124</u>, 178 Chloroform-d

solution containing enkephalinamide complexes with 18-crown-6-ether, stimulation of δ-opioid receptor environment, NMR spectroscopy, 121, 456

Chlorogenic acid

glutathione <u>S</u>-transferase inhibition <u>in vitro</u> (rat liver), <u>120</u>, 427

7-Chloro-4-nitrobenzofurazan

14C-labeled, identification of lysine residue in F₁-ATPase βsubunit (thermophilic bacterium
PS3), 123, 1040

Chlorophyll

synthesis, protoporphyrinogen oxidation, effect of unsaturated fatty acids (barley, spinach etioplasts, mitochondria), <u>123</u>, 1157 Chloroplasts

photosystem-I donors, reduction rates,
 dibromothymoquinone effects (pea
 seedling chloroplasts), <u>120</u>, 721

Chloroquine

effect on Shigella toxin activity and late antibody rescue (HeLa cells), 121, 69

Chlorpromazine

α₁-acid glycoprotein crystallization (human), <u>124</u>, 619

cholera toxin ADP-ribosyltransferase inhibition (rat liver), 120, 700

effect on DNA in PY815 mastocytoma cells (mouse), <u>125</u>, 184

-S-100 protein interaction, effect on microtubule proteins in vitro (bovine brain), 122, 983

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

 α_2 -adrenergic receptor solubilization, preservation of agonist binding and sensitivity to GTP (bovine cerebral cortex), <u>119</u>, 1116

microsomal NADH-ferricyanide reductase purification (potato tubers), 122, 1201

Cholecystokinin

C-terminal octapeptide, <u>see</u> Sincalide regulation of insulin-like growth factor-II binding to pancreatic receptors, intracellular Ca²⁺ role (diabetic mouse), 119, 359

Cholecystokinin receptors

cerebral and pancreatic, size and subunit structure, comparison (mouse), <u>124</u>, 497

subunits, covalently labeled, characterization (murine pancreatic plasma membrane), <u>118</u>, 623

Cholera toxin

ADP-ribosyltransferase activity, inhibition by MDL 12330A and chlorpromazine (rat liver), 120, 700

effect on cyclic AMP and neurotensin release (rat C cells), 120, 540

and pertussis toxin, requirement for
 adenylate cyclase maximal activation (NG108-15 cell culture),
 119, 1068

Cholesterol

antagonistic effect on hydroxysterol
 toxicity (rat hepatoma cells),
 120, 657

content in

erythrocyte membranes, effect on Ca
influx through channel (human),
124, 822

liposome membranes, effect on carbocyanine dye fluorescent response, 123, 178

dietary, effect on mevalonate metabolism by sterol and nonsterol pathways (male chicks), 122, 945

dissociation from membrane phosphatidylcholine bilayers, hydrogen belt interactions, 118, 743

distribution in mitochondrial membranes, regulation by sterol-carrier protein₂ (rat adrenal),
122, 509

long- and short-term feeding, changes
in microsomal lipid fatty acid
composition, age effect (chick
liver), 124, 677

plasma concentrations, relationship to glutathione <u>S</u>-transferase (human platelets), <u>122</u>, 407

side-chains, cleavage activity in outer and inner zones (guinea pig adrenal cortex), 118, 198

transfer reaction from liposomes to cytochrome P-450_{SCC}, enthalpy-entropy compensation effects (bovine adrenal cortex), 118, 877
Cholesterol esters

very-low-density lipoprotein, hydrolysis, effect on very-low-density

lipoprotein lipolysis in vitro (human), 121, 946 Cholesterol-7a-hydroxylase sensitivity to insulin (diabetic, normal rat liver), 124, 896 stimulation in vitro by serum nonlipoprotein factors (streptozotocindiabetic rat liver), 121, 743 Cholesteryl esters arachidonic acid and palmitic acid incorporation, chronic regulation by thyrotropin (thyroid cell culture), <u>119</u>, 537 bidirectional movement between rough and smooth microsomal membranes. facilitation by plasma lipid transfer proteins (rat liver), 120, 586 Choline liberation for acetylcholine synthesis, synaptosomal phospholipase-D role (rat brain), 124, 945 release, stimulation by muscarinic receptor activation (rat corpus striatum slices), <u>120</u>, 1002 Cholinergic receptors muscarinic, identification in phaeochromocytoma cells (rat), 119, 163 Chondroitin sulfate interaction with human plasma lowdensity lipoproteins, 2H NMR spectra (whale cartilage), 121, 871 Chromatin -dependent RNA polymerase II reactions, large-molecular-weight regulating factor isolation and characterization (rat hepatic cytoplasm), <u>125</u>, 286 fiber, nucleosome orientation maintenance, role of histone Hl and core histone nonstructural domains (calf thymus), 122, 1021 micrococcal endonuclease-generated fragments, angiotensin-II receptor identification (rat hepatic nuclei), <u>119</u>, 220 proteins, nonhistone, binding affinity for isopeptidase (Chinese hamster DON cells), 122, 1296 reassociation with bovine hepatic histone Hl subfractions, effect on structure: electric birefringence

Chromosomes

- 1, apolipoprotein A-II gene localization (human), 122, 877; 123, 1; 125, 299
- 11, short arm, calcitonin gene localization (human), 120, 493

19

apolipoprotein C-I gene localization (human), <u>125</u>, 299 apolipoprotein C-II gene localization (human), 122, 687

21, gene segment isolation and sublocalization by <u>in situ</u> hybridization (human), <u>121</u>, 380

Chronic pancreatitis

trypsinogen-1 proteolysis, pathogenic implication (human), <u>118</u>, 154

Chyle

mesenteric, identification of apolipoprotein-B major form B-100 (rat), 123, 1149

Chymotrypsin

peptide synthesis, nucleophile specificity (bovine pancreas), <u>118</u>, 317 peptidyl carbamate ester effects (porcine pancreas), <u>122</u>, 571

a-Chymotrypsin

-catalyzed peptide semisynthesis, mechanism and specificity, <u>120</u>, 686

covalent attachment to functionalized polymeric liposomes, <u>119</u>, 646 Cibacron Blue F3GA

interaction kinetics with Na⁺,K⁺ATPase, nucleotide fold probe
(guinea pig, human), <u>119</u>, 423

Cigarette smoke

gas-phase, inactivation of α_1 proteinase inhibitor (human), 122, 676

Ciprofibrate

glutathione <u>S</u>-transferase inhibition <u>in vitro</u> and <u>in vivo</u> (rat liver), 123, 1012

Circular dichroism

spectrum of heparin, carboxyl group modification effect, <u>123</u>, 973

Cisplatin

cis and trans isomers, -modified DNAs, Sl nuclease sensitivity: effects of nucleotide sequence and cytosine and guanine content (calf thymus, <u>Micrococcus lysodeikticus</u>), <u>124</u>, 367

Citrate

effect on aluminum-induced conformational changes in calmodulin (bovine brain), <u>119</u>, 376

Citrate (pro-3S)-lyase

large acyl-carrier protein subunit,
 repetitive structure (Escherichia
 coli), 122, 1253

and relaxation time measurements

to mascent DNA, induction by disopropylfluorophosphate (CV-1

simian virus-40, protein crosslinking

(rat liver), <u>121</u>, 530

cells), <u>123</u>, 271

Chromium ion

Citrate synthase

binding to mitochondrial inner membranes: tissue distribution and substrate effects (lemon fruit, mammals), 121, 612

Clomiphene

binding sites, high-affinity, concentration in rough microsomal membranes (rat liver), <u>120</u>, 109

Codons

asparagine, basal-level misreading, analysis (Escherichia coli), 121, 487

role in hydropathic amino acid anticomplementarity, <u>121</u>, 203

Coenzyme F₄₂₀

reduction by hydrogenase, FAD requirement (Methanobacterium formicicum), 120, 775

Coenzyme Q_{10} , <u>see</u> Ubiquinone Colcemid, <u>see</u> Demecolcine Collagen

la, 2a, and 3a chains, resistance
to human collagenase (bovine
hyaline cartilage), 118, 724

binding to hyaluronate-binding proteins (chicken cardiac fibroblasts, 3T3 cells), 121, 808

precursors, extra- and intracellular degradation by protease, qualitative and quantitative evaluation (chick embryo liver), <u>123</u>, 1002 synthesis

1,25-dihydroxyvitamin D_3 effect (murine MC3T3-El osteoblastic cells), $\underline{119}$, 767

human monocyte cell factor effect,
 prostaglandin E₂ role (rabbit
 articular chondrocyte culture),
 119, 499

transcriptional control by recombinant γ-interferon (cultured confluent human diploid fibroblasts), 123, 365

type-IX, hydroxypyridinium crosslinks, identification and localization (bovine cartilage), 123, 1033

Collagenase

latent, activation by serine proteinase (human skin), 125, 279

production <u>in vitro</u> by adherent rheumatoid sinovial cells, stimulation by canine mast cell extracts (human), <u>122</u>, 270

resistance of collagen chains 1α , 2α , and 3α from bovine hyaline cartilage (human), 118, 724

Colony stimulating factor 1

chemical crosslinking to colony stimulating factor-1 receptors at cell surface (murine bone marrow macrophages, J774.2, and BACl cells), 119, 35

Colony stimulating factor-1 receptors chemical crosslinking to colony stimulating factor 1 at cell surface (murine bone marrow macrophages, J774.2, and BAC1 cells), 119, 35

Complementation

epidermal growth factor binding in nonresponsive 3T3 variants, cocultivation effect (mouse), <u>118</u>, 60

Complement pathway inhibitor

human alternative, purification and characterization (larval fall armyworm hemolymph), <u>122</u>, 1426

Complements

C9, transmembrane protein in complement-induced [14C]sucrose release (human erythrocyte ghosts), 118, 616

channels, macromolecule diffusion, inhibition by monoclonal antibody to polymerized C9 neoantigen (human erythrocytes), <u>125</u>, 1013

Concanavalin A

effect on insulin cellular uptake and surface binding (isolated rat hepatoma cells), 122, 204

internalization by hepatoma cells, dependence on temperature and dose (rat), 125, 35

-mediated phospholipid synthesis stimulation, phosphate depletion effect (human peripheral lymphocytes), 118, 371

-stimulated lymphocytes

intracellular transferrin receptor
 expresssion (murine spleen), 119,
598

protein kinase identification (bovine), 121, 392

Congocidine

enhancement of S1 nuclease sensitivity to negatively superhelical DNA (simian virus 40), <u>124</u>, 388

Convulsants

Copper ion

-coupled binuclear active site in native and type 2-depleted laccase, oxidation by peroxide, X-ray adsorption spectroscopy (Rhus vernicifera), 119, 567

deficiency, dietary and drug-induced, Cu and Zn molecular localization (fetal rat liver), 118, 697

-dependent Mn-catalase inactivation by hydroxylamine, hydrogen per-

CV-2619, see Idebenone

```
oxide role (Lactobacillus plan-
      tarum), 124, 75
  -facilitated chemiluminescence from
      sulfhydryl proteins: yeast alcohol
      dehydrogenase, spinach ferredoxin,
      and rabbit hepatic metallothio-
      nein, 125, 425
  identification in cytochrome c oxidase
      preparations (bovine cardiac mus-
      cle), 124, 836
  -induced high-affinity guanine nucleo-
      tide-insensitive state for musca-
      rinic agonists (rat cerebral cor-
      tical membranes), 120, 271
  mediation of divicine- and isouramil-
      promoted acetylcholinesterase
      inactivation (human erythrocyte
      ghosts), 122, 297
  protein, and nitrous oxide reductase,
      comparison (Paracoccus denitrifi-
      cans, Pseudomonas denitrificans,
      P. perfectomarinus), 119, 588
  -transferrin complexes at N- and C-
      sites, quantification and visible
      absorption spectra (chicken egg
      white), 119, 298
Corticotropin-releasing factor
  differential regulation of pro-opio-
      melanocortin mRNA levels in ante-
      rior and intermediate pituitary
      lobes (rat), 124, 407
  identification in nerve fibers and
      perikarya, immunofluorescence (rat
      duodenum), 122, 381
  isolation and characterization
    bovine hypothalamus, 122, 899
    caprine hypothalamic median emi-
      nence tissues, 122, 1218
Cortisol, see Hydrocortisone
Cortisone
  effect on glycolipid composition
      during development (postnatal
      murine small intestine), 119, 1168
Coumarin receptors
  microsomal, selective ligand: cent-
      chroman cis isomer (rat), 125, 346
Creatine kinase
  isoenzyme CK-BB, plasma levels after
      chronic lead intoxication (rat),
      125, 192
  myocardial sarcolemmal, and ATP-depen-
      dent Na<sup>+</sup> pump, relationship
      (canine, guinea pig), <u>124</u>, 696
18-Crown-6-ether
  complexes with enkephalinamides in
      CDCl<sub>a</sub>, stimulation of &-opioid
      receptor environment, NMR
      spectroscopy, 121, 456
α-Crystalline
  tertiary structure, nonenzymatic gly-
```

cosylation effect (bovine), 123,

899

```
Cvanamide
  metabolic conversion in vitro and in
      vivo to aldehyde dehydrogenase in-
      hibitor, catalase role (rat),
      122, 358
B-Cyano-D-alanine
  enzyme-activated temperature-dependent
      inhibition of D-amino acid trans-
      aminase (Bacillus sphaericus),
      122, 485
Cvclic AMP (cAMP)
  ATPase modulation (rat kidney), 120,
      619
  -binding sites, surface membrane, mod-
      ulation by quanine nucleotides
      (Dictyostelium discoideum), 124,
  inhibition of glycolytic enzyme gene
      transcription (rat liver), 125,
  intracellular, effect on cardiac cell
      electrical coupling (canine),
      119, 1001
  production
    gastric inhibitory peptide, pancrea-
      tic glucagon, and VIP effects
      (human HGT-1 cells), 120, 641
    parathyroid hormone effect in vitro
      (osteoblastic MC3T3 cells), 123,
      894
  regulation of
    carbamoylphosphate synthetase (ammo-
      nia) mRNA levels, demonstration
      with specific cDNA (rat liver).
      124, 882
    cytoplasmic Ca<sup>2+</sup> in platelets,
      adenylate cyclase stimulator-in-
      hibitor antagonism (human), 120,
  release from C cells
    cholera toxin and forskolin effects
      (rat), 120, 540
    stimulation by growth hormone-re-
      leasing factor (rat), 123, 497
  response to isoproterenol and forsko-
      lin, attenuation by 1,25-dihy-
      droxyvitamin D (human U937
      cells), <u>123</u>, 210
  role in
    mediation of axolemma- and myelin-
      stimulated Schwann cell pro-
      liferation (rat), 122, 373
    renin secretion (rat juxtaglomerula
      cells), <u>124</u>, 359
Cyclic AMP phosphodiesterase, see 3',5'-
      Cyclic-nucleotide phosphodies-
```

terase

intracellular levels, atrial natriure-

tic factor effect (rat aortic

Cyclic GMP (cGMP)

smooth muscle cell culture), <u>125</u>, 562

isolation, characterization, and metabolism (<u>Mycobacterium smeq-</u> matis), <u>121</u>, 634

native and synthetic atrial natriuretic factor effects (rat), 123, 515

synthesis and Ca²⁺ mobilization, carbachol-, histamine-, and prostaglandin E₁-mediated, correlation (neuroblastoma cells), <u>122</u>, 333

3',5'-Cyclic-nucleotide phosphodiesterase

activation by

calmodulin, inhibition by tamoxifen (bovine brain), <u>118</u>, 27

Clostridium perfringens phospholipase C (rat cardiac cytosol),
119, 236

calmodulin-dependent, inhibition by flunarizine (bovine brain), <u>124</u>, 315

calmodulin role (rat caudal epididymal sperm), 118, 636

oncomodulin effect (Morris rat hepatoma), 125, 420

Cyclobenzaprine N-oxide

reduction, cytosolic aldehyde oxidase and microsomal cytochrome P-450 roles (mammalian liver), 121, 749

Cycloheximide

Ca²⁺,Mg²⁺-dependent endonuclease inactivation (rat hepatic nuclei), <u>119</u>, 618

effect on vitamin D metabolism in fetal chick osteoblast-like cells (bovine), <u>125</u>, 265

inhibition of polyriboinosinic:polyribocytidylic acid-induced depression of hepatic mixed function oxidases (mouse), 121, 237

Cycloleucine

effect on S-adenosylmethionine formation, cell growth, leucine incorporation, and polyamine biosynthesis (murine L1210 leukemia cells), 122, 350

Cyclooxygenase

products, role in platelet-activating factor vascular effects (perfused rat liver), 123, 507

vascular, hyperoxia and hypoxia effects <u>in vitro</u>, kinetic analyses (human umbilical cord), <u>125</u>, 170

Cyclooxygenase inhibitors effects on leukotriene C₄- and

fects on leukotriene C₄- and
D₄-mediated C5a_{desArg} anaphylatoxin spasmogenic activity on
lung parenchymal strips, comparison
(guinea pig), <u>125</u>, 852

Cyclophosphamide

metabolism by hepatic microsomal cytochrome P-450 (phenobarbitaltreated rat), 120, 390

L-Cycloserine

effect on sphingolipid and phospholipid synthesis (<u>Bacteroides</u> <u>levii</u> culture), <u>119</u>, 814

Cyclosporin A

inhibition of macrophage activation
 and tumor cell cytolysis (rat),
 123, 710

Cyclosporine, <u>see</u> Cyclosporins Cyclosporins

effect on prolactin serum concentration (rat), <u>120</u>, 614

prolactin receptor regulation (human lymphocytes), 121, 899

Cystatin

characterization (human), <u>118</u>, 103 Cystatin C

cysteine proteinase inhibition (human), 120, 631

Cysteine

and glyoxylate, formation of thiazolidine-2-carboxylate derivatives: substrates for D-aspartate oxidase (bovine kidney), 125, 1039

in peroxidase-catalyzed acetaminophen
 metabolism, thiyl radical formation, 125, 109

reversal of N.N-dimethylformamide- and N-methylformamide-induced glutathione depletion and growth inhibition (human colon carcinoma cells), 122, 798

Cysteine proteinases

role in bone resorption (murine embryonic calvaria), 125, 441

L-Cysteinylglycine

and glyoxylate, formation of thiazolidine-2-carboxylate derivatives:
 substrates for D-aspartate oxidase
 (bovine kidney), 125, 1039

Cytidine diphosphate reductase, <u>see</u>
Ribonucleoside diphosphate reductase

Cytidine-2'-phosphate, <u>see</u> 2'-Cytidylic acid

2'-Cytidylic acid

endoribonuclease VI noncompetitive
 inhibition (Artemia larvae), 121,
 408

Cytochalasin

binding by human erythrocyte membrane spectrin-band 4.1-actin complex and rabbit muscle F-actin, inhibition by p-hydromercuribenzoate, mechanism, <u>122</u>, 244

Cytochalasin B

*H-labeled, -photolabeled and band 4.5 proteins, sensitivity to endo-

glycosidase F and trypsin, comparison (human erythrocyte membranes), 122, 218

Cytochalasin D

and actin-protein 90-kD complex, actin filament shortening, palloidin and tropomyosin effects, comparison (bovine brain), <u>123</u>, 596

Cytochrome aa, complex

redox states in mitochondria in situ, glucagon effects (perfused rat liver), <u>119</u>, 212

Cytochrome b

purification and properties (Rhodopseudomonas sphaeroides R-26), <u>123</u>, 1234

redox states in mitochondria in situ, glucagon effects (perfused rat liver), 119, 212

Cytochrome b₅₅₉

component of NADPH-dependent superoxide radical-generating oxidase, catalytic properties (human neutrophils), 118, 430

Cytochrome <u>b</u>564

coupling between redox and acid-base energy (Saccharomyces cerevisiae mitochondria), 124, 807

Cytochrome <u>bc</u> complex

and mitochondrial cytochrome c oxidase, interactions with oxidized and reduced cytochrome c, 120, 124 Cytochrome c

oxidized and reduced, interactions with mitochondrial cytochrome c oxidase and cytochrome bc, complex (yeast), <u>120</u>, 124

two-dimensional electron transfer to photosynthetic reaction centers (Rhodopseudomonas sphaeroides), <u>125</u>, 592

Cytochrome c₁

isolation and characterization (Rhodopseudomonas sphaeroides R-26), 118, 964

Cytochrome c₃

structural and redox properties, correlation (Desulfovibrio), 120, 384

Cytochrome \underline{cc}_1 complex redox states in mitochondria $\underline{in \ situ}$, glucagon effects (perfused rat liver), <u>119</u>, 212

Cytochrome <u>c</u> oxidase

-dioxygen reaction sites, CO-bound mitochondria, ir spectra (blowfly flight muscle; bovine heart, brain; porcine heart; rat kidney), 123, 247

mitochondrial, and cytochrome bc, complex, interactions with oxidized and reduced cytochrome \underline{c} (bovine heart), <u>120</u>, 124

nuclear-coded subunit mRNA, cDNA clone construction (rat liver), 118, 902

polypeptide I, exon-2 coding region identification (Aspergillus nidulans mitochondria), 119, 786

preparations, identification of Cu, Fe, and Zn (bovine heart muscle), 124, 836

vesicles, proton pumping inhibition by subunit-III mono- and divalent antibody fragments, mechanism (bovine heart), 120, 52

Cytochrome oxidase, see Cytochrome c oxidase

Cytochrome P-448

-mediated 6-hydroxylation of 7-ethoxycoumarin, mechanism (rat), 121, 960

Cytochrome P-450

allylisopropylacetamide-mediated destruction, functional reconstitution in vitro with mesohemin (rat liver), <u>121</u>, 95

-catalyzed biphenyl meta-hydroxylation, intramolecular isotope effects and deuterium retention (rat liver), 118, 867

cyclophosphamide metabolism (phenobarbital-treated rat liver), 120, 390

debrisoquine-sparteine type genetic polymorphism, characterization: Michaelis constant and bufuralol l'-hydroxylation stereoselectivity (human liver), 125, 374

-dependent

7-ethoxycoumarin Q-deethylation, assay (Saccharomyces cerevisiae), <u>123</u>, 186

mixed-function oxidase, arachidonic acid metabolism (canine neutrophils), <u>123</u>, 581

ethanol-inducible form, induction by alcohol dehydrogenase inhibitors (rabbit hepatic microsomes), 124,

expression, natural variation between strains (Drosophila), 123, 907

incorporation into large unilamellar liposomes, octylglucoside role (rabbit liver), <u>121</u>, 118

isozymes

immunopurification and amino-terminal sequence analysis (quinea pig, mouse, rat), 123, 1201; addendum, 124, 675

quantification by enzyme-linked immunosorbent assay (murine hepatic microsomes), <u>122</u>, 137

-mediated 6-hydroxylation of 7-ethoxycoumarin, mechanism (rat), 121, 960

and monooxygenase, induction by 2-acetylaminofluorene (chick embryo), 119, 382

monosubstituted olefin oxidation: aldehyde, epoxide, and allylic alcohol formation (rat hepatic microsomes), 119, 319

phenobarbital-inducible, monoclonal antibody preparation and characterization (rat hepatic microsomes), 119, 744

polyriboinosinic:polyribocytidylic
 acid-induced depression, inhibi tion by actinomycin D or cycloheximide (murine liver), <u>121</u>, 237

production, ethanol effect (<u>Saccharo-myces cerevisiae</u>), <u>123</u>, 186

purification and properties (untreated simian hepatic microsomes), 125, 1089

role in

leukotriene B₄ catabolism (human),
123, 475

tertiary amine N-oxide reduction (mammalian hepatic microsomes), 121, 749

substrate binding site in membrane lipids (rabbit hepatic microsomes), 118, 916

synthesis <u>de novo</u>, induction by 2ally1-2-isopropylacetamide and phenobarbital (cultured chick embryo hepatocytes), <u>125</u>, 1096

valproic acid metabolism (rat hepatic microsomes), 122, 1166

vitamin D₃ 25-hydroxylation-catalyzing, purification, characterization, and amino-terminal sequence analysis (rat hepatic microsomes), <u>121</u>, 994

Cytochrome P-450116

reconstituted, aldosterone biosynthesis (bovine adrenocortical mitochondria), 119, 365

Cytochrome P-450b

coding and 3' noncoding cDNA sequences, and cytochrome <u>P</u>-450elike genes, segmental homologies (rat liver), <u>118</u>, 655

Cytochrome P-450e

coding and 3' noncoding cDNA sequences, and cytochrome P-450e-like genes, segmental homologies (rat liver), 118, 655

Cytochrome P-450 LM2

phosphorylation by cAMP-dependent protein kinase, effect on monooxygenase activity (rabbit hepatic microsomes), <u>122</u>, 620

Cytochrome P-450_{SCC}

cholesterol transfer reaction from liposomes, enthalpy-entropy com-

pensation effects (bovine adrenal cortex), <u>118</u>, 877

mRNA, cDNA cloning (bovine adrenal), 120, 264

phosphorylation in vitro by protein
 kinase C (bovine adrenal cortex),
 125, 554

Cytosine

and guanine, content in <u>cis</u>- and <u>trans</u>-diamminedichloroplatinum (II)-modified DNAs, effect on Sl nuclease sensitivity (calf thymus, <u>Micrococcus lysodeikticus</u>), <u>124</u>, 367

Cytotoxicity

epidermal growth factor hybrid proteins with ricin and ricin Achain, role of binding ligand (A431 cells), <u>124</u>, 551

methyl methane sulfonate, enhancement by β-lapachone (human fibroblasts), 118, 828

natural killer cell, interferon-induced, calmodulin role (murine
splenic lymphocytes), 121, 478

role of Fe depletion (murine L10, L1210 cells), 123, 716

D

Dactinomycin

effect on Ca²⁺,Mg²⁺-dependent endonuclease (rat hepatic nuclei), 119, 618

inhibition of

adenovirus type-5 DNA replication
 initiation and elongation in vitro
 and in vivo (HeLa cells), 121,
 1033

polyriboinosinic:polyribocytidylic acid-induced depression of hepatic mixed function oxidases (mouse), 121, 237

Daunomycin, <u>see</u> Daunorubicin Daunorubicin

inhibition of RNA polymerase-catalyzed RNA synthesis, mechanism, 123, 914

Debrisoquine

-sparteine type genetic polymorphism, cytochrome P-450, characterization: Michaelis constant and bufuralol l'-hydroxylation stereoselectivity (human liver), 125, 374

Debromoaplysiatoxin

Ca-activated phospholipid-dependent
 protein kinase activation (rat
 brain), 120, 339

Decarbamoyl mitomycin C

-induced DNA crosslinks, sensitivity to alkaline conditions (human fibroblasts), <u>123</u>, 549

O-Deethylation

7-ethoxycoumarin, cytochrome <u>P</u>-450dependent, assay (<u>Saccharomyces</u> cerevisiae), 123, 186

Degranulation

neutrophil, enhancement by diacylglycerols (human), <u>123</u>, 64

Dehalogenation

-hydroxylation, 4-chlorobenzoate, origin of incorporated oxygen (<u>Arth-robacter</u> sp.), <u>124</u>, 669

Dehydroepiandrosterone, \underline{see} Prasterone Demecolcine

treatment of myeloma cells prior to fusion with spenocytes, effect on hybridoma formation (mouse), <u>124</u>, 903

Demorphin

tetrapeptide analogs with Tyr¹-D-Arg² sequence, analgesic activity after subcutaneous administration (mouse), 120, 214

Deoxyadenosine

efflux and influx in adenosine deaminase-deficient lymphoma cells, dipyramidole and nitrobenzylthioinosine effects (human), <u>121</u>, 514 Deoxycoformycin

and aphidicolin, <u>in vitro</u> induction of DNA breaks and cell death (human lymphocytes), <u>120</u>, 959

4'-Deoxydoxorubicin

generation of oxygen-containing free radicals <u>in vitro</u>, analysis and relationship to cardiotoxicity, <u>125</u>, 584

Deoxyglucose

uptake in cultured cells, inhibition
by ADP-ribosylation inhibitors
(3T3-L1, OK, UMR-106 cells), 123,
785

2-Deoxy-D-glucose

inhibition of branched-chain amino acid-stimulated protein synthesis (rat muscles), 125, 149

phorbol ester-stimulated uptake by lymphocytes, Ca²⁺ and Na⁺/H⁺ exchange roles (rat thymus), <u>124</u>, 14

3'-Deoxyinosine

cytotoxic effects on and metabolism by <u>Leishmania tropica</u> promastigotes, <u>123</u>, 677

1-Deoxymannojirimycin

effect on α-mannosidases (rat liv-

er), <u>125</u>, 324

Deoxynucleoside triphosphate pools and DNA repair, 3-aminobenzamide effects (human fibroblasts), <u>124</u>, 457

mutagen treatment effects (murine FM3A cells), <u>122</u>, 1160

uv-induced changes, effect on DNA synthesis (Chinese hamster ovary cells), 123, 742

Deoxynucleotides

double-stranded d(ATGCAT)₂, sequential assignment of ¹H and ³¹P resonances by 2D-NMR correlation spectroscopy, <u>124</u>, 774

Deoxyribose

ring in d(ApGpCpT), proton NMR signal assignment by 2D-NMR, <u>121</u>, 1021

Dephosphorylation

ATP-citrate lyase phosphothreonine, insulin and isoproterenol effects (rat epididymal fat pads), <u>122</u>, 1047

-phosphorylation

1-alkyl-2-lyso-sn-glycero-3-phosphocholine:acetyl-CoA acetyltransferase, role in plateletactivating factor synthesis regulation (rat splenic microsomes),
120, 834

deinhibitor protein regulation (canine liver), $\underline{120}$, 405

myosin light chains and satellite proteins, effects on smooth muscle fibers (porcine carotid artery), 120, 933

Desmethylretrohydroxamate ferrichrome biological activity (<u>Arthrobacter flavescens</u>, <u>Bacillus subtilis</u>, <u>Ustaliqo sphaerogena</u>), <u>119</u>, 1191

Desoxycorticosterone acetate

-salt hypertension, increase of circulating digitalis-like substance (rat), <u>122</u>, 129

Detergents

photosynthetic membrane solubilization, reaction center integrity (<u>Rhodopseudomonas viridis</u>), <u>120</u>, 164

Deuterium

retention in cytochrome <u>P</u>-450-catalyzed biphenyl <u>meta</u>-hydroxylation (rat liver), <u>118</u>, 867

Deuterohemin

-reconstituted equine and human hemoglobin, heme orientational heterogeneity, ¹H NMR, 119, 640

Dexamethasone

fatty acyl-CoA desaturase modulation
 (Tetrahymena microsomes), 119, 401
inhibition of

chemotactic factor production by

polymorphonuclear leukocytes (rat), 119, 720

leukotriene B₄-stimulated polymorphonuclear leukocyte chemotactic activity generation in inflammatory sites (rat), 119, 884

prostaglandin synthetase enhancement (rat renal medulla cells), <u>121</u>, 255

-receptor complexes, RNA-containing nuclear binding site localization (HeLa cells), <u>123</u>, 78

with tamoxifen, estrogen-like effects (chick oviduct), <u>124</u>, 57

Dextran

-coated charcoal, effect on glucocorticoid-receptor complex dissociation kinetics, lipid role (rat thymus), 119, 1134

Dextrorphan, <u>see</u> 3-Hydroxy-<u>N</u>-methylmorphinan

Diabetes

adipocyte plasma membrane structural and functional abnormalities, ascochlorin derivative AS-6 effects (db/db mice), 125, 64

alloxan-induced

effect on glucose metabolism pentose phosphate pathway (rat heart), 118, 110

glucose metabolism regulation, fructose 2,6-bisphosphate role (rat adrenal gland), 121, 8

effect on lens protein glycosylation (sensile cataract patients), 123,

insulin-resistant, insulin-releasing tetrapeptides, isolation and characterization (lipodystrophic patient urine), <u>122</u>, 103

streptozotocin-induced, hepatic cholesterol-7a-hydroxylase stimulation <u>in vitro</u> by serum nonlipoprotein factors (rat), <u>121</u>, 743

<u>N,N-Diacetylchitobiose</u>

virtual coupling in proton NMR spectrum, characterization by twodimensional J-resolved spectroscopy, <u>123</u>, 555

Diacylglycerol lipase, <u>see</u> Lipoprotein lipase

Diacylglycerols

effect on erythrocyte plasma membrane Ca²⁺-ATPase (rat), <u>125</u>, 908

induction of phospholipid bilayer membrane structural transitions (bovine brain), <u>124</u>, 491

inhibition of dimethyl sulfoxideinduced differentiation in Friend erythroleukemia cells, 125, 491

long-chain unsaturated, stimulation of
 phospholipase-catalyzed phospho-

lipid bilayer hydrolysis, <u>125</u>, 836 neutrophil degranulation enhancement (human), 123, 64

substrate-dependent effect on protein kinase C (rat brain), 122, 1268

Diadenosine tetraphosphate

AMP deaminase activation (rat muscle), 121, 155

noncovalent complexes with divalent metal ions, biogenic amines, L-arginine, proteins, and poly-(dT), 120, 1037

Diadenosine triphosphate

platelet aggregation mediation by ADP liberation (human), <u>118</u>, 704

Diamide

-induced high-affinity guanine nucleotide-insensitive state for muscarinic agonists (rat cerebral cortical membranes), <u>120</u>, 271

Diaminoalkanes

characterization of angiotensin IIbinding site structure (bovine adrenal cortex), <u>123</u>, 452

Diaminobenzidine

-shift protocol analysis of insulin uptake <u>in vivo</u> by Golgi fractions (rat liver), <u>123</u>, 1144

1,3-Diaminopropane

detection in high concentrations (<u>Acanthamoeba castellanii</u>), <u>122</u>, 388

Diamminedichloroplatinum(II), see Cisplatin

Diarylpropane-1,3-diol

C-C bond, cleavage by tetraphenylprophyrinatoiron(III)chloride with <u>tert</u>-butylhydroperoxide, 122, 1247

Dibromothymoquinone

effect on photosystem-I donor reduction rates (pea seedling chloroplasts), 120, 721

Dibutyltin dichloride

inhibition of

carrageenan-induced edema (rat foot), 125, 59

neutrophil chemotaxis (rabbit), 123, 544

Dibutyryl cyclic AMP

effect on 1,25-dihydroxyvitamin D₃
production and Ca fluxes, comparison with caffeine and theophylline (chick renal tubules), <u>121</u>,
355

Dicarbonyl reductase

NADPH-dependent activity, exhibition by sepiapterin reductase (rat erythrocytes), <u>118</u>, 859

Dictyostelium discoideum

cytoskeleton, chemoattractant-mediated actin accumulation, refractoriness and adaptation, <u>123</u>, 1076 surface membrane cAMP-binding sites, modification by guanine nucleotides, <u>124</u>, 597

Dicyclohexylcarbodiimide

F₁-ATPase structural asymmetry induction (<u>Bscherichia coli</u>), <u>121</u>, 331

inhibition of proton translocation from O₂-pulsed cells (<u>Anacys-tis nidulans</u>), <u>123</u>, 358

-reactive ATP synthase subunit c aspartyl-residue, effect on Fo conformation (Escherichia coli), 120, 527

1.2-Didecanoylglycerol

effect on phospholipases A₂ and C (human platelets), <u>121</u>, 386

Dielectric permittivity

and elastomeric force in elastin crosslinked polypentapeptide coacervate, temperature dependence, correlation, <u>125</u>, 1082

2,4-Dienoyl-CoA reductase

role in linoleate oxidation (rat cardiac mitochondria), 118, 162

Diet

2(3)-<u>tert</u>-butyl-4-hydroxyanisole, glutathione <u>S</u>-transferase isozyme induction (murine intestine), 119, 1015

carbohydrate, effect on glucose-6phosphate dehydrogenase synthesis (rat hepatocytes), 120, 1022

cholesterol, effect on mevalonate metabolism by sterol and nonsterol pathways (male chicks), 122, 945

chronic alcohol, effect on lipid peroxidation, role in hydroxyl radical generation (rat hepatic microsomes), 118, 233

Cu-deficient, Cu and Zn molecular localization (fetal rat liver), 118, 697

fasting, induction of glucose-1,6bisphosphate synthesis impairment
(rat pancreatic islets), 119, 543

high fructose, and insulin, malic enzyme regulation, comparison (diabetic rat), <u>121</u>, 730

starvation, effect on metaboliteinduced phosphofructokinase activation (rat liver), 118, 567

Di(2-ethylhexyl)phthalate, see Bis(2ethylhexyl) phthalate Diethylnitrosamine, see N-Nitrosodi-

Diethylnitrosamine, <u>see N-Nitrosodi-</u> ethylamine

 $\underline{N}, \underline{N}$ -Diethyl-2-[(4-phenylmethyl)-phenoxy]ethane•HCl

synthetic, binding affinity for microsomal antiestrogen binding site and uterine estrogen receptor (rat hepatic microsomes), <u>123</u>, 724
Diethylpyrocarbonate, <u>see</u> Pyrocarbonic
acid diethyl ester

3,3'-Diethylthiocarbocyanine

fluorescent response in liposome membranes, lipid composition effect, 123, 178

DL-α-Difluoromethyllysine

inhibition of Mycoplasma dispar
growth, reversal by cadaverine, 125, 205

Digalactosyl diacylglycerol

unsaturated, bilayers, with 1,6-diphenyl-1,3,5-hexatriene, angleresolved fluorescence depolarization (spinach leaves), 123, 352

Digitalis

-like substance, circulating, increase in DOCA-salt hyperten-sion (rat), 122, 129

Diglyceride kinase

activity in photoreceptor cells
(<u>Drosophila norpA</u> mutants), <u>119</u>,
389

Digoxin

firefly luciferin-enhanced luminescent horseradish peroxidase immunoassay, <u>119</u>, 481

7,8-Dihydrobenzo[a]pyrene

aliphatic carbons, stereoselective hydroxylation by hepatic microsomes (rat), <u>124</u>, 114

9,10-Dihydrobenzo[<u>a</u>]pyrene

aliphatic carbons, stereoselective hydroxylation by hepatic microsomes (rat), 124, 114

Dihydrofolate reductase, <u>see</u> Tetrahydrofolate dehydrogenase

Dihydropyridine receptors

voltage-dependent Ca²⁺ channel, purification with probe (+)[³H]-PN 200-110 (rabbit skeletal muscle transverse tubules), <u>122</u>, 1357

Dihydroteleocidin B

DNA fragmentation inhibition. mechanism (C3H 10T 1/2 fibroblasts), 118, 392

Dihydrotestosterone

conversion to 5α-androstan-3β,17βdiol and 5α-androstan-3α,17βdiol, ethanol effect (rat Leydig
cells), 121, 558

5a-Dihydrotestosterone

effect on progesterone metabolism by ovarian granulosa cells (rat), 119, 694

Dihydroxyacetone-phosphate acyltransferase

deficiency in

brain, liver, and cultured skin fibroblasts (Zellweger syndrome patients), 120, 179

```
Zellweger syndrome (human), <u>123</u>, 1054
```

78.8a-Dihydroxy-9a.10a-epoxy-7.8.9.10tetrahydrobenzo[<u>a</u>]pyrene

enantiomers, adduct formation with DNA, conformation and kinetics (bovine thymus), 122, 33

9-[(1,3-Dihydroxy-2-propoxy)methy1]guanine

and recombinant human interferons, synergistic inhibition of herpes simplex virus type 2, 120, 66

1,25-Dihydroxyvitamin D

attenuation of cAMP response to isoproterenol and forskolin (human U937 cells), 123, 210

1,25-Dihydroxyvitamin D₃

effect on

alkaline phosphatase activity and collagen synthesis (murine MC3T3-El osteoblastic cells), 119, 767

clonal osteosarcoma cells, enhancement by sodium butyrate (rat),
121, 796

plasminogen activator stimulation (rat
 osteoblast-rich calvarial cells,
 osteogenic sarcoma cells), 122,
 230

production: caffeine, theophylline, and dibutyryl cAMP effects, comparison (chick renal tubules), 121, 355

selective inhibition of medullary thymocyte mitogenic stimulation (mouse), 123, 163

1,25-Dihydroxyvitamin D_a receptors
isolation and characterization (human mononuclear blood cells),
120, 199

localization in mitotically active lymphocytes (rat thymus), 121, 277

la,25-Dihydroxyvitamin D₃, <u>see</u> Calcitriol

Diisopropylfluorophosphate, <u>see</u> Isoflurophate

4,4'-Diisothiocyano-2,2'-disulfonic acid

effect on degranulation and superoxide anion production by neutrophils (human), 120, 964

Diltiazem

-like effect of thioridazine on [3H]nitrendipine binding to Ca channel site in myocardial membranes (rat), 121, 657

d-cis-Diltiazem

effect on [3H]dihydropyridine
 binding to skeletal muscle trans-

verse-tubular membranes (rabbit), 123, 41

Dimethylaniline monooxygenase (N-oxide-forming)

hepatic and pulmonary, immunocytochemistry and substrate activity, comparison (rabbit), <u>125</u>, 116

7,12-Dimethylbenz[a]anthracene, see
9,10-Dimethyl-1,2-benzanthracene
7,12-Dimethylbenz[a]anthracene 5,6-epox-

7,12-Dimethylbenz[a]anthracene 5,6-epox-ide

enantiomers: resolution, absolute configuration, and enzymatic hydration mechanism (rat hepatic microsomes), 125, 539

9,10-Dimethyl-1,2-benzanthracene
-induced mammary tumor, tyrosine protein kinase inhibition by quercetin (rat), 123, 1227

-transformed cells, L-glutamine-controlled nucleic acid and polyphosphate metabolism, protease role (human, mouse), 124, 6

N,N-Dimethylformamide

-induced glutathione depletion and growth inhibition, reversal by L-cysteine (human colon carcinoma cells), 122, 798

2,3-Dimethylmaleic anhydride

-induced two-step dissociation of 6S
 procarboxypeptidase A (bovine
 pancreas), 121, 162

Dimethylnitrosamine demethylase expression, natural variation between strains (<u>Drosophila</u>), <u>123</u>, 907

Dimethyl sulfoxide

-induced differentiation inhibition by

diacylglycerols and phospholipase C (Friend erythroleukemia cells), 125, 491

la,25-dihydroxyvitamin D_s
(Friend erythroleukemia cells),
119, 807

phospholipase activity (human histiocyte cell line U937), 118, 217 Diolein

protein kinase-C stereospecific activation, 122, 818

Dioxygen

-cytochrome c oxidase reaction sites, CO-bound mitochondria, ir spectra (blowfly flight muscle; bovine heart, brain; porcine heart; rat kidney), 123, 247

Dipalmitoyl phosphatidylcholine vesicles, amphotericin B incorporation, antibiotic selectivity enhancement: circular dichroism and permeability analysis, <u>125</u>, 360

Dipeptidyl carboxypeptidase inhibition by

```
azapeptides, 122, 791
    ketomethyldipeptides
      analysis, <u>124</u>, 141
      effect of a-aminoketone moiety
        chemical modifications, 124, 148
  metabolism and subcellular localiza-
      tion in cultured monocytes (hu-
      man), 124, 843
  and renin, identification in Leydia
      cells (rat testes), 122, 1337
Dipeptidyl carboxypeptidase inhibitors
  conformationally constrained, design,
      125, 82
Diphenyl
  meta-hydroxylation, cytochrome P-450-
      catalyzed, intramolecular isotope
      effects and deuterium retention
      (rat liver), 118, 867
1,6-Diphenyl-1,3,5-hexatriene
  in unsaturated digalactosyl diacyl-
      glycerol bilayers, angle-resolved
      fluorescence depolarization
      (spinach leaves), 123, 352
1,1-Diphenylhydrazine
  N-nitrosodiphenylamine formation by
      hepatic microsomes (rat), 118, 958
Diphenylmethane
  derivative: probe for definition of
      antiestrogen-binding site biolog-
      ical role (human MCF-7 breast
      cancer cells), <u>124</u>, 244
Diphtheria toxin
  A chain, covalently linked to mono-
      clonal antibody f(ab)' fragment,
      immunotoxin for Acanthamoeba cas-
      <u>tellanii, 125, 25</u>
  conformation, salt effect, fluores-
      cence characterization, 120, 286
```

3,3'-Dipropylthiocarbocyanine fluorescent response in liposome mem-

branes, lipid composition effect, 123, 178

Dipyramidole

effect on adenine nucleoside efflux and influx in adenosine deaminase-deficient lymphoma cells (human), <u>121</u>, 514

Diradylglycerols

protein kinase-C activation, structural and chemical specificity (murine brain), <u>125</u>, 163

proteolytic activity, lymphoma cell electrofusion facilitation (mouse), <u>120</u>, 138

Disulfide bonds

intramolecular, atrial natriuretic factor-related peptides, role in aldosterone secretion inhibition (rat adrenal glomerulosa cells), 122, 171

requirement for atrial natriuretic

factor activity (rat heart), 119,

Dithiobis(succinimidyl propionate) crosslinking with RNA polymerase II, quaternary structure analysis (wheat germ), 121, 680

Divicine

acetylcholinesterase inactivation, mediation by Cu ions (human erythrocyte ghosts), 122, 297 glutathione, NADH, and NADPH in vitro oxidation, 120, 747

DNA

adduct formation with anti-benzo[a]pyrene diol epoxide enantiomers, conformation and kinetics (bovine thymus), 122, 33

adenovirus type-5, replication initiation and elongation, inhibition in vitro and in vivo by actinomycin D (HeLa cells), 121, 1033

affinity for isopeptidase (Chinese hamster DON cells), 122, 1296

alkaline transfer from agarose gel to plastic membrane (rat), 122, 340

binding to thyroxine and triiodothyronine receptors, comparison (rat liver), <u>124</u>, 29

-binding proteins

HU-type, isolation, characterization, and comparison (Agrobacterium tumefaciens, Rhizobium japonicum, R. meliloti), 121, 471

isolation, characterization, and comparison with proteins Hl and Bl (Escherichia coli), 119, 1147

-binding sites, location on RNA polymerase II (wheat germ), 125, 569

biotin-labeled, binding site identification on surface membranes (human neutrophils), 122, 1034

catenation, topoisomerase II-catalyzed, inhibition by VM-26 and VP-16-213 (rat hepatoma cells), 122, 165

cellular, effects of ethidium bromide and bleomycin synergistic interactions (murine L1210 leukemia cells), 120, 156

chlorpromazine effects (murine PY815 mastocytoma cells), 125, 184

complementary (cDNA)

apolipoprotein A-II, clone nucleotide sequence (human), 123, 1 apolipoprotein A-II precursor, iso-

lation and characterization (human), 120, 734

carbamoylphosphate synthetase (ammonia), demonstration of mRNA regulation by glucocorticosteroids and cAMP (rat liver), 124, 882 cardionatrin, clone isolation and

- nucleotide sequence (rat), 122,
- cytochrome <u>c</u> oxidase nuclear-coded subunit mRNA, clone construction (rat liver), <u>118</u>, 902
- cytochrome P-450e and P-450b coding and 3' noncoding sequences and cytochrome P-450e-like genes, segmental homologies (rat liver), 118, 655
- cytochrome P-450_{SCC} mRNA, molecular cloning (bovine adrenal), 120, 264
- elastin, with translated sequences, clone construction and characterization (ovine), 118, 261
- epidermal growth factor receptor, preparation from A431 carcinoma cells (human), 124, 125
- β -glucocerebrosidase, clone isolation from bacteriophage λ_{gtll} expression system (human), 123, 574; erratum, 125, 843
- glycine methyltransferase, molecular cloning and mRNA quantitation in various tissues (rat), 124, 44
- hepatic catalase, molecular cloning and nucleotide sequence (rat), 122, 831
- lysosomal α-D-glucosidase mRNA, molecular cloning (monkey testes), 119, 252
- maternal RNA, evolutionary conservation (sea urchins), 123, 278
- myosin heavy chain, poly(A)+ RNA transient species detection during terminal differentiation (chick breast muscle), 120, 741 prealbumin
 - cloning and sequence analysis (human liver), 124, 558
 - use in diagnosis of familial amyloidotic polyneuropathy (human), 125, 636
- probe, identification of renin mRNA
 (murine testes), 125, 662
- for protein expressed in embryo and chemically-induced pancreatic B-cell tumor, molecular cloning and characterization (rat), 124, 164
- steroid 21-hydroxylase, use in porcine enzyme peptide sequence alignment (bovine), <u>125</u>, 734
- transducin γ-subunit, isolation
 and partial nucleotide sequence
 (bovine), <u>124</u>, 250
- transferrin, molecular cloning and sequence analysis (human), 119, 273
- crosslinked by mitomycin C, nitrogen
 mustard, and decarbamoyl mitomy-

- cin C, sensitivity to alkaline conditions (human fibroblasts), 123, 549
- damage, radiation-induced, microelectrophoretic analysis (Chinese hamster fibroblasts, murine lymphoma cells), 123, 291
- denaturation temperature, effects of high-mobility-group proteins 1 and 2 (bovine thymic nuclei), 120, 782
- cis- and trans-diamminedichloroplatinum (II)-modified, S1 nuclease sensitivity: effects of nucleotide sequence and cytosine and guanine content (calf thymus, Micrococcus lysodeikticus), 124, 367
- double-stranded (dsDNA)
 - release from acetic anhydride-modified nucleosomes (chicken erythrocytes), 121, 907
 - trp operator-Trp holorepressor interactions, protein distribution analysis (Escherichia coli), 119, 926
- duplex, self-complementary, [d-GGAATTCC]₂, nonexchangeable

 ¹H NMR, resonances, assignment by 2D nuclear Overhauser effect spectra, 119, 663
- elongation, aminoglycoside antibiotic effect (<u>Escherichia coli</u>), <u>122</u>,
- fragmentation, inhibition by epidermal growth factor and tumor promoters, mechanisms (C3H 10T 1/2 fibroblasts), 118, 392

genomic

- atrial natriuretic factor, cloning (human), <u>125</u>, 797
- replication, periodic loss of metabolically unstable DNA (CHO cells), 119, 920
- segments containing Hl histone genes, variations in organization (human), <u>124</u>, 988
- S₁-nuclease mapping, Lepore fusion gene 8-type large intervening sequence determination (Lepore-Boston patients), <u>120</u>, 116
- -histone complexes, fluorescence spectra (bovine thymus), 122, 656
- hydropathic amino acid anti-complementarity, codon role, 121, 203
- labeled with [3H]thymidine, excretion by tonsillar lymphocytes <u>in vitro</u>, concomitant lymphocytic reversion to resting state (human), <u>125</u>, 1110
- -mediated gene transfer, efficiency

in cell cycle S-phase (mouse), 118, 310

metabolically unstable, periodic loss during chromosomal DNA replication (CHO cells), 119, 920

mitochondrial, co-linear organization (mouse, <u>Pleurodeles waltlii</u>, Xenopus <u>laevis</u>), 122, 918

nascent, in simian virus-40 chromatin,
 protein crosslinking, induction
 by diisopropylfluorophosphate
 (CV-1 cells), <u>1</u>23, 271

negatively supercoiled

isolation from tomato golden mosaic virus-infected plants (<u>Nicotiana benthamiana</u>), <u>118</u>, 747

SI nuclease sensitivity, enhancement by netropsin (simian virus 40), 124, 388

oriC sequences, -binding proteins, detection (Escherichia coli), 125, 600

repair, and deoxynucleoside triphosphate pools, 3-aminobenzamide effects (human fibroblasts), <u>124</u>, 457

repetitive fragments

distribution in genome (human placenta), <u>124</u>, 400

and transcribable sequences, <u>in vi-tro</u> transcribed 6-S RNA, pseudo-uridylic modification (salmon), 124, 514

ribonucleotide channeling, analysis in leukemic L1210 cells, 123, 656

sequence autonomous replication in

Saccharomyces cerevisiae (Phanerochaete chrysosporium), 118, 821

short fragments, secretion by phytohemagglutinin-stimulated lymphocytes, 5'-end analysis (human peripheral blood), <u>118</u>, 140

single-stranded, release from acetic anhydride-modified nucleosomes (chicken erythrocytes), 121, 907 strand breaks

esterification to 5'-thymidine aldehyde, hydrogen abstraction by neocarzinostatin, <u>122</u>, 642

induction <u>in vitro</u> by aphidicolin and deoxycoformycin (human lymphocytes), <u>120</u>, 959

naturally occurring, repair, ADP
ribosylation role (murine lymphocytes), 122, 366

unintegrated proviral, Kirsten murine leukemia virus, characterization and cloning (murine NIH/3T3 fibroblasts), 119, 150

DNA glycosylase

O²-methylthymidine repair (Escherichia coli), 120, 1 DNA ligase, <u>see</u> Polydeoxyribonucleotide synthetase (ATP)

DNA nucleotidylexotransferase

inhibition by quinolone antibiotics (chicken thymus), <u>121</u>, 762

DNA nucleotidyltransferase, $\underline{\mathsf{see}}$ DNA polymerase

DNA polymerase

-associated 3' to 5' exonuclease activity (phage \$\phi29), \$\frac{123}{2}\$, \$1019

identification and solubilization from nuclear matrices (normal, regener-ating rat liver), 124, 917

RNA-dependent, lymphadenopathy associated virus-associated, characterization, 121, 126

synthesis by poly(A)[†] RNA translation <u>in vitro</u> (bovine thymus), 122, 420

Zn content and effects (bacterlophage T7), 122, 1410

DNA polymerase a

activity in isolated nuclear matrix (Ehrlich ascites cells), 118, 609

inhibition by quinolone antibiotics (chicken thymus), 121, 762

stimulation by dexamethasone combined with tamoxifen (chick oviduct), 124, 57

DNA polymerase B

activity in isolated nuclear matrix (Ehrlich ascites cells), <u>118</u>, 609 inhibition by quinolone antibiotics

(chicken thymus), <u>121</u>, 762

DNA polymerase inhibitor

Moloney leukemia virus, mechanism (78A-1, HeLa cells), <u>123</u>, 299

DNA synthesis

actin antibody-stimulated, effects of prostaglandins E_1 and $F_{2\alpha}$ (murine L cells), $\underline{124}$, 23

effect of uv-induced changes in deoxynucleoside triphosphate pool (Chinese hamster ovary cells), 123, 742

endoplasmic reticulum nuclease effect <u>in vitro</u> (rat liver), <u>121</u>, 62

L-glutamine-controlled, in cells transformed by 9,10-dimethyl-1,2-benzanthracene, simian virus 40, or H-<u>ras</u> oncogene, protease role (human, mouse), <u>124</u>, 6

granulosa cell, comparative effects of insulin and insulin-like growth factors I and II (porcine ovary), 124, 484

initiation, inhibition by aminoglycoside antibiotic (Escherichia coli), 122, 460 stimulation by NaCl (rat gastric mucosa), <u>121</u>, 1027

unscheduled, uv-induced, age-related changes (rat hepatocytes), <u>118</u>, 730

DNA topoisomerase

identification and solubilization from nuclear matrices (normal, regenerating rat liver), 124, 917

mitochondrial, isolation and characterization (human leukemic cells), 121.77

DNA transalkylase

O4-methylthymidine repair <u>Esch</u>erichia coli), 120, 1

Docosahexaenoic acid

metabolism <u>in vitro</u> to lipoxygenase reaction products (canine retina), <u>125</u>, 741

uptake, release, and metabolism by platelets and neutrophils (human), 120, 907

Dodecenoyl-CoA A-isomerase

role in linoleate oxidation (rat cardiac mitochondria), 118, 162

Dopamine

uptake, inhibition by N-methyl-4phenyl-1,2,3,6-tetrahydropyridine (rat PC12 cells), 119, 1186

Dopamine receptors

pituitary and estradiol-induced pituitary tumor, bromocriptine chronic treatment effects (rat), <u>123</u>, 312

Down's syndrome

and Alzheimer's disease: cerebrovascular amyloid fibril protein, chemical relationship (human), 122, 1131

Doxorubicin

and epirubicin and mitoxantrone, effects on ATP intracellular concentration and oxygen uptake, comparison (rat heart), 125, 954

generation of oxygen-containing free radicals <u>in vitro</u>, analysis and relationship to cardiotoxicity, 125, 584

Dynorphin[1-8]

distribution, comparison with adrenorphin (rat brain), <u>120</u>, 1030

Dynorphin A

with single arginine residue, substrate in peptidase assay (Aplysia californica atrial gland), 119, 415; erratum, 124, 994

E

Edema

carrageenan-induced, inhibition by

organotin compounds (rat foot), 125, 59

Eicosatetraynoic acid

effect on thromboplastin activity (human monocytes), <u>119</u>, 179

eIF-2, <u>see</u> Initiation factor-2 Elastase

inhibition by peptidyl carbamate esters (porcine pancreas), <u>122</u>,

Elastin

cDNA clone with translated sequences, characterization (ovine), 118, 261

crosslinked polypentapeptide coacervate: temperature dependence of dielectric permittivity and elastomeric force, correlation, 125, 1082

Elastomeric force

and dielectric permittivity in elastin crosslinked polypentapeptide coacervate, temperature dependence, correlation, <u>125</u>, 1082

Electrolectins

distribution, genetic and ontogenic
 variations (female mouse), 119,
801

Electrolysis

-mediated irreversible inactivation of lipoxygenase directed toward electroaffinity labelling (soybean), 123, 156

Electron transfer

reverse, ATP-driven, from succinate to acetoacetate, thermodynamics (rat hepatic mitochondria), <u>125</u>, 8

system in plasma membranes, reduction of various oxidants, effect on cell growth (HeLa cells), 125, 649

two-dimensional, from cytochrome c to photosynthetic reaction centers (Rhodopseudomonas sphaeroides), 125, 592

Ellagic acid

inhibition of

glutathione <u>S</u>-transferase <u>in vitro</u> (rat liver), 120, 427

3-methylcholanthrene-induced skin carcinogenesis (BALB/C mouse), 119, 751

Embrinogen

purification and properties (murine embryonal carcinoma F9 cells), 119, 758

Endocytosis

tuftsin by macrophage cells, receptor-mediated (mouse), <u>119</u>, 203

Endoglycosidase F

and trypsin, effect on band 4.5 and [3H]cytochalasin B-photo-labeled proteins, comparison

(human erythrocyte membranes), 122, 218

Endonucleases

Ca²⁺,Mg²⁺-dependent, cycloheximide, puromycin, and actinomycin-D ef- fects (rat hepatic nuclei), <u>119</u>, 618

Endopeptidase

selective, detection and characterization with fluorogenic peptidyl substrates (<u>Plasmodium berghei</u>), 124, 703

substance P-hydrolyzing, purification and characterization (human cerebrospinal fluid), 125, 244

Endopeptidase I

heat and sodium dodecyl sulfate effects (<u>Bacillus sphaericus</u> NCTC 9602), 120, 448

Endoribonuclease VI

noncompetitive inhibition by cytidine-2'-phosphate (<u>Artemia</u> larvae), <u>121</u>, 408

B-Endorphin

COOH-terminal segment, receptor specificity (human neuroblastoma cells), 120, 873

³H-labeled, opioid and nonopioid receptor identification in NG108-15 cells (human), <u>122</u>, 428

8-Endorphin receptors

specificity for B-endorphin COOHterminal segment (human neuroblastoma cells), <u>120</u>, 873

Endothelial cells

anionic growth factors, purification
and characterization (human
brain), 124, 262

aortic, cultured, glycoprotein secretion and interaction with blood platelets (bovine), 123, 114

capillary and large vessel,identification of IGF-I, IGF-II, and insulin receptors (bovine), 124, 203

cultured, binding to apolipoprotein E-free high-density lipoprotein, characterization (human), 122, 785

vascular, role in prostaglandin E₂
and I₂ production in isolated
renal arteries (canine), <u>118</u>, 873

Enkephalinamides

D-alanine-leucine, leucine, and methionine: complexes with 18-crown-6-ether in CDCl₃, &-opioid receptor environment simulation, NMR spectroscopy, <u>121</u>, 456

Enkephalins

[D-Ala²-D-Leu⁵]- and [D-Ala²-MePhe⁴-Gly-ol⁵]-, binding to opioid receptors, demonstration by computer modeling and quantita-

tive analysis (rat brain), 122, 265

-containing proteins, high-molecularweight, recognition by synthetic proenkephalin peptide (bovine adrenal medulla), 120, 650

leucine-, see Leucine-enkephalin
opiate receptor recognition, effect
 of aromatic group stereo-orienta tion (rat cerebral membranes),
 121, 966

 $\frac{\text{cis}-\Delta^3-\text{trans}-\Delta^2-\text{Enoyl-CoA isomerase, }\underline{\text{see}}}{\text{merase, }\underline{\text{see}}} \text{ Dodecenoyl-CoA}$ $\Delta\text{-isomerase}$

Enterotoxins

heat-stable, amino acid sequence (Yersinia enterocolitica), 125, 845

purification procedure and characterization (<u>Clostridium difficile</u>), 124, 690

Epidermal growth factor binding

to hepatic microsomes and Golgi fractions (human), <u>119</u>, 1181

nonresponsive in 3T3 variants, cocultivation effect on complementation (mouse), 118, 60

DNA fragmentation inhibition, mechanism (C3H 10T 1/2 fibroblasts), 118, 392

forms I and II, chemical characterization (murine saliva), 125, 218

hybrid proteins with ricin and ricin A-chain, role of binding ligand in toxicity, internalization, and protein synthesis inhibition (A431 cells), 124, 551

125I-labeled, binding, internalization, and mitogenic response: monensin effects (human fibroblasts), 124, 585

plasminogen activator stimulation
 (rat osteoblast-rich calvarial
 cells, osteogenic sarcoma cells).
122, 230

Epidermal growth factor receptors affinity, reduction by heterologous ligands: role of phosphoinositide breakdown and protein kinase C activation (Swiss 3T3 cells), 123, 377

cDNA, preparation from A431 carcinoma cells (human), 124, 125

immunoprecipitation by site-specific antibodies to erbB oncogene product (chicken embryo fibroblasts), 123, 797

inactivation by xenotropic pseudotype
Kirsten murine sarcoma virus-induced neoplasm (rat kidney), 120,
879

nonfunctional, in Kirsten sarcoma virus-transformed cells (rat kidney), 118, 538

pulmonary, glucocorticoid effects (fetal rabbit), 119, 408

structural domains, phorbol esterinduced threonine phosphorylation, mapping (human), 123, 618

Epidermis, <u>see</u> Skin

Epinephrine

effect on atrial natriuretic factor
 release <u>in vitro</u> (rat heart),
 124, 443

-stimulated glycogenolysis and ureagenesis, insulin effect (euthyroid, hypothyroid rat hepatocytes), 118, 451

vascular effects, role of lipoxygenase products (perfused rat liver), 123, 507

Epirubicin

and doxorubicin and mitoxantrone, effects on ATP intracellular concentration and oxygen uptake, comparison (rat heart), 125, 954

Epithelial cells

cocultured with hepatocytes, longterm acute-phase protein production (adult rat liver), 120, 311

elongated, mammary cuboidal cell-derived, protein synthesis, comparison with mesenchymal cells (rat), 120, 351

Epitopes

conserved and essential, recognition tools: monoclonal antibodies to F₁-ATPase and oligomycin sensitivity-conferring protein (porcine cerebral mitochondria), 123, 254

Epoxide hydrolase

cytosolic and mitochondrial, immunological characteristics, comparison (murine liver), <u>122</u>, 1434

microsomal, metabolism of 7,12-dimethylbenz[a]anthracene 5,6-epoxide enantiomers, mechanism (rat liver), 125, 539

Epoxides

formation during monosubstituted olefin oxidation by rat hepatic microsomal cytochrome P-450 and heme models, 119, 319

L-<u>trans</u>-Epoxysuccinyl-leucylamido (4guanidino) butane

thiol protease inhibitor, effect on antibody formation (mouse), <u>118</u>, 117; <u>erratum</u>, <u>119</u>, 431

Erythrocytes

A₁ and A₂, chemical basis for distinction: subgroup A₁specific glycolipid with globo-series structure (human), 124, 523

AMP deaminase complete deficiency, genetic and biochemical analysis (human), 122, 1344

band-3 proteolysis, enhancement by anti-Rh_O(D) binding to membrane (human), <u>124</u>, 437

with Cad specificity, N-acetylgalactosamine residues, interaction with B₄ lectin (<u>Vicia villosa</u> seeds), <u>123</u>, 1099

cation transport and Na⁺,K⁺,Mg⁺ATPase activity (<u>Ornithorhynchus</u>
<u>anatinus</u>, <u>Tachyglossus aculeatus</u>),
119, 1161

hydroxyurea-induced damage, modification by radical scavengers (human), <u>120</u>, 566

insulin receptors, absence of covalent binding by [125]insulin (human, rat), 123, 849

membranes

band 4.1

phosphorylation, phorbol esterstimulated (rabbit), 120, 291 -spectrin-actin complex, cytochalasin binding, inhibition by p-hydroxymercuribenzoate, mechanism (human), 122, 244

ceruloplasmin receptor identificafication (human), <u>125</u>, 157

phosphoenolpyruvate transport, inhibition by 2,3-bisphosphoglycerate, 2-phosphoglycerate, and 3-phosphoglycerate (human), 122, 609

surface property differences, detection by cell partitioning (human), 120, 250

response to cytoskeletal stress, membrane protein carboxyl methylation role (human), 123, 133

Escherichia coli

arsenite resistance, production by plasmid-encoded arsenite pump, 124, 760

growth inhibition in vitro by sparsomycin, role of inhibitor sulfoxide configuration, 125, 784

membrane potential, effect of macromolecular polylysine, 122, 401

recombinant bacteriophage-infected
rat apolipoprotein-E synthesis, 119,
657

rat transferrin synthesis, <u>122</u>, 960 in steady state: mean cell diameter,

specific gravity, B-galactosidase levels, comparison, 124, 625

Esculetin

effect on Ca-activated phospholipiddependent protein kinase (murine epidermal cytosol), 124, 63

Estradiol-17B

- -binding plasma proteins, immunohistochemical detection (human mammary carcinoma cells), 118, 488
- dissociated regulation of uterine growth and ornithine decarboxylase (rat), <u>122</u>, 1186
- effect on cellular proliferation, mechanism: indirect and negative control on cloned breast tumor cells (nude mouse), 122, 1097
- feedback states, luteinizing hormone B-subunit mRNA regulation (ovine pituitary gland), 122, 1307
- -induced pituitary tumor, dopamine receptors, bromocriptine chronic treatment effects (rat), 123, 312
- -specific internalization and binding to nuclear matrix (isolated rat uterine cells), <u>123</u>, 84
- Estradiol 178-dehydrogenase, see Oestradiol 176-dehydrogenase

Estrogen

- -binding proteins, cryptic, effect on estrogen receptor distribution analysis (rat uterus), 125, 577
- depletion, effect on casein gene expression (adrenalectomized, ovariectomized rats), 125, 682
- induction of secretory proteins in vitro and in vivo, analysis (murine Leydig cell tumors), 124, 277
- -like effects of dexamethasone combined with tamoxifen (chick oviduct), 124, 57
- (photo-)allergic side-effects, role of estrone photosensitized irreversible binding to albumin via hydroperoxide intermediate, analysis (human), <u>125</u>, 675

Estrogen receptors

- binding affinity of synthetic diphenylmethane derivative (rat uterus), 123, 724
- distribution analysis, cryptic estrogen-binding protein effect (rat uterus), <u>125</u>, 577
- levels in breast cancer cells, sodium butyrate effect (human) 119, 132

Estrone

photosensitized irreversible binding to albumin via hydroperoxide intermediate, role in estrogen (photo-)allergic side-effects, analysis (human), 125, 675

Estrous cycle

prolactin receptor changes (rat mammary gland), <u>123</u>, 612

Ethanol

cytochrome P-450 production (Saccharomyces cerevisiae), 123, 186

dihydrotestosterone conversion to 5α-androstan-3α,17β-diol and 5α-androstan-3β,17β-diol (rat Leydig cells), <u>121</u>, 558

Fe uptake from transferrin by isolated hepatocytes (rat), 125, 824 phospholipid fatty acid composition (murine embryonic neuron cul-

plasma membrane glycoprotein assembly (rat liver), <u>123</u>, 951

metabolism by placental alcohol dehydrogenase (human), <u>119</u>, 1047

tures), 122, 516

Ethanolamine

and insulin, effect on glucose oxidation and lipogenesis in vitro, comparison (rat adipocytes), 121, 413

Ether

-linked glyceryl-phosphorylcholine, I-O-alkyl-2-acetyl-sn-qlyceryl-3phosphorylcholine formation and arachidonic acid freeing (rabbit platelets), <u>124</u>, 637

Ethidium, see Homidium

Ethidium bromide

- and bleomycin, synergistic interactions on cellular DNA and growth inhibition (murine L1210 leukemia cells), <u>120</u>, 156
- N-(Ethoxycarbonyl)-2-ethoxy-1,2-dihydroxyquinoline
 - bacteriorhodopsin carboxyl group modification, crosslinking analysis (Halobacterium halobium), 124, 565

7-Ethoxycoumarin

- O-deethylation, cytochrome P-450-dependent, assay (Saccharomyces <u>cerevisiae</u>), <u>123</u>, 186
- 6-hydroxylation, mediation by cytochromes P-448 and P-450, mechanism (rat), <u>121</u>, 960
- O-Ethyl-S-(2-diisopropylaminoethyl)methylphosphonothionate
 - analysis of acetylcholinesterase turnover in vivo (rat brain), 123, 71
- 1-Ethyl-3(3-dimethylaminopropyl)carbodiimide
 - bacteriorhodopsin carboxyl group modification, crosslinking analysis (<u>Halobacterium halobium</u>), <u>124</u>, 565

Ethylene glycol bis(8-aminoethyl

ether) NNN',N'-tetracetic acid inhibition of carbamylcholine-stimulated amylase release (rat pancreatic acini), <u>119</u>, 876
Ethylene glycol tetracetic acid
with ionophore A23187, effect on volume and thiol-stimulated Cl-dependent K⁺ transport (ovine
erythrocytes), <u>125</u>, 790

N-Ethylmaleimide

-stimulated Cl-dependent K⁺ transport, effects of ionophore A23187 with Ca²⁺ or ethylene glycol tetracetic acid (ovine erythrocytes), <u>125</u>, 790

Ethylmorphine N-demethylase polyriboinosinic:polyribocytidylic acid-induced depression, inhibition by actinomycin D or cycloheximide (murine liver), 121, 237

Etoposide
inhibition of topoisomerase II-catalyzed DNA catenation (rat hepa-

toma cells), <u>122</u>, 165 Etretinate

effect on D-[3H]galactose incorporation into epidermal glycoproteins (porcine), 121, 364

Exo-1,4- α -D-glucosidase immobilization supports, keratin and

polyamide-coated inorganic matrices (<u>Aspergillus niger</u> C), <u>121</u>, 220

Exonuclease

3'-5' activity, association with DNA polymerase (phage φ29), <u>123</u>, 1019

F

Factor VIII

activated, inactivation by activated protein C, inhibition by activated factor IX (human), 125, 177

-von Willebrand factor, plasma and platelet, lectin activity (human), ll8, 495

Factor IX

activated, inhibition of activated factor VIII and inactivation by activated protein C (human), 125, 177

Factor X

inactivation by chemical modification
 of γ-carboxyglutamic acid resi dues (human), 124, 256

Factor XIIIa

crosslinking of rabbit uteroglobin
 into higher-molecular-weight pro teins (human placenta), 121, 400

FAD (flavin adenine dinucleotide)
requirement for coenzyme F₄₂₀ reduction by hydrogenase (<u>Methanobac</u>-

terium formicicum), 120, 775

Familial amyloidotic polyneuropathy amyloid fibril protein amino acid sequence, revision (human), 123, 921 diagnosis by recombinant DNA techniques (human), 125, 636 of Japanese origin, prealbumin-related low-molecular-weight amyloid fibril protein isolation and sequence.

quence analysis (human), $\underline{125}$, 622 Fasting, \underline{see} Diet

Fatty acids

composition in

microsomal lipids after long- and short-term cholesterol feeding, age effect (chick liver), 124, 677 phospholipids, ethanol effect (murine embryonic neuron culture), 122, 516

covalently bound to gastric mucus glycoprotein, effect on

H⁺ diffusion (canine), <u>118</u>, 523 viscosity (canine), <u>121</u>, 521

interaction with anilinonaphthyllabeled spectrin, fluorescence analysis, 120, 344

long-chain, oxidation inhibition by
methylglyoxal bis(guanylhydrazone)
(rat cardiac muscle), 120, 9

unsaturated, effect on protoporphyrinogen oxidation during chlorophyll and heme synthesis (barley, spinach etioplasts, mitochondria), 123, 1157

Fatty acyl-CoA desaturase, <u>see</u> Acyl-CoA desaturase

Fatty acyl-CoA oxidase

activity and H₂O₂ production (<u>Phanerochaete chrysosporium</u> mycelia), <u>118</u>, 437

Fc receptors

and pharmacologic agents, protein
 phosphorylation mediation, comparison (murine peritoneal macrophages), 124, 197

Ferredoxin

Cu-facilitated chemiluminescence (spinach), 125, 425

[2Fe-2S] clusters, and <u>Clostridium</u>
<u>pasteurianum</u> red paramagnetic protein clusters, structural comparison, resonance Raman spectroscopy
(spinach), 119, 828

role in methanol:5-hydroxybenzimidaz olylcobamide methyltransferase reductive activation (Methanosarcina
 barkeri), 118, 760

Ferrichrome

synthetic analog, biological activities (<u>Arthrobacter flavescens</u>, <u>Bacillus subtilis</u>, <u>Ustaligo sphaeroqena</u>), <u>119</u>, 1191 Ferric ion

reduction, catalysis by NADH:nitrate
 reductase (squash cotyledons),
 125, 52

Ferrioxamine B

reduction, catalysis by NADH:nitrate
 reductase (squash cotyledons),
 125, 52

Ferrocyanide

reduction of lactoperoxidase-H₂O₂
compounds, oxidizing equivalent
identification on apoprotein site,
121, 463

Ferrulic acid

glutathione S-transferase inhibition
 in vitro (rat liver), 120, 427

a-Fetoprotein receptors

surface, identification in breast cancer MCF-7 cells (human), 122, 1322

a-Fetoproteins

-arachidonic acid binding, retinoid and bilirubin interactions (human), 119, 1122

gene expression, tissue-specific regulation (rat kidney, liver), <u>120</u>, 677

Fibrinogen

-binding region in thrombospondin, isolation (platelets), 119, 1075 genes, analysis (congenital afibrinogenemia patients), 120, 376

Fibroblast growth factors

brain and pituitary, activities on high-performance liquid chromatog- raphy systems, comparison (bo-vine), 119, 311

Fibroblasts

human oncogene-transformed, interferon-induced phenotypic reversion biochemical correlates (mouse), 119, 21

[125I]epidermal growth factor binding, internalization, and mitogenic response: monensin effects (human), 124, 585

inositol phosphate release, stimulation by bradykinin, serum, and vasopressin (human), 123, 663

multiplication, inhibition by structural glycoprotein fraction from rabbit dermis (human, rabbit dermis; murine sarcoma), 125, 509

uptake of 2-deoxyglucose and L-glucose in low concentrations, kinetics (chick embryo), 123, 535

Fibronectins

binding to hyaluronate-binding proteins (chicken cardiac fibroblasts, 3T3 cells), <u>121</u>, 808 biochemical and functional betargan

biochemical and functional heterogeneity (human plasma), <u>119</u>, 1174 carboxy-terminal fragment, isolation and sequence determination (human plasma), 120, 1015

subunit interactions (human plasma), 124, 718

Ficin

inhibition by γ -trace (human), $\underline{120}$, 631

Filamin

phosphorylation, effect of human Ca²⁺-activated phospholipid-dependent protein kinase (chicken gizzard), 1<u>1</u>8, 736

Flavocytochrome \underline{b}_2 , \underline{see} Lactate dehydrogenase (cytochrome)

Flavoproteins

resolved component of NADPH-dependent superoxide radical-generating oxidase, catalytic properties (human neutrophils), <u>118</u>, 430

Flunarizine

inhibition of calmodulin-dependent cyclic nucleotide phosphodiesterase (bovine brain), 124, 315

N-2-Fluorenylacetamide

cytochrome P-450 and monooxygenase induction (chick embryo), 119, 382

Fluorescein 5'-isothiocyanate reactive site, Na⁺,K⁺-ATPase, amino acid sequence (ovine, rat kidney), <u>125</u>, 767

Fluorescence

calmodulin hydrophobic sites (bovine brain), <u>119</u>, 1154

carbocyanine dye, in liposome membranes, lipid composition effect, 123, 178

depolarization, angle-resolved, 1,6 diphenyl-1,3,5-hexatriene in un saturated digalactosyl diacylglyc erol bilayers (spinach leaves),
 123, 352

glycogen phosphorylase <u>b</u> coenzyme, quenching by ionic solutes, kinetics (rabbit skeletal muscle), <u>122</u>, 649

quin2, measurement of cytoplasmic free Ca^{2+} in isolated ventricular myocytes at rest and during K^+ depolarization (rat), $\underline{122}$, $\underline{1012}$

5-Fluorodeoxyuridylate

-thymidylate synthetase covalent binary complex, isolation by trichloroacetic acid precipitation, 124, 37

meta-Fluorotyrosine

incorporation by ovalbumin, effect on denaturation (hen), 118, 481

5-Fluorouracil

and 5-fluorouridine, intracellular
 synthesis of 5-fluorouridine-5' phosphate, compartmentalization

(murine L1210 leukemia cells), 122, 439

5-Fluorouridine

and 5'-fluorouracil, intracellular
 synthesis of 5-fluorouridine-5' phosphate, compartmentalization
 (murine L1210 leukemia cells),
 122, 439

5-Fluorouridine-5'-phosphate

intracellular synthesis from 5-fluorouracil and 5-fluorouridine, compartmentalization (murine Ll210 leukemia cells), 122, 439

Follicles

reconstruction, thyrotropin-induced, modulation by insulin (porcine thyroid cell culture), <u>118</u>, 385

Follicle-stimulating hormone

effect on progesterone metabolism by ovarian granulosa cells (rat), 119, 694

Formate dehydrogenase (NADP+)

nitrate reductase activation (Neurospora crassa nit-1), 121, 1042

Formylmethionine-tRNA

crosslinking, methionyl-tRNA synthetase lysine residue modification (Escherichia coli), 119, 677

Formyl-methionyl-leucyl-phenylalanine -induced

> increase in intracellular free Ca concentration, inhibition by pertussis toxin: role of G protein (rabbit), 124, 644

membrane potential changes (human myeloid leukemia cells, neutrophils), 123, 937

NADPH oxidase activation, potentiation by diacylglycerol (human neutrophils), 125, 367

N-Formyl-L-methionyl-L-leucyl-L-phenylalanine

cyclic tetrameric clusters, superactive activators of lysozyme release from neutrophils (human), 124, 939

effect on leukotriene B₄ association with neutrophil cytoskeleton (rabbit), <u>124</u>, 963

Forskolin

and A23187, phorbol ester and thyrotropin-releasing hormone, stimulation of prolactin release from pituitary tumor cells, comparison, 123, 735

cAMP response, attenuation by 1,25dihydroxyvitamin D (human U937
cells), 123, 210

effect on

cAMP and neurotensin release (rat C
cells), 120, 540
glucose-induced electrical activity

(murine pancreatic B cells), 120, 797

Free radicals

enhancement of phospholipid degradation and lysophospholipid production (rat hepatic lysosomes), 124, 229

oxygen-containing, generation in vitro by 4'-deoxydoxorubicin and doxorubicin, analysis and relationship to cardiotoxicity, 125, 584

Friend erythroleukemia virus

-transformed cells, ß-globin major and minor gene replication during S-phase early interval (mouse), 123, 108

Fructose

dietary, and insulin, malic enzyme
 regulation, comparison (diabetic
 rat), 121, 730

pyruvate kinase regulation (rat liver), 119, 671

Fructose-1,6-bisphosphatase

inhibition by fructose 2,6-bisphosphate (Escherichia coli), 119, 1103

molecular weight, re-evaluation (<u>Sac-charomyces cerevisiae</u>), <u>120</u>, 467

Fructose 2,6-bisphosphatase

effect of glucose loading (starved rat), 125, 655

-6-phosphofructo-2-kinase exchange reactions, characterization (rat liver), <u>123</u>, 749

Fructose 1,6-bisphosphate

Fructose 2,6-bisphosphate

fructose-1,6-bisphosphatase inhibition (Escherichia coli), 119, 1103

hepatic levels

alterations, role in ketosis development (diabetic mouse), <u>120</u>, 103 glucose loading effect (starved rat), <u>122</u>, 529

pentobarbital-anesthesia effect (rat), 122, 1154

-induced phosphofructokinase activation in liver (fed, starved rats), 118, 567

role in glucose metabolism regulation in alloxan-diabetes (rat adrenal gland), 121, 8

a,a-trehalose phosphorylase inhibition (<u>Buglena gracilis</u>), <u>122</u>, 906

Fructose-bisphosphate aldolase gene transcription, inhibition by CAMP (rat liver), <u>125</u>, 135

ing azo-dye-induced carcinogenesis

(rat liver), 124, 337
type I, purified by Cibacron Blue dyeligand chromatography, susceptibility to X rays (pigeon, rabbit,

rat, trout), 123, 1069

type A, mRNA from skeletal muscle and ascites hepatoma cells, comparison (rat), 119, 575

Fructose-6-phosphate

pathway rate, relationship to glucose-6-phosphate concentration (human erythrocytes), 125, 14

Fructose-6-phosphate, 2-kinase

hepatic levels, alterations, role in ketosis development (diabetic mouse), <u>120</u>, 103

Fucosylation

cell surface glycoproteins (rat neonate epidermis), 119, 1028

in membrane glycan biosynthesis, developmental shift from sialylation (rat small intestine microvilli), 125, 546

MB-Fumarylcarboxyamido~L-2,3-diaminopropionic acid

glucosamine-6-phosphate synthetase inactivation (<u>Salmonella typhimurium</u> LT 2 SL 1027), <u>120</u>, 865

G

GABA, <u>see</u> γ -Aminobutyric acid Galactonate

accumulation in galactose-perfused liver (suckling rat), <u>118</u>, 304 <u>r</u>-Galactono-1,4-lactone

identification in lens (galactose-fed guinea pig), 125, 643

6-O-B-D-Galactopyranosyl-2-acetamido-2-deoxy-D-galactose

synthesis with immobilized β-galactosidase (<u>Escherichia coli</u>), <u>123</u>,

Galactose

cell surface residues, role in host cell invasion by <u>Trypanosoma cru-zi</u> (murine peritoneal macro-phages, rat cardiac myoblasts), 119, 228

-fed guinea pigs, r-galactono-1,4-lactone identification in lens, 125, 643

-perfused liver, galactonate accumulation (suckling rat), <u>118</u>, 304

terminal a(1→3)-linked, identification in N-acetyllactosaminetype glycopeptides, NMR (bovine), 122, 859

D-Galactose

³H-labeled, incorporation into

epidermal glycoproteins, retinoid effects (porcine), <u>121</u>, 364

B-D-Galactosidase

cellular levels, comparison with mean cell diameter and specific gravity during steady state (<u>Esche-</u> <u>richia coli</u>), <u>124</u>, 625

immobilized, 6-O-B-D-galactopyranosyl-2-acetamido-2-deoxy-D-galactose synthesis (<u>Escherichia coli</u>), 123, 8

B-Galactosides

-binding lectin

monoclonal antibodies, recognition of antigen conformational change (chick embryo), <u>123</u>, 1179

photochemical crosslinking to polylactosamino-proteoglycan (chick embryo skin), <u>123</u>, 1215

purification and properties (human placenta), 122, 938

Gamma rays

-induced DNA damage, microelectrophoretic analysis (Chinese hamster fibroblasts, murine lymphoma cells), 123, 291

Gangliosides

composition

in normal and neoplastic melanocytes (human), 120, 500

substrate-adhesion sites (normal, virally transformed Balb/c 3T3 cells), <u>125</u>, 142

reaction with monoclonal antibody HNK-1 (human peripheral nerve), 122, 1206

Gastric inhibitory peptide

effect on camp generation and VIP receptor desensitization in human HGT-1 cells (porcine), 120, 641

Gastric inhibitory peptide receptors molecular identification by covalent crosslinking (hamster pancreatic 8-cell tumor), 122, 283

specific binding and biological effects (hamster pancreatic B-cell tumor), <u>123</u>, 671

Gastrin

125 I-labeled, and [125 I]cholecystokinin C-terminal octapeptide, binding characteristics, comparison (guinea pig fundic gastric glands), 123, 641

Gaucher's disease

B-glucocerebrosidase, immunological and isoelectric focusing (human), 120, 325

GDP (guanosine 5'-diphosphate)

³H-labeled, binding, and thermogenin antigen, parallel increases in adipose-tissue mitochondria (cafeteria-fed rats), <u>122</u>, 1328

Genes

- abnormal globin, Hemoglobin Miyada, DNA sequence analysis (human), 119, 968
- actin, expression in proliferating L6
 myoblasts and differentiated L6
 myotubes (rat), 119, 630
- a-actin and myosin heavy chain, expression, sodium butyrate effects (rat L6 myoblasts), 125, 1129 apolipoprotein
 - A-I and C-III, location on chromosome 11 (human), <u>118</u>, 934
 - A-II
 - and C-I, chromosomal localization (human), 125, 299 localization on chromosome 1 (human), 122, 877; 123, 1
 - C-II
 - analysis in ApoC-II-deficient patients, <u>124</u>, 308
 - localization on chromosome 19 (human), <u>122</u>, 687
- c-abl and c-myc oncogenes, expression, relationship to hemin-mediated erythroid induction and cell proliferation (human leukemic K562 cells), 125, 90
- calcitonin
 - localization on chromosome 11 short arm (human), <u>120</u>, 493
 - and related peptide, structure and expression (human lung, medullary thyroid carcinoma cells), 123, 648
- casein, expression, estrogen depletion
 effects (adrenalectomized, ovari ectomized rats), 125, 682
- c-Ha-ras
 - and c-Ki-ras and N-ras, expression, increase in diethylnitrosamineinduced hepatocarcinoma (rat), 122, 259
 - expression in tumors and during carcinogenesis (rat liver), 119, 1096
- cloned levansucrase <u>sacB</u>, expression in <u>Escherichia coli</u> minicells (<u>Bacillus subtilis</u>), <u>119</u>, 795
- c-myc, expression
 - modulation by poly(ADP-ribose)-polymerase inhibitors (HL-60 cells), 119, 473
 - in tumors and during carcinogenesis (rat liver), <u>119</u>, 1096
- c-<u>ras</u>^H oncogene, hormone-regulated expression (rat mammary carcinomas), 123, 141
- cytochrome oxidase polypeptide I, exon-2 coding region identifi- cation (<u>Aspergillus nidulans</u> mitochondria), <u>119</u>, 786
- cytochrome P-450e-like, and cytochrome P-450e and P-450b coding and 3'

- non-coding cDNA sequences, segmental homologies (rat liver), 118, 655
- erbB oncogene, protein, site-specific
 antibodies, epidermal growth factor receptor immunoprecipitation
 (chicken embryo fibroblasts),
 123, 797
- a-fetoprotein, tissue-specific regulation (rat kidney, liver), 120, 677
- fibrinogen, analysis (congenital afibrinogenemia patients), <u>120</u>, 376
- B-globin, base substitution in IVS-2, B⁺-thalassemia induction (Chinese patient), 121, 324
- ζ-globin, deletion, reevaluation of causes (American black neonates), 125, 817
- glycolytic enzymes, transcription inhibition by cAMP (rat liver), 125, 135
- histone Hl, -containing genomic DNA sequences, variations in organization (human), 124, 988
- H-<u>ras</u> oncogene, -transformed cells, Lglutamine-controlled nucleic acid and polyphosphate metabolism, protease role (human, mouse), 124, 6
- human oncogenic, -transformed murine fibroblasts, interferon-induced phenotypic reversion biochemical correlates, 119, 21
- hypoxanthine guanine phosphoribosyltransferase, expression inhibition by 5-azacytidine, comparison with other S-phase inhibitors (mouse), 125, 812
- ilvH, mutation, threonine deaminase
 regulatory mutant reversion
 (Escherichia coli K-12), ll8, 270
- interferon ß, conformational changes during differentiation and viral induction (human MG63 cells, murine PCl3 cells), <u>121</u>, 290
- Lepore fusion, 8-type large intervening sequence, determination by genomic DNA S₁-nuclease mapping (Lepore-Boston patient), 120, 116
- neurohypophysial hormones, analysis of evolution (<u>Didelphis virginiana</u>), <u>123</u>, 306
- paromycin phosphotransferase, from Streptomyces rimosus f. paromomycinus, cloning and expression in S. lividans, 125, 895
- procollagen type-I, demethylation by 5-azacytidine, effect on expression (human SVWI-38 cells), <u>124</u>, 236

segments, chromosome 21, isolation and sublocalization by <u>in situ</u> hybridization (human), <u>121</u>, 380

sporulation spoOA, product identification (Bacillus subtilis), 122, 1104

src

avian sarcoma virus, pp60<u>V-Src</u> product, mitogenic activity (rat kidney), <u>123</u>, 411

protein, effect on Ca compartments and fluxes in temperature-sensitive Rous sarcoma virus-transformed cells (Fisher rat cells), 125, 337

transferrin, expression in developing non-hepatic tissues (rat), <u>122</u>, 212

Gene transfer

DNA-mediated, efficiency in cell cycle S-phase (mouse), 118, 310

Genome

distribution of repetitive DNA fragments (human placenta), <u>124</u>, 400

sequences in mouse mammary tumor virus tumor cells and lymphocytes from breast cancer patients, comparison, 118, 324

Glanzmann's thrombasthenia

glycoprotein expression on platelets (human), 123, 1091

Gliadin

-derived peptides, agglutinating activity, role in celiac disease pathogenesis (human K562(S) cells), 121, 428

Glial cells

histone H1 subfraction accumulation during postnatal development (rat cerebral cortex), 123, 697

substance-P enzymatic degradation in vitro (rat brain), 125, 728

a-Globin

mRNA translation, regulation by 50-kDa, 28-kDa, and 24-kDa polypeptide-containing fractions (Krebs-II ascites cell-free system), 120, 804

B-Globin

genes

IVS-2 base substitution, ß+-thalassemia induction (Chinese patient), <u>121</u>, 324

major and minor, replication during
S-phase early interval (murine
erythroleukemia cells), 123, 108

mRNA translation, regulation by 50-kDa, 28-kDa, and 24-kDa polypeptide-containing fractions (Krebs-II ascites cell-free system), 120, 804

ζ-Globin

gene deletion, reevaluation of causes
 (American black neonates), 125,
817

Globins

abnormal gene, Hemoglobin Miyada, DNA sequence analysis (human), <u>119</u>, 968

γ-Globulins

post, murine, isolation and characterization, comparison with human equivalent, 122, 111

Glucagon

effect on cytochrome redox states in mitochondria <u>in situ</u> (perfused rat liver), <u>119</u>, 212

and insulin, effect on pyruvate kinase short-term regulation in vivo and in vitro, comparison (murine, rat hepatocytes), 124, 651

pancreatic, effect on cAMP generation
 and VIP receptor desensitization
 in human HGT-1 cells (porcine),
 120, 641

-related immunoreactive high-molecular-weight tritiated protein, characterization (fetal bovine pancreas), 125, 524

-stimulated glycogenolysis and ureogenesis, phorbol ester effects (rat hepatocytes), <u>119</u>, 1128

synthetic analog, glucagon receptor heterogeneity detection (rat hepatocytes), <u>119</u>, 713

Glucagon receptors

heterogeneity, detection by synthetic peptide probe for high-affinity site (rat hepatocytes), 119, 713

Glucoamylase, <u>see</u> Exo-1,4- α -D-glucosidase

B-Glucocerebrosidase, <u>see</u> Glucosylceramidase

Glucocorticoid receptors

cytosolic, activation, crosslinking effect (chick thymus), 119, 64

-glucocorticoid complexes, dissociation kinetics, dextran-charcoal effect, lipid role (rat thymus), 119, 1134

purified, phosphorylation by endogenous protein kinase (rat hepatic cytosol), 119, 700

Glucocorticoids

effect on pulmonary epidermal growth factor receptors (fetal rabbits), 119, 408

inhibition of c-sis oncogene-specific

RNA transcripts (ductus deferens smooth muscle tumor cells), <u>122</u>, 124

-receptor complexes

dissociation kinetics, dextran-charcoal effect, lipid role (rat thymus), 119, 1134

nuclear binding, enhancement by ATPstimulated factor (rat hepatic cytosol), 121, 940

Glucocorticosteroids

regulation of carbamoylphosphate synthetase (ammonia) mRNA levels, demonstration with specific cDNA (rat liver), 124, 882

Glucosaminephosphate isomerase (glutamine-forming)

inactivation by N^{β} -fumarylcarboxy-amido-L-2,3-diaminopropionic acid (Salmonella typhimurium LT 2 SL 1027), 120, 865

Glucosamine-6-phosphate synthetase, <u>see</u>
Glucosaminephosphate isomerase
(glutamine-forming)

Glucosaminidase

neutrophil-independent secretion,
 stimulation by platelet-activating factor (rat), 125, 980

Glucose

13C-labeled, intragastric utilization, kinetic analysis in vivo by NMR with solenoid transmit/receiver coil (mouse), 123, 882 effect on

ß-adrenergic-induced downregulation of insulin receptor binding (isolated human fat cells), 122, 97

Mn-superoxide dismutase (murine brain, heart), 122, 682

-induced electrical activity, forskolin effect (murine pancreatic B cells), 120, 797

inhibition of insulin release by pancreatic B-cells, induction by blockage of glucose-promoted Ca²⁺ uptake (mouse), <u>125</u>, 875

loading, effect on

enzymes regulating hepatic carbohydrate metabolism (starved rat), 125, 655

fructose 2,6-bisphosphate hepatic levels (starved rat), <u>122</u>, 529 metabolism

pentose phosphate pathway, alloxan
 diabetes effect (rat heart), 118,
 110

regulation in alloxan diabetes, fructose-2,6-bisphosphate role (rat adrenal gland), <u>121</u>, 8

oxidation, insulin and ethanolamine effects <u>in vitro</u>, comparison (rat

adipocytes), <u>121</u>, 413
phospholipid methylation stimulation
(rat pancreatic islets), <u>122</u>, 706
pyruvate kinase regulation (rat
liver), 119, 671

-stimulated pancreatic islets effect on lipid-associated Ca ionophores in plasma membrane (rat), 118, 601

endogenous phospholipases C and A_2 , activities (neonatal rats), 120, 820

utilization by 3T3 adipocytes, human growth hormone effect, 125, 237

L-Glucose

Glucose-1,6-bisphosphate

synthesis impairment, fasting-induced (rat pancreatic islets), <u>119</u>, 543

Glucose-6-phosphatase

regulation by insulin mediator (rat hepatic microsomes), <u>118</u>, 40

Glucose-6-phosphate

concentration, relationship to hexose monophosphate pathway rate (human erythrocytes), 125, 14

transport system in hepatic microsomal membranes, defect in glycogen storage disease Ib (human, rat), 119, 593

Glucose-1-phosphate adenylyltransferase inhibition by GTP (<u>Escherichia coli</u>), <u>122</u>, 289

Glucose-6-phosphate dehydrogenase
 carboxy-terminal end, amino acid se quence (human erythrocytes), 118,
 332

monoclonal antibody preparation, cross-reactive material identification (rat hepatoma cell lines), 118, 854

synthesis induction by dietary carbohydrates (rat hepatocytes), <u>120</u>, 1022

 $\alpha\text{-}Glucosidase$, see $\alpha\text{-}D\text{-}Glucosidase$ $\alpha\text{-}D\text{-}Glucosidase$

lysosomal, mRNA cloning (monkey testes), <u>119</u>, 252

Glucosylceramidase

cDNA clones, isolation from bacteriophage λ_{gtll} expression system (human), 123, 574; erratum, 125, 843

normal and Gaucher disease, immunological analysis and isoelectric focusing (human), 120, 325

B-Glucuronidase

stimulation by Ca²⁺ (rat hepatic lysosomes, microsomes), <u>121</u>, 987

Glutamate decarboxylase

identification in uterine tissues (rabbit, rat), <u>125</u>, 18

Glutamate synthase

ferredoxin- and NAD(P)H-dependent
 forms, separation and kinetic
 analysis (tomato leaves), 122,
 1125

Glutamic acid decarboxylase

inhibition by phosphorylcholine and phosphorylethanolamine (murine brain, kidney, liver), <u>122</u>, 277

Glutamic-oxaloacetic transaminase, <u>see</u>
Aspartate aminotransferase

L-Glutamine

control of nucleic acid and polyphosphate metabolism in cells transformed by 9,10-dimethyl-1,2-benzanthracene, simian virus 40, or H-<u>ras</u> oncogene, protease role (human, mouse), <u>124</u>, 6

Glutamine synthetase

adenylated and unadenylated, Mn-Mn interaction (<u>Escherichia coli</u>), <u>120</u>, 939

γ-L-Glutaminyl-4-hydroxybenzene

ribonucleotide reductase inhibition in L1210 leukemia cells (<u>Agaricus</u> <u>bisporus</u>), <u>120</u>, 1008

Glutaminyl-peptide γ-glutamyltransfer-

crosslinking of rabbit uteroglobin into higher-molecular-weight proteins (guinea pig liver), <u>121</u>, 400 Glutathione

conjugation with arylnitroso compound, detection of labile intermediates in situ by fast-atom bombardment mass spectrometry, 124, 1

depletion

N.N-dimethylformamide- and N-methylformamide-induced, reversal by L-cysteine (human colon carcinoma cells), 122, 798

oxidation in vitro by divicine, 120,

in peroxidase-catalyzed acetaminophen
 metabolism, thiyl radical formation, 125, 109

synthesis, inhibition in vitro by
L-buthionine sulfoximine (rat
hepatic cytosol, mitochondria),
123, 1116

uptake by intestinal brush border membranes, analysis (porcine jejunum), <u>123</u>, 929

Glutathione-insulin transhydrogenase, see Protein-disulphide reductase (glutathione)

Glutathione reductase (NAD(P)H)

identification of recognition site for NADP⁺ 2'-phosphate (yeast), <u>124</u>, 572

stimulation by 12-O-tetradecanoylphorbol-13-acetate, regulation by vitamin A (murine epidermis), 125, 967

Glutathione transferase

comparison with erythrocyte-derived equivalent and relationship with carotene, cholesterol, and retinol (human platelets), 122, 407

effects of cyclic 12-, 8-, and 6-carbon compounds (mouse), 120, 637

inhibition by

ciprofibrate <u>in vitro</u> and <u>in vivo</u> (rat liver), <u>123</u>, 1012 plant phenols <u>in vitro</u> (rat liver), 120, 427

isozymes

A₂ and C₂, kinetic and stereochemical recognition of arene and azaarene oxides, comparison (rat liver), <u>121</u>, 980

induction by dietary 2(3)-tert-butyl-4-hydroxyanisole (murine intestine), 119, 1015

purified, inhibition by indomethacin (rat liver), <u>119</u>, 1034

purification and characterization human erythrocytes, <u>125</u>, 1053 rat cardiac cytosol, <u>123</u>, 981 rat hepatic cytosol, <u>121</u>, 1014

Glutathione <u>S</u>-transferase, <u>see</u> Glutathione transferase

Glyburide

pyruvate dehydrogenase complex activation (rat cardiac mitochondria, ventricular slices), 123, 202

Glycans

intestinal microvillus membrane, biosynthesis, developmental shift from sialylation to fucosylation (rat), 125, 546

Glyceraldehyde-phosphate dehydrogenase mRNA, nucleotide sequence (chicken muscle), <u>118</u>, 767

Glyceraldehyde-3-phosphate dehydrogenase, <u>see</u> Glyceraldehyde-phosphate dehydrogenase

Glycerol

matrix, with amino acids, SIMS spectra, hydrophobicity effect, 123, 27

pyruvate kinase regulation (rat liver), 119, 671

Glycerol 3-phosphate acyltransferase activity in pulmonary microsomes (normal, hyperoxic rats), 119, 995

```
Glycerophosphate acyltransferase location in mitochondrial outer membrane transverse plane (guinea pig lung), 123, 569
```

Glyceryl-phosphorylcholine

ether-linked, 1-0-alkyl-2-acetyl-snglyceryl-3-phosphorylcholine formation and arachidonic acid freeing (rabbit platelets), 124, 637

Glycine methyltransferase

cDNA, molecular cloning and mRNA quantitation in various tissues (rat), 124, 44

Glycogen

synthesis inhibition by Zn²⁺ (fasted rat hepatocytes), <u>122</u>, 726

Glycogenolysis

 α_1 -adrenergic stimulation, phorbol ester effects (rat hepatocytes), 119, 1128

epinephrine-stimulated, insulin effect
 (euthyroid, hypothyroid rat hepatocytes), 118, 451

12-Q-tetradecanoylphorbol-13-acetate effect (rat liver), 122, 1057

Glycogen phosphorylase

synergistic activation by A23187 and phorbol esters (rat hepatocytes), 119, 88

Glycogen phosphorylase b

coenzyme fluorescence, quenching by ionic solutes, kinetics (rabbit skeletal muscle), 122, 649

Glycogen storage disease

Ib, glucose-6-phosphate transport system defect in hepatic microsomal membrane (human, rat), <u>119</u>, 593

role of phosphorylase kinase-deficiency (human heart), <u>119</u>, 582

Glycogen synthase kinase-1, \underline{see} Casein kinase-1

Glycolipids

blood group A, with globo-series structure, subgroup A_1 -specific: chemical basis for A_1 and A_2 distinction (human erythrocytes), $\underline{124}$, 523

composition during development, thyroxine and cortisone effects (postnatal murine small intestine), 119, 1168

Glycopeptides

N-acetyllactosamine-type, identification of terminal α(1→3)-linked galactose, NMR (bovine), 122, 859

growth-regulating, identification on cerebral cortex cell surface with monoclonal antibodies (bovine, mouse), 124, 133

Glycoproteins

a₁-acid, <u>see</u> Orosomucoid
assembly (Leishmania mexicana), 118, 1

cell surface, fucosylation (rat neonate epidermis), <u>119</u>, 1028

expression on platelets from normal subjects and patients with congenital bleeding disorders, <u>123</u>, 1091

gastric mucosal

H⁺ diffusion, associated lipid and covalently-bound fatty acid effects (canine), <u>118</u>, 523

viscosity, lipid and protein effects (canine), 121, 521

-glycosphingolipid hybrids, identification and characterization (canine gastric epithelium), 125, 211

large-molecular-weight regulating factor for chromatin-dependent RNA polymerase II reactions, isolation and characterization (rat hepatic cytoplasm), 125, 286

plasma membrane, assembly, ethanol effects (rat liver), 123, 951

secretion by cultured aortic endothelial cells, interactions with blood platelets (bovine), 123, 114

structural, extracted from rabbit dermis, fibroblast multiplication inhibition (human, rabbit dermis; murine sarcoma), <u>125</u>, 509

Glycosphingolipids

-glycoprotein hybrids, identification and characterization (canine gastric epithelium), 125, 211

Glycosylation

lens proteins (diabetic, nondiabetic senile cataract patients), <u>123</u>, 888

mutants, altered binding of insulin receptors (Chinese hamster ovary cells), 125, 70

non-enzymatic, effect on α -crystalline tertiary structure (bovine), 123, 899

Glycosyltransferases

thyrotropin differential effects (porcine thyroid cells), <u>118</u>, 910; erratum, <u>119</u>, 1211

Glyoxalase I, $\underline{\text{see}}$ Lactoyl-glutathione lyase

Glyoxylate

and L-cysteine or L-cysteinylglycine,
 formation of thiazolidine-2-car boxylate derivatives: substrates
 for D-aspartate oxidase (bovine
 kidney), 125, 1039

Golgi fractions

hepatio

epidermal growth factor and insulin binding (human), <u>119</u>, 1181

insulin uptake <u>in vivo</u>, analysis by diaminobenzidine-shift protocol (rat), 123, 1144

Gonadotropin

human chorionic, <u>see</u> Human chorionic gonadotropin

Gonadotropin receptors

free and occupied, fate in culture during recovery from human chorionic gonadotropin stimulation (porcine Leydig cells), 118, 206

Gonadotropin-releasing hormone

and agonist, effects on polyphosphoinositide metabolism (rat granulosa cells), 122, 1289

degradation by GnRH-secreting hypothalamic cells <u>in vitro</u>, analysis (fetal rat), 124, 87

-like peptides, biological activity (rat testes), 122, 1071

Gonadotropin-releasing hormone inhibitors

ovulation long-term inhibition at low dosage (rat), 118, 351

Gonadotropin-releasing hormone receptors
in control and desensitized pituitary
 cells, photoaffinity labeling
 (female rat), 125, 532

Gossypol

-induced superoxide radical formation (human sperm, rat liver), <u>118</u>, 573 (+)Gossypol

binding to proteins, CD spectroscopy (Thespesia populnea), 121, 953

Gramicidin A

analog, des-L•Val⁷-D•Val⁸-,
 single channel conductance disper sity, side-chain orientation role,
 118, 885

crystalline and membrane-bound, vibrational analysis (<u>Bacillus bre-</u> <u>vis</u>), <u>125</u>, 919

Gramicidin S

¹H-¹³C selective NOE analysis, <u>124</u>, 739

ornithine side-chain, hydrogen bonding, <u>118</u>, 643

Granulosa cells

differentiation and DNA synthesis, comparative effects of insulin and insulin-like growth factors I and II (porcine ovary), 124, 484
GRF, see Growth hormone-releasing factor

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

endothelial cell, anionic, purification and characterization (human brain), <u>124</u>, 262

inhibitory and stimulatory, identification in hepatic membranes
(mouse), 120, 891

thymocyte-specific, purification (bo~

vine thymus), <u>120</u>, 420 Growth hormone, <u>see</u> Somatotropin Growth hormone-releasing factor

(1-29)-amide and analogs, in vivo potencies in rat and pig (human pancreas), 119, 265

analogs, human pancreatic, administration <u>in vivo</u>, enhancement of pituitary cell response to GRF <u>in</u> <u>vitro</u> (rat), <u>124</u>, 217

human

C-terminal-deleted analogs, synthesis and <u>in vitro</u> bioactivity (rat anterior pituitary cells), <u>123</u>, 854

position-1-substituted analogs, synthesis and bioactivity in vitro
(rat anterior pituitary cells),
122, 304

isolation, sequence analysis, and total synthesis in

caprine and ovine hypothalamus, <u>125</u>, 606

rat hypothalamus, 125, 1005

long-term administration, effect on
 growth hormone secretion and synthesis in vitro (rat anterior pituitary cells), 121, 111

stimulation of neurotensin, calcitonin, and cAMP release (rat C cells), 123, 497

GTP (guanosine 5'-triphosphate)
ADP-glucose synthetase inhibition
(Escherichia coli), 122, 289

a2-adrenergic receptor sensitivity,
 preservation after receptor solubilization by zwitterionic detergent (bovine cerebral cortex),
119, 1116

-stimulated adenylate cyclase, anion and cation effects (rabbit heart), 118, 561

GTPase

receptor-mediated stimulation by opiates (morphine-dependent, normal rat brain), <u>121</u>, 641

Guanidinium chloride

-induced phosphoglycerate kinase unfolding-folding transition, analysis (equine muscle), 118, 416

Guanine nucleotides

content in <u>cis</u>- and <u>trans</u>-diamminedichloroplatinum (II)-modified DNAs, effect on Sl nuclease sensitivity (bovine thymus, <u>Micro-</u> <u>coccus lysodeikticus</u>), <u>124</u>, 367

modulation of surface membrane cAMPbinding sites (<u>Dictyostelium dis-</u> <u>coideum</u>), 124, 597

muscarinic receptor insensitivity, Cu ion- and diamide-induced (rat ceSubject Index

rebral cortical membranes), <u>120</u>, 271

Guanylate cyclase

cation-dependent activation by prolactin in various organs (rat), <u>123</u>,

inhibition by methylxanthines and papaverine (rat brain, liver, lung), 123, 1194

H

regulation, biliverdin role (rat liver), 122, 40

Halorhodopsin

and bacteriorhodopsin, amplitudes of flash-induced absorption changes, comparison, 122, 91

forms in alkaline solution (<u>Halobacte-rium halobium</u>), <u>118</u>, 502

Halothane

-induced lipid peroxidation, hypoxia
 role (rat hepatic microsomes),
 119, 139

Haptoglobin

long-term production by hepatocytes cocultured with epithelial cells (adult rat liver), 120, 311

Heart

cell-to-cell electrical coupling, effect of cAMP intracellular injection (canine), 119, 1001

isolated and intact preparations, effects of dihydropyridine Ca channel modulators: pharmacological and radioligand binding correlations (canine, guinea pig, porcine, rat), 125, 387

myocardial coenzyme Q_{10} levels, microanalysis (bovine, canine), $\underline{123}$, $\underline{1165}$

Hematoporphyrin

nonphotosensitized potentiation of horseradish peroxidase-catalyzed H₂O₂-mediated NADPH oxidation to NADP+, <u>118</u>, 191

Heme

metabolism, regulation, biliverdin role (rat liver), <u>122</u>, 40

model systems, monosubstituted olefin oxidation: aldehyde, epoxide, and allylic alcohol formation, 119,

orientational heterogeneity in deuterohemin-reconstituted hemoglobin, ¹H NMR (equine, human), 119, 640

synthesis, protoporphyrinogen oxidation, effect of unsaturated fatty acids (barley, spinach etioplasts, mitochondria), <u>123</u>, 1157 Heme oxygenase, <u>see</u> Haem oxygenase (decyclizing)

Hemin

-mediated erythroid induction, relationship to cell proliferation and c-abl and c-myc oncogene expression (human leukemic K562 cells), 125, 90

Hemoglobin

activation of Ca²⁺-dependent neutral proteinase, structural requirements (human erythrocytes), <u>123</u>, 331

derivatives, aquomet-, nitrosyl-, and des-Arg(α 141)-, quaternary structure, high-pressure NMR (human), 121, 229

deuterohemin-reconstituted, heme ori entational heterogeneity, ¹H NMR
 (equine, human), 119, 640

free, uptake by parenchymal cells (rat liver), 123, 489

Lepore-Boston, fusion gene ß-type intervening sequence, determination by genomic DNA S₁-nuclease mapping (human), <u>120</u>, 116

Miyada, abnormal globin gene, DNA sequence analysis (human), <u>119</u>, 968

reaction with hydrogen peroxide, nitroxide radical oxidation (bovine blood), 120, 534

synthesis induction, effect on tRNA levels (Friend leukemia cells), 120, 707

Hemopexin

long-term production by hepatocytes cocultured with epithelial cells (adult rat liver), <u>120</u>, 311

Heparin

-binding 23-kDa thrombospondin fragment, antibodies, platelet aggregation inhibition (bovine), <u>124</u>, 290

carboxyl group modification, effect on circular dichroism spectrum, <u>123</u>, 973

-sepharose affinity chromatography, separation of lipoprotein lipase and monoacylglycerol lipase (bovine brain), 122, 1241

Heparin cofactor II

lysine residues, covalent modification with pyridoxal 5'-phosphate, effect on activity (human plasma), 124, 745

Hepatectomy

partial

effect on transferrin receptors in regenerating cells (rat), 121, 717 serum hepatocyte growth factor puri-

fication and characterization (rat), 122, 1450

Hepatocyte growth factor

serum, purification and characterization (hepatectomized rats), <u>122</u>, 1450

Hepatocytes

aflatoxin B₁ distribution and intracellular translocation <u>in vitro</u> (rat), <u>122</u>, 1

cocultured with hepatic epithelial cells in serum-free medium, long-term acute-phase protein production (adult rat), 120, 311

cytosolic and mitochondrial glutathione synthesis, inhibition <u>in vi-</u> <u>tro</u> by L-buthionine sulfoximine (rat), 123, 1116

fetal, maturation in vitro, retinoic acid role (rat), 118, 168

Fe uptake from transferrin <u>in vitro</u>, ethanol effect (rat), <u>125</u>, 824

growth in culture, L-proline effect (rat), 122, 884

injury prevention, extracellular Ca
role (rat), 121, 102

mitochondria, role in cellular autofiltration (rat), 119, 955

mRNA_{S14} synthesis in primary culture, stimulation by triiodothyronine, <u>123</u>, 1122

Herpes simplex viruses

inhibition by spermidine catecholamide Fe chelators, 121, 848

Herpes simplex virus type 2

replication, synergistic inhibition by 9-[(1,3-dihydroxy-2-propoxy)methyl] guanine with recombinant human interferons, 120, 66

Hexachlorobenzene

-induced experimental porphyria, mitochondrial structural and functional properties (rat liver), 118, 356

Hexachlorophene

interaction with spin-labeled membranes (rat brain), 120, 434

Hexadecane

enhancement of 2,3,7,8-tetrachlorodibenzo-p-dioxin toxicity (rat), 125, 996

1-0-Hexadecyl-2-acetyl-sn-glycerol
stimulation of HL-60 promyelocytic
leukemia cell differentiation to
macrophage-like cells (human),
122, 824

1-O-Hexadecyl-2-O-acetyl-sn-glycero-3phosphocholine

isolation and characterization (human neutrophils), <u>121</u>, 815

Hexokinase

inhibition by P1-(adenosine-5')-

P³-(glucose-6)-triphosphate binding to discrete regulatory site (rat brain), <u>118</u>, 90

β-Hexosaminidase, see β-N-Acetyl-D-glucosaminidase

Hexose monophosphate, <u>see</u> Fructose-6-phosphate

High-density lipoproteins

apolipoprotein E-free, binding to cultured endothelial cells, characterization (human), 122, 785

effect on very-low-density lipoprotein lipolysis <u>in vitro</u> (human), <u>121</u>, 946

Histamine

-mediated Ca²⁺ mobilization and cGMP synthesis, correlation (neuroblastoma cells), <u>122</u>, 333

release from mast cells, synergistic role of Ca²⁺ mobilization and protein kinase-C activation (rat peritoneum), <u>121</u>, 573

Histidine

and phenylalanine ring stacking in angiotensin II, interaction, role in receptor activation, NMR, <u>122</u>, 434

residues, iodothyronine 5'-deiodinase active site, identification (rat hepatic microsomes), <u>120</u>, 28

Histidine radicals

repair by vitamin-E analogs, $\underline{119}$, 245 Histidyl-tRNA synthetase

purification and inhibition by myositis-specific Jo-1 autoantibody (rat liver), 120, 15

Histone Hl

effect on phosphorylase <u>b</u> kinase dephosphorylation by latent protein phosphatase (rabbit muscle), <u>125</u>, 293

genes, containing genomic DNA sequences, variations in organization (human), <u>124</u>, 988

and HMG8, phosphorylation by protein kinase C, kinetic parameters (rat brain), <u>122</u>, 1268

phosphorylated by phospholipid, Ca²⁺-dependent protein kinase, protein phosphatase specificity, catalytic subunit role (rat liver), 118, 278

role in nucleosome orientation maintenance in chromatin fiber (bovine thymus), 122, 1021

subfractions

accumulation in glial and neuronal cells during postnatal development (rat cerebral cortex), <u>123</u>, 697

reassociation with rat hepatic chromatin, effect on structure: elec-

tric birefringence and relaxation time measurements (bovine liver), <u>121</u>, 530

subtypes, isolation and characterization (chicken erythrocyte chromatin), 122, 1136

Histones

acetylation, sodium butyrate effect
 (human breast cancer MCF-7
 cells), 119, 132

binding affinity for isopeptidase (bovine thymus), 122, 1296

core, non-structural domains, role in nucleosome orientation mainte- nance in chromatin fiber (bovine thymus), 122, 1021

-DNA complexes, fluorescence spectra (bovine thymus), 122, 656

silver staining, mechanism, role of clustered lysine residues (bovine thymus), 123, 729

Homidium

intercalation with poly d(G-C)·d-(G-C), NMR and stopped-flow kinetic analysis, <u>122</u>, 804

Homoserine dehydrogenase II

-aspartokinase II polypeptide chain,
 triglobular structure (Esche richia coli), 123, 16

Hormones, <u>see also specific hormones</u>
melanin-concentrating, synthesis and
biological activities (<u>Anolis</u>
<u>carolinensis</u>, <u>Rana pipiens</u>, teleost fishes), <u>122</u>, 613

thymic peptide, conjugation with spermidine and spermine, conjugate properties, <u>122</u>, 21

Horseradish peroxidase, <u>see</u> Peroxidase Human chorionic gonadotropin

~stimulated

free and occupied gonadotropin receptors, fate in culture during recovery (porcine Leydig cells), 118, 206

protein phosphorylation in primary
 culture (porcine Leydig cells),
 118, 8

a-subunit, free and combined form, discrimination by O-linked oligosaccharide, 122, 1260

Hyaluronate

-binding proteins, binding to collagen, fibronectin, and laminin (chicken cardiac fibroblasts, 3T3 cells), <u>121</u>, 808

Hybridomas

formation between myeloma cells and splenocytes, effect of myeloma pretreatment with Colcemid (mouse), <u>124</u>, 903

identification of particulate protein synthesis factors and translatable mRNA (mouse), <u>122</u>, 1307

4-Hydrobenzoic acid

incorporation of 180-enriched
 water during 4-chlorobenzoate
 dehalogenase reaction (Pseudo monas), 124, 178

Hydrocortisone

production stimulation by 12-tetradecanoyl-phorbol-13-acetate and Ca²⁺ ionophore A23187 (bovine adrenocortical fasciculata cell suspension), <u>121</u>, 499

Hydrogenase

coenzyme F₄₂₀ reduction, FAD requirement (<u>Methanobacterium formicicum</u>), <u>120</u>, 775

H₂-oxidizing (uptake), purification and properties (<u>Clostridium</u> <u>pasteurianum</u> W5), <u>122</u>, 9

Ni-Fe, isolation and characterization (<u>Desulfovibrio multispirans</u> sp. n. cytoplasm), 125, 1025

role in methanol:5-hydroxybenzimidazolylcobamide methyltransferase reductive activation (Methanosarcina barkeri), 118, 760

Hydrogen belts

interactions in phosphatidylcholine membrane bilayers during cholesterol dissociation, <u>118</u>, 743 Hydrogen ion

abstraction by neocarzinostatin during 5'-thymidine aldehyde formation on DNA, 122, 642

bonding to gramicidin-S ornithine side chains, <u>118</u>, 643

diffusion in gastric mucus glycoprotein, associated lipid and covalently-bound fatty acid effects (canine), 118, 523

from NADPH, stereospecific incorporation in arachidoyl-CoA elongation (porcine cerebral microsomes), 124, 322

-Na⁺ exchange

amiloride-sensitive, activation by chemotactic factors (human neutrophils), 122, 755

increase in NaCl-adapted cells (<u>Syn-echococcus</u> 6311), <u>122</u>, 452

role in

phorbol ester-stimulated 2-deoxy-D-glucose uptake by lymphocytes (rat thymus), 124, 14

platelets activated by ionophore A23187 (human), <u>125</u>, 1123

stimulation by vanadate (A431

cells), <u>118</u>, 675 production, Na₂S role (<u>Nostoc muscorum</u>),

123, 1138

Hydrogen peroxide

-horseradish peroxidase-tyrosine system: bityrosine production and identification, 125, 916

inactivation of Fe-superoxide dismutase, effect on tryptophan residues (Pseudomonas ovalis), 122, 635

-lactoperoxidase compounds, reduction by ferrocyanide, oxidizing equivalent identification on apoprotein site, 121, 463

-mediated horseradish peroxidase-catalyzed NADPH oxidation to NADP⁺, non-photosensitized potentiation by hematoporphyrin, 118, 191

with prostaglandin H synthase, 13-<u>cis</u>retinoic acid cooxidation (ram seminal vesicle microsomes), <u>124</u>, 430

reaction with hemoglobin, nitroxide radical oxidation, <u>120</u>, 534 role in

Cu²⁺-dependent Mn-catalase inactivation by hydroxylamine (<u>Lactobacillus plantarum</u>), <u>124</u>, 75

granulomatous inflammation induced
by <u>Schistosoma mansoni</u> eggs (murine lung), <u>122</u>, 184

Hydrolases

vascular lysosomal, neutrophil-independent secretion, stimulation by platelet-activating factor (rat), 125, 980

Hydrolysis

light-mediated, phosphatidylinositol
4,5-bisphosphate (isolated frog
retina), 124, 503

108-Hydroperoxide

intermediate in photosensitized irreversible binding of estrone to albumin, role in estrogen (photo-)allergic side-effects, analysis (human), 125, 675

68-Hydroperoxyandrostenedione

de novo biosynthesis (human placental
 microsomes), 118, 805

13-Hydroperoxy-9-<u>cis</u>-11-<u>trans</u>-octadecadienoic acid

with prostaglandin H synthase, 13-cisretinoic acid cooxidation (ram seminal vesicle microsomes), 124, 430

l-Hydroperoxy-5-phenyl-4-pentane
with prostaglandin H synthase, 13-cisretinoic acid cooxidation (ram
 seminal vesicle microsomes), 124,
430

Hydroxamate

siderophores, -mediated Fe uptake, stereospecificity (Escherichia coli), 121, 922

Hydroxocobalamin

isomerization, biological implications (human), 125, 698

L-a-Hydroxyacid oxidase

analysis in Zellweger syndrome (human), 123, 1054

3-Hydroxyacyl-CoA epimerase, see 3-Hydroxybutyryl-CoA epimerase

4-Hydroxybenzoate:polyprenyl transferase stimulation by polyprenyl pyrophosphate transport protein (rat mitochondria), <u>119</u>, 1109

3-Hydroxybutyryl-CoA epimerase

role in linoleate oxidation (rat cardiac mitochondria), <u>118</u>, 162

7B-Hydroxycholesterol

effect on 3-hydroxy-3-methylglutarylcoenzyme A reductase and cell membrane fluidity (cultured hepatoma cells), <u>120</u>, 192

toxicity, cholesterol antagonistic effect (rat hepatoma cells), <u>120</u>, 657

25-Hydroxycholesterol

effect on 3-hydroxy-3-methylglutarylcoenzyme A reductase and cell membrane fluidity (cultured hepatoma cells), <u>120</u>, 192

22R-Hydroxydesmosterol

toxicity, cholesterol antagonistic effect (rat hepatoma cells), 120, 657

11-Hydroxy-4,7,9-(<u>trans</u>)13,16,19 docosahexaenoic acid

formation during docosahexaenoic acid metabolism <u>in vitro</u> (canine retina), <u>125</u>, 741

Hydroxylamine

Cu²⁺-dependent Mn-catalase inactivation, hydrogen peroxide role (<u>Lactobacillus plantarum</u>), <u>124</u>, 75

24-Hydroxylase

rapid and sensitive <u>in vitro</u> assay (rat kidney homogenates), <u>121</u>, 174 Hydroxylation

-dehalogenation, 4-chlorobenzoate, origin of incorporated oxygen (Arthrobacter sp.), 124, 669

stereoselective, 7,8- and 9,10-dihydrobenzo[a]pyrene aliphatic carbons by hepatic microsomes (rat), 124, 114

l'-Hydroxylation

bufuralol, stereoselectivity: characterization of cytochrome P-450 debrisoquine-sparteine type genetic polymorphism (human liver), 125, 374

6-Hydroxylation

7-ethoxycoumarin, mediation by cytochromes <u>P</u>-448 and <u>P</u>-450, mechanism (rat), <u>121</u>, 960

meta-Hydroxylation

biphenyl, cytochrome P-450-catalyzed, intramolecular isotope effects and deuterium retention (rat liver), 118, 867

B-Hydroxyleucine

incorporation by ovalbumin, effect on denaturation (hen), <u>118</u>, 481

Hydroxyl radicals

generation, chronic alcohol feeding
 effect, role in lipid peroxida tion (rat hepatic microsomes),
 118, 233

p-Hydroxymercuribenzoate

inhibition of cytochalasin binding by human erythrocyte membrane spectrin-band 4.1-actin complex and rabbit muscle F-actin, mechanism, 122, 244

7-Hydroxymethotrexate

formation in lymphoblastic CCRF-CEM cells (human), 122, 1212

3-Hydroxy-3-methylglutaryl CoA reductase and membrane fluidity, growth-rate-related and hydroxysterol-induced changes (cultured hepatoma cells), 120, 192

topography (rat hepatic microsomes), 119, 772

3-Hydroxy-3-methylglutaryl-CoA reductase (NADPH)

allosteric activators, structural requirements (rat hepatic microsomes), <u>125</u>, 902

phosphorylation, enhancement of susceptibility to proteolytic degradation in vitro (rat hepatic microsomes), 125, 629

regulation by bicyclic phosphorylation cascade (human hepatic microsomes), 119, 488

B-Hydroxy-B-methylglutaryl-CoA synthase

and acetoacetyl-CoA thiolase, -deficient mutants, isolation and characterization (yeast), <u>123</u>, 424

3-Hydroxy-N-methylmorphinan receptors
d- and l-forms, -mediated GTPase stimulation (morphine-dependent, normal rat brain), 121, 641

L-Hydroxyproline

formation by L-proline hydroxylation (<u>Streptomyces griseoviridus</u> P8648 cell-free extract), <u>120</u>, 45

Hydroxypyridinium

crosslinks, identification and localization in type-IX collagen (bovine cartilage), <u>123</u>, 1033

Hydroxyurea

-induced erythrocyte damage, modification by radical scavengers (human), 120, 566

N-Hydroxyurea

genotoxic metabolite formation, cytochrome P-450-dependent monooxygenase role (rat hepatoma cells), 118, 409

25-Hydroxyvitamin D₃

metabolism <u>in vitro</u> by sarcoid granulomas (human), <u>123</u>, 822

19-nor-10-keto-25-hydroxyvitamin
 D₃ formation (canine renal
 cell culture), 120, 919

25-Hydroxyvitamin D_s - 1α -hydroxylase rapid and sensitive <u>in vitro</u> assay (rat kidney homogenates), <u>121</u>, 174 Hyperoxia

effect on vascular cyclooxygenase <u>in</u>
<u>vitro</u>, kinetic analysis (human
umbilical cord), <u>125</u>, 170

Hypertension

-associated protein, purification (rat plasma), 125, 888

DOCA-salt, increase of circulating digitalis-like substance (rat), 122, 129

spontaneous, N-(P-substituted phosphinoy1) synthetic peptide antihypertensive activity (rat), 119, 1205

Hyperthermia

effect on poly(ADP-ribose) metabolism
 (murine SVT2 cell culture), 122,
1381

Hypophosphatemic osteomalacia

X-linked, vitamin D-dependent Ca-binding protein identification in intestinal cell cytosol (mouse), 119, 850

Hypotension

induction by adenosine and derivatives
 in rabbit cardiac extracts (anes thetized rat), 125, 1074

Hypothalamic cells

gonadotropin-releasing hormone-secreting, GnRH degradation in vitro, analysis (fetal rat), 124, 87

Hypothyroidism

increased insulin effect on epinephrine-stimulated glycogenolysis and ureogenesis (euthyroid, hypothyroid rat hepatocytes), <u>118</u>, 451

Hypoxanthine guanine phosphoribosyltransferase

gene expression, inhibition by 5-azacytidine, comparison with other
S-phase inhibitors (mouse), 125,
812

Hypoxia effect on glycerol 3-phosphate acyltransferase and serine palmitoyltransferase activities (rat pulmonary microsomes), 119, 995

vascular cyclooxygenase in vitro, kinetic analysis (human umbilical cord), 125, 170

-induced platelet-activating factor release (rat pulmonary alveolar fluid), 119, 58

T

Idebenone

Imidazole

induction of cytochrome <u>P</u>-450 ethanol-inducible form (rabbit hepatic microsomes), <u>124</u>, 375

(E)-3[4-(1-Imidazolylmethyl)phenyl]-2propenoic acid

acyl side-chain shortening, role of peroxisomal B-oxidation system (rat hepatocytes), <u>125</u>, 123

Imipramine

³H-labeled, high-affinity binding site identification (human lung), 120, 926

Imipramine N-oxide

reduction, cytosolic aldehyde oxidase and microsomal cytochrome P-450 roles (mammalian liver), 121, 749

Immunoglobulins

B-lymphocyte membrane, complexing, enhancement of B-cell tyrosine residue phosphorylation (human), 125, 859

hyposialylated, role in α_1 -proteinase inhibitor inactivation (human), $\underline{119}$, 185

IgA, effect on gastric mucus glycoprotein viscosity (canine), 121,
521

IgE

-anti IgE system, 36-kDa membrane protein immunoprecipitation (rat basophilic leukemia cells), <u>125</u>, 867

firefly luciferin-enhanced luminescent horseradish peroxidase immunoassay (human), <u>119</u>, 481

IgG2, and acid and aglycosyl conformers, binding-fluorescence analysis with 8-anilinonaphthalene-1-sulfonic acid (human), 124, 605 surface membrane, antibodies, immature B-lymphocyte nonresponsiveness, pronase effect (mouse), 119, 1

Indole-3-acetic acid

reduction of lipid peroxidation in coleoptiles: effect on malondial-dehyde levels (<u>Avena sativa</u> L.), 125, 76

Indomethacin

effect on thromboplastin activity (human monocytes), <u>119</u>, 179

purified glutathione S-transferase isozyme inhibition (rat liver), 119, 1034

Inhibin

partial purification and characterization (bovine follicular fluid), 125, 307

Initiation factor-2 (eIF-2)

and co-eIF-2, stimulation of MettRNA_f binding to 40-S ribosomes (rabbit reticulocytes), 122, 1418

phosphorylation, insulin-induced decrease, effect on protein synthesis (bovine chondrocytes), <u>121</u>, 134

Initiation factor-2\(\alpha\) (eIF-2\(\alpha\))

heme-regulated and dsRNA-dependent protein kinases, effect on protein synthesis (human reticulocytes), 119, 891

Inorganic pyrophosphate

effect on Ca²⁺ efflux from mitochondria (rat heart), <u>118</u>, 147 Inositol

uptake by isolated Schwann cells (rat), 120, 486

Inositol-l-phosphate

³H-labeled, carbachol- and norepinephrine-induced accumulation, inhibition by phorbol esters (rat hippocampal slices), <u>123</u>, 703

Inositol phosphates

release from fibroblasts, stimulation by bradykinin, serum, and vasopressin (human), 123, 663

Inositol(1,4,5)triphosphate

Ca²⁺ release induction (rat hepatic microsomes), <u>120</u>, 858

effect on intracellular Ca²⁺ release (porcine coronary artery), <u>120</u>, 481

Inositol-trisphosphate

induction of intracellular Ca²⁺ increase in ventral photoreceptors (<u>Limulus</u>), <u>125</u>, 1137

Insulin

binding to hepatic microsomes and
Golgi fractions (human), 119, 1181
cellular uptake and surface binding,
concanavalin-A effects (isolated

rat hepatoma cells), 122, 204 cholesterol 7a-hydroxylase sensitivity (diabetic, normal rat liver), <u>124</u>, 896

and dietary fructose, malic enzyme regulation, comparison (diabetic rat), 121, 730

effect on

apical and basolateral cell membrane resistance in vitro (toad kidney), <u>124</u>, 614

ATP-citrate lyase phosphothreonine dephosphorylation (rat epididymal fat pads), 122, 1047

epinephrine-stimulated glycogenolysis and ureogenesis (euthyroid, hypothyroid rat hepatocytes), <u>118</u>, 451

and ethanolamine, effect on glucose oxidation and lipogenesis in vitro, comparison (rat adipocytes), 121, 413

and glucagon, effect on pyruvate kinase short-term regulation in vivo and in vitro, comparison (murine, rat hepatocytes), 124, 651

125 I-labeled, absence of covalent binding to receptors in erythrocytes and reticulocytes (human, rat), <u>123</u>, 849

induction of

initiation factor-2 phosphorylation decrease, effect on protein synthesis (bovine chondrocytes), <u>121</u>, 134

ovarian immunoprecipitable receptor B-subunit-specific phosphorylation (cultured porcine granulosa cells), <u>120</u>, 144

and insulin-like growth factors I and II, comparative effects on granulosa cell differentiation and DNA synthesis (porcine ovary), 124, 484

-like peptides, common high-affinity receptor identification by insulin growth factor-II binding (human lymphoid cells), 118, 774

-modulated thyrotropin-induced follicle reconstruction and iodine metabolism (porcine thyroid cell

culture), $\underline{118}$, 385 mutants [Ser B24] and [Ser B25], receptor binding and biological activity (human), 119, 49

receptor downregulation (neonatal rabbit brain), 120, 359

regulation of

insulin-like growth factor-II binding to pancreatic receptors, intracellular Ca2+ role (diabetic mouse), 119, 359

pyruvate kinase (rat liver), 119, 671

surface insulin receptors, recycling pathway role (rat hepatocytes), <u>119</u>, 706

release by

pancreatic B-cells

dihydropyridine effects (rat), <u>123</u>, 1062

inhibition by glucose, induction by blockage of glucose-promoted Ca^{2+} uptake (mouse), 125, 875

pancreatic islets, effect of Bordetella pertussis toxin, 124,

homogenous magnetic fields (rat), 122, 191

-releasing tetrapeptides, isolation and characterization (lipodystrophic diabetes patient urine), <u>122</u>, 103

role in control of ornithine transcarbamylase postnatal increase (rat liver), <u>123</u>, 317

-stimulating peptide, isolation from bovine serum albumin tryptic digests, characterization, 122, 1179

stimulation of insulin receptor subunit phosphorylation, inhibition by Na-ptosyl-1-arginine methyl ester and

> Na-benzoyl-l-arginine ethyl ester (human placenta, rat adipocytes), 119, 465

neurotransmitter amino acid uptake by synaptosomes, role in neuromodulation (rat brain), 119, 1198

uptake by Golgi fractions in vivo, analysis by diaminobenzidine-shift protocol (rat liver), 123, 1144

Insulin-like growth factor I

effect on granulosa cell differentiation and DNA synthesis, comparison with insulin and insulin-like growth factor II (porcine ovary), 124, 484

Insulin-like growth factor-I receptors identification on capillary and large vessel endothelial cells (bovine), <u>124</u>, 203

and insulin receptors, subunit structure, comparison (rat insulinoma cells), 124, 657

-mediated tyrosine kinase stimulation (rat hepatic BRL 3A2 cells), 119,

Insulin-like growth factor II binding to

> lymphoid cells, insulin-like peptide common high-affinity receptor identification (human), 118, 774

- pancreatic receptors, regulation by cholecystokinin and insulin, in- tracellular Ca²⁺ role (diabetic mouse), 119, 359
- effect on granulosa cell differentiation and DNA synthesis, comparison with insulin and insulinlike growth factor I (porcine ovary), 124, 484
- Insulin-like growth factor-II receptors
 identification on capillary and large
 vessel endothelial cells (bo vine), 124, 203
- Insulin mediator
 - glucose-6-phosphatase regulation (rat hepatic microsomes), 118, 40
- Insulin receptors
 - antibodies, inhibition of insulin-induced progesterone biosynthesis (cultured porcine granulosa cells), 120, 144
 - downregulation
 - B-adrenergic-induced, glucose effect (isolated human fat cells), 122, 97
 - by insulin (neonatal rabbit brain), 120, 359
 - erythrocyte and reticulocyte, absence of covalent binding by [1251]—insulin (human, rat), 123, 849
 - identification
 - on capillary and large vessel endothelial cells (bovine), <u>124</u>, 203 and characterization, altered binding in glycosylation mutants (Chinese hamster ovary cells), <u>125</u>, 70
 - and insulin-like growth factor-I receptors, subunit structure, comparison (rat insulinoma cells),
 124, 657
 - subunit phosphorylation, insulin-stimulated, inhibition by Nα-ptosyl-1-arginine methyl ester and Nα-benzoyl-1-arginine ethyl ester (human placenta, rat adipocytes), 119, 465
 - surface, regulation by insulin, recycling pathway role (rat hepatocytes), <u>119</u>, 706
- Interferon a
 - cloned human leukocyte, vesicular stomatitis virus inhibition (human amnion U cells), <u>119</u>, 326
 - and 9-[(1,3-dihydroxy-2-propoxy)methyl]guanine, synergistic inhibition of herpes simlex virus type
 2 (human), 120, 66
- Interferon B
- antiproliferative dose, effect on phosphoproteins (human bladder carcinoma cells), 119, 941

- and 9-[(1,3-dihydroxy-2-propoxy)methy1]guanine, synergistic inhibition of herpes simlex virus type
 2 (human), 120, 66
- gene conformation, changes during differentiation and viral induction (human MG63, murine PCl3 cells), 121, 290

Interferon Y

- and 9-[(1,3-dihydroxy-2-propoxy)methyl]guanine, synergistic inhibition of herpes simlex virus type
 2 (human), 120, 66
- mRNA levels in fresh lymphocytes and cultured lymphoblasts (human), 119, 157
- recombinant, transcriptional control of collagen synthesis (cultured confluent human diploid fibroblasts), 123, 365
- role in induction of myeloid leukemic cell differentiation (human), 124, 100
- Interferon-y receptors
 - photoaffinity labeling (cultured human fibroblasts), 120, 828

Interferons

- effect on mutants deficient in nucleoside transport or thymidine kinase activity (murine T-lymphoma S49 cells), 118, 124
- hybrid recombinant, murine B-16 melanoma cell differentiation inhibition (human leukocytes), <u>119</u>, 108 induction of
 - natural killer cell cytotoxicity, calmodulin role (murine splenic lymphocytes), 121, 478
 - phenotypic reversion in human oncogene-transformed fibroblasts, biochemical correlates (mouse), <u>119</u>, 21
- xanthine oxidase (mouse), 119, 144
 -mediated protein kinase, characterization by polyclonal antibodies
 (HeLa cells), 125, 1
- type I, inhibition of parathormonestimulated bone resorption (mouse), 120, 553
- Interleukin 2
 - medullary thymocyte stimulation, selective inhibition by 1,25-dihydroxyvitamin D₃ (mouse), <u>123</u>, 163
 - mRNA, superinduction by translation inhibitors (human tonsils), <u>123</u>, 842
- Interleukins
 - and muramyl dipeptide, restoration
 and stimulation of B-cell antibody response to sheep erythrocytes (mouse), 125, 431

118, 629

Subject Index

Interphotoreceptor matrix retinoid-binding protein, synthesis by retina in organ culture, monensin effect (monkey), 118, 789

Iodination

effect on

ovine prolactin receptor binding affinity (rat liver), <u>121</u>, 686 thyroglobulin structure (human), 121, 310

Iodine

metabolism, thyrotropin-induced, modulation by insulin (porcine thyroid cell culture), 118, 385

5-Iodocytidylyl(3'-5')guanosine crystalline complex formation with 2-methyl-4-nitroaniline ethylene dimethylammonium hydrobromide, structural analysis, 121, 188

5-Iododeoxyuridine

DNA polymerase induction (Burkitt lymphoma-derived cells), 123, 1170 Iodothyronine deiodinase

inactivation and affinity labeling with N-bromoacetyl-3,3',5-triiodothyronine (rat liver), 124, 475

modification by diethylpyrocarbonate and Rose Bengal, active site histidine residue identification (rat hepatic microsomes), 120, 28

Ionomycin

intraplatelet Ca2+ elevation, effect on phospholipases A and C (human), <u>123</u>, 393

Ionophore A23187
with Ca²⁺ or ethylene glycol tetracetic acid, effect on volumeand thiol-stimulated Cl-dependent K⁺ transport (ovine erythrocytes), 125, 790

and 1-oleoy1-2-acety1-glycerol, synergistic stimulation of superoxide production (human neutrophils), 125, 332

and phorbol ester

and forskolin and thyrotropin-releasing hormone, stimulation of prolactin release from pituitary tumor cells, comparison, 123, 735

glycogen phosphorylase synergistic activation (rat hepatocytes), 119, 88

and 48-phorbol 12-myristate 13-acetate, synergistic stimulation of superoxide release by neutrophils (guinea pig), <u>122</u>, 734

platelet activation, role of induced Na⁺/H⁺ exchange (human), <u>125</u>, 1123

stimulation of

glycogenolysis and ureagenesis, phorbol ester effects (rat hepa-

tocytes), 119, 1128 platelet-activating factor formation, inhibition by calmodulin antagonists (human neutrophils),

and 12-tetradecanoyl-phorbol-13-acetate, cortisol production stimulation (bovine adrenocortical fasciculata cell suspension), 121, 499

Iron

chronic overload in vivo, effect on mitochondrial membrane functional efficiency (rat liver), 124, 462

depletion, role in macrophage-mediated tumor cell cytotoxicity (murine L10, L1210 cells), 123, 716

identification in cytochrome c oxidase preparations (bovine cardiac muscle), <u>124</u>, 836

-S clusters

-containing NADH dehydrogenase subunits, detection by gel electrophoresis and high-performance gel chromatography (bovine cardiac mitochondria), 120, 237

in spinach ferredoxin and Clostridium pasteurianum red paramagnetic protein, structural comparison, resonance Raman spectroscopy, 119, 828

uptake

hydroxamate siderophore-mediated, stereospecificity (Escherichia <u>coli</u>), <u>121</u>, 922

from transferrin by isolated hepatocytes, ethanol effect (rat), 125, 824

Iron chelators

spermidine catecholamide, antiherpetic and anti-neoplastic activity (herpes simplex, vesicular stomatitis viruses, L1210 leukemia cells), 121, 848

Islets of Langerhans, see Pancreas Isobutyraldehyde

horseradish peroxidase-catalyzed chemiluminescent reaction, ratelimiting factors, 122, 28

Isoflurophate

induction of protein crosslinking to nascent DNA in simian virus-40 chromatin (CV-1 cells), 123, 271

Isomerization

hydroxocobalamin, biological implications (human), <u>125</u>, 698

N6-Isopentenyladenine

conversion to zeatin (Actinidia tissues), <u>124</u>, 470

Isopeptidase

chromatin constituent binding affinities (calf thymus, Chinese hamSubject Index

```
ster DON cells), 122, 1296
Isoprenaline, see Isoproterenol
Isoprene
  biosynthesis in vitro from mevalonate
```

(rat hepatic cytosolic fraction), 123, 691

Isoproterenol

cAMP response, attenuation by 1,25-dihydroxyvitamin D (human U937 cells), 123, 210

effect on

adenylate cyclase desensitization and B-adrenergic receptor phosphorylation (duck erythrocytes), 121, 973

ATP-citrate lyase phosphothreonine dephosphorylation (rat epididymal fat pads), 122, 1047

-stimulated

adenylate cyclase, anion and cation effects (rabbit heart), 118, 561

downregulation of insulin receptor binding, glucose effect (isolated human fat cells), 122, 97

internalization of B-adrenergic receptors, mechanism (BC3H-1 cells), <u>124</u>, 863

phosphorylation of Ca channel subunit comigratory 42-kDa membrane protein (canine heart), 121, 890

1-(5-Isoquinolinesulfonyl)-2-methylpiperazine

selective inhibition of protein kinase C (rabbit platelets), 125,

Isotopes

intramolecular, effect on cytochrome P-450-catalyzed biphenyl meta-hydroxylation (rat liver), 118, 867 Isouramil

acetylcholinesterase inactivation, mediation by Cu ions (human erythrocyte ghosts), 122, 297

K

Kainate

effect on tubulin polymerization in vitro (rat brain), 122, 925

Kallikrein

high-molecular-weight peptide activation (rat atrium), 120, 461 inactive, purification to homogeneity and characterization (rat urine), 122, 1282

-like

activity, reduction in anterior pituitary (New Zealand genetically hypertensive rats), 119, 689 latent serine protease, identificaand characterization (human ervthrocyte membranes), 121, 722

Keratin

-coated inorganic matrices, glucoamylase immobilization supports (Aspergillus niger C), 121, 220

Keratinocytes

differentiation in vitro, Ca²⁺-requlated, phospholipd metabolism (mouse), 122, 1234

malignant, arachidonic acid metabolism in vitro, stimulation by melittin (human epidermis), 124,

α-Ketoqlutarate

cofactor for glutamic-oxaloacetic transaminase (cotton callus cells), 123, 836

Ketomethyldipeptides

inhibition of angiotensin-converting enzyme

analysis, <u>124</u>, 141

effect of α -aminoketone moiety chemical modification, 124, 148

development, hepatic fructose-2,6bisphosphate and fructose-6phosphate, 2-kinase roles (diabetic mouse), 120, 103

Kirsten murine leukemia virus genome characterization and cloning (murine NIH/3T3 fibroblasts),

119, 150 -transformed cells, effect on epidermal growth factor receptors (rat kidney), 118, 538

xenotropic pseudotype, -induced neoplasm, inactivation of epidermal growth factor receptor (rat kidney), 120, 879

L

Laccase

native and type 2-depleted, coupled binuclear Cu active site oxidation by peroxide, X-ray absorption spectroscopy (Rhus vernici-<u>fera</u>), <u>119</u>, 567

α-Lactalbumin

structure, pH-dependence, fluorescence spectroscopy (bovine), 119, 509

Lactase-phlorizin hydrolases

biosynthesis (porcine intestinal mucosal explants), 122, 82

L-Lactate cytochrome c oxidoreductase, see Lactate dehydrogenase (cytochrome)

Lactate dehydrogenase (cytochrome) -pyruvate binding, redox equilibrium modification with semiquinone stabilization, 118, 753

Lactoperoxidase

-H₂O₂ compounds, reduction by ferrocyanide, oxidizing equivalent identification on apoprotein site, <u>121</u>, 463

Lactose

operon promoter region, nucleotide sequence, comparison with melibiose operon (<u>Escherichia coli</u>), 121, 41

Lactoyl-glutathione lyase

activity and cell cycle regulation (Saccharomyces cerevisiae), 119, 962; erratum, 121, 420

Lamin B

antibodies, [3H]uridine triphosphate incorporation inhibition (permeabilized murine L cells), 120, 256

Laminin

binding to hyaluronate-binding proteins (chicken cardiac fibroblasts, 3T3 cells), 121, 808

B-Lapachone

methyl methane sulfonate lethality enhancement (human fibroblasts), 118, 828

Lasalocid A

inhibition of ruthenium red-induced Ca²⁺ efflux from mitochondria (rat liver), 124, 80

α-Latrotoxin

black widow spider venom, binding to phosphoinositide breakdowncoupled receptor (rat pheochromocytoma cells), 121, 538

Laurate ω -hydroxylase

activation by di(2-ethylhexyl) phthalate (rat hepatic microsomes), <u>121</u>, 304

Lauric acid

peroxisomal oxidation, inhibition by phenothiazines (rat hepatocytes), 120, 505; erratum, 123, 410

L cells

rabbit antiserum-stimulated, palmitic acid N-acylation enhancement in sphingomyelin (mouse), 121, 605

Lead

chronic intoxication, effect on creatine kinase-BB isoenzyme plasma levels (rat), <u>125</u>, 192

Lectins

activity in Factor VIII/Von Willebrand factor (human plasma, platelets), <u>118</u>, 495

B₄, interaction with N-acetylgalactosamine residues on Cad erythrocytes (<u>Vicia villosa</u> seeds), <u>123</u>, 1099

Ca²⁺-Zn²⁺ derivatives, preparation and characterization, comparison with native form (lentil, pea), 124, 857

B-galactoside-binding

monoclonal antibodies, recognition of antigen conformational change (chick embryo), <u>123</u>, 1179

photochemical crosslinking polylactosamino-proteoglycan (chick embryo skin), 123, 1215

purification and properties (human placenta), 122, 938

purification and binding to nitrogenfixing bacteria from rice rhizosphere (rice embryo), 119, 549

-treated lymphocytes, tyrosine phosphorylation stimulation (human), 124, 682

Leishmania mexicana

temperature-induced differentiation
<u>in vitro</u>, induction of heat shock
proteins, 125, 755

Lens

proteins

glycosylation (diabetic, nondiabetic senile cataract patients), 123, 888

tyrosine residue microenvironmental change in cold cataract, Raman spectroscopy (rat), <u>119</u>, 989

spectrin and protein 4.1-like protein
 identification (bovine, canine,
 human, rabbit), 119, 726

Leucine

incorporation, effect of methionine analog inhibitors of methionine adenosyltransferase (murine L1210 leukemia cells), <u>122</u>, 350

Leucine-enkephalin

thioamide analogs, selective receptor recognition, peptide backbone role (guinea pig ileum, murine vas deferens), 120, 305

Leukocytes

polymorphonuclear, \underline{see} Neutrophils Leukotriene B.

association with neutrophil cytoskeleton, chemotactic factor and phorbol ester effects (rabbit), 124, 963

epitope recognized by specific monoclonal antibody, characterization (mouse), <u>123</u>, 944

exogenous, neutrophil stimulation, effect on metabolism and release of arachidonic acid and plate-let-activating factor synthesis (human), 122, 535

-induced

Ca-dependent cell aggregation (Microciona prolifera), 121, 863 increase in intracellular free Ca concentration, inhibition by pertussis toxin: role of G protein (rabbit), 124, 644

polymorphonuclear leukocyte chemotactic activity in inflammatory sites, inhibition by dexamethasone (rat), <u>119</u>, 884

NADPH-dependent catabolism in cellfree neutrophil preparation (human), 125, 615

ω-oxidation by neutrophils, inhibition by CO: role of cytochrome P-450 in catabolism (human), 123, 475

production by polymorphonuclear leukocytes, stimulation by opsonized zymosan particles, inhibition by dexamethasone (rat), 119, 720

Leukotriene C.

biosynthesis and metabolism, detection by HPLC and radioimmunoassay, 125, 97

³H-labeled, binding inhibition by leukotrienes C₄, D₄, and E₄, serine-borate complex effect (guinea pig brain, lung homogenates), <u>119</u>, 612

and leukotriene D₄, -mediated
C5a_{desArg} anaphylatoxin spasmogenic activity on lung parenchymal strips, cyclooxygenase inhibitor effects, comparison (guinea
pig), 125, 852

release, platelet-activating factorstimulated, inhibition by vasoactive intestinal polypeptide (rat lung homogenates), <u>125</u>, 105

Leukotriene D

biosynthesis and metabolism, detection by HPLC and radioimmunoassay, <u>125</u>, 97

3H-labeled

binding inhibition by leukotrienes
C₄, D₄, and E₄, serine-borate
complex effect (guinea pig brain,
lung homogenates), 119, 612

and [³H]leukotriene E₄, binding
activities, comparison (guinea pig
tissues), 122, 949

receptor binding site identification (guinea pig lung homogenates), 118, 20; erratum, 121, 420 and leukotriene C4, -mediated

C5adesARg anaphylatoxin spasmogenic activity on lung parenchymal strips, cyclooxygenase inhibitor effects, comparison (guinea pig), 125, 852

release, platelet-activating factorstimulated, inhibition by vasoactive intestinal polypeptide (rat lung homogenates), 125, 105 Leukotriene D₄ receptors binding site identification with [³H]leukotriene D₄ (guinea pig lung homogenates), <u>118</u>, 20; erratum, <u>121</u>, 420

Leukotriene E

biosynthesis and metabolism, detection by HPLC and radioimmunoassay, 125, 97

³H-labeled, and [³H]leukotriene D₄, binding activities, comparison (guinea pig tissues), <u>122</u>, 949

[3H]leukotriene D₄ and [3H]leukotriene C₄ binding inhibition, serine-borate complex effect (guinea pig brain, lung homogenates), 119, 612

release, platelet-activating factorstimulated, inhibition by vasoactive intestinal polypeptide (rat lung homogenates), 125, 105

Leukotrienes

isolation and characterization (human neutrophils), <u>120</u>, 548

Leumorphin

detection and opioid activity (human brain), 123, 148

Levansucrase

Bacillus subtilis exocellular, precursor characterization (Escherichia coli minicells), 119, 795

Levorphanol, <u>see</u> 3-Hydroxy- \underline{N} -methyl-morphinan

Light

-mediated phosphatidylinositol 4,5-bisphosphate hydrolysis (isolated frog retina), 124, 503

red and near uv, -induced production of rhodopsin-like pigment photochemical intermediate (<u>Halobac</u>terium halobium), <u>123</u>, 989

Linoleate

Linoleic acid

arachidonic acid biosynthesis, capacity of epidermal microsomal preparations (guinea pig, rat), 124, 784

Lipid methyltransferase

partially purified, activation by phosphorylation (rat liver), 122, 1065

Lipids

-associated Ca ionophores in plasma membranes, glucose stimulation effect (rat pancreatic islet cells), <u>118</u>, 601

bilayer membranes

inner mitochondrial, fluidity, succinate and phenylsuccinate effects, EPR and fluorescence (rat liver), 119, 854

7,7,8,8-tetracyanoquinodimethanecontaining, cyclic voltammetry, 119, 372

gastric mucus glycoprotein-associated,
 effect on

H⁺ diffusion (canine), <u>118</u>, 523 viscosity (canine), <u>121</u>, 521

microsomal

composition evolution, UDPglucuronosyltransferase role (rat neonate liver), 119, 29

membrane fluidity, fluorescence polarization (active, torp1d European hamster brain), 119, 396

neutral, platelet-activating factor precursor, antihypertensive activity (hypertensive, normotensive rats), <u>118</u>, 344

peroxidation, <u>see</u> Lipoperoxidation phase transitions in sarcoplasmic reticulum membranes, Raman spectroscopy (rabbit combined muscle), <u>122</u>, 446

role in dextran-charcoal effect on glucocorticoid-receptor complex dissociation kinetics (rat thymus), 119, 1134

selenium binding (<u>Dunaliella primo-lecta</u>, <u>Porphyridium cruentum</u>), <u>118</u>, 176

transfer proteins, plasma, facilitation of cholesteryl ester bidirectional movement between rough and smooth microsomal membranes (rat liver), <u>120</u>, 586

Lipogenesis
insulin and ethanolamine effects in vitro, comparison (rat adipocytes), 121, 413

Lipolysis

induction by growth hormone and synthetic adrenocorticotropin in isolated rabbit adipocytes, comparison (human, ovine, porcine, rabbit), 122, 197

Lipoperoxidation

chronic alcohol feeding effect, role in hydroxyl radical generation (rat microsomes), <u>118</u>, 233

coleoptiles, reduction by indole-3acetic acid: effect on malondialdehyde levels (Avena sativa L.), <u>125</u>, 76

effect of polyamine binding to phospholipid vesicles (soybean), 122, 550

halothane-induced, hypoxia role (rat hepatic microsomes), 119, 139

inhibition by idebenone, mechanism
 (rat cerebral mitochondria), <u>125</u>,
 1046

O₂- and H₂O₂-dependent, in intact and Triton X-100-dispersed membranes (human erythrocytes), <u>118</u>, 474

Lipopolysaccharides

xanthine oxidase induction (mouse)
119, 144

Lipoprotein lipase

hydrolysis of 1-acyl-2-[6-[(7-nitro-2,1,3-benzoxadiazol-4-yl)amino]caproyl]phosphatidylcholine (bovine milk), 118, 894

inhibition by 2,3,7,8-tetrachlorodibenzo-p-dioxin (guinea pig adipose tissue), 122, 810

macrophage, major source in lung
 (rat), <u>125</u>, 273

and monoacylglycerol lipase, separation by heparin-Sepharose affinity chromatography (bovine brain), 122, 1241

polyethylene glycol-modified, catalysis of ester synthesis in benzene (<u>Pseudomonas fluorescens</u>), <u>122</u>, 845

tumor-promoting phorbol diester
 substrates (rat serum), <u>123</u>, 170
Lipoproteins

high-density, <u>see</u> High-density lipoproteins

low-density, see Low-density lipoproteins

nonlipoprotein factors, serum: hepatic cholesterol-7α-hydroxylase stimulation <u>in vitro</u> (streptozotocindiabetic rat), <u>121</u>, 742

very-low-density, <u>see</u> Very-low-density lipoproteins

Liposomes

cholesterol transfer reaction to cytochrome \underline{P} -450_{SCC}, enthalpy-entropy compensation effects (bovine adrenal cortex), $\underline{118}$, 877

contents, distribution in tissues: analysis <u>in vivo</u> with ¹²⁵Ilabeled tyraminyl-insulin marker (rat), <u>122</u>, 319

functionalized polymeric, a-chymotrypsin covalent attachment, <u>119</u>, 646

large unilamellar, cytochrome P-450 and NADPH cytochrome P-450 reductase incorporation, octylglucoside role (rabbit liver), <u>121</u>, 118
marker release, induction by <u>Cerebra-tulus lacteus</u> toxin A-III, <u>121</u>, 14
membranes, lipid composition, effect

membranes, lipid composition, effect on carbocyanine dye fluorescent response, <u>123</u>, 178

-prothrombin interactions, analysis, 125, 381

Lipoxygenase

directed toward electroaffinity labeling, electrolysis-mediated irreversible inactivation (soybean), 123, 156

products, role in epinephrine vascular effects (perfused rat liver), 123, 507

Low-density lipoprotein receptors 2,3,7,8-tetrachlorodibenzo-p-dioxin effect (guinea pig, rat hepato-cyte plasma membranes), 118,548

Low-density lipoproteins

-associated β-carotene, resonance Raman spectra (human plasma), 122, 867

binding to 5-methoxypsoralen (human serum), <u>120</u>, 670

defective endocytosis in V79 cell mutants, effect on membrane fatty acid composition (Chinese hamster), 122, 627

interaction with whale cartilage chondroitin sulfate, ²H NMR spectra (human plasma), <u>121</u>, 871

metabolism, AY 9944 effects (human fibroblast culture), 122, 955

reactivity with monoclonal antibodies, analysis by ELISA and immunoprecipitation (mouse), <u>125</u>, 704 Luciferase

active, synthesis <u>in vitro</u> by poly
(A)⁺ RNA translation (adult

firefly lanterns), <u>124</u>, 592 ATP sites, kinetic distinction (firefly), 123, 764

Luciferin

synthetic firefly, -enhanced luminescent horseradish peroxidase immunoassays for rubella antibody, immunoglobulin E, and digoxin (human), 119, 481

Luminol

-dependent and native luminescence in stimulated neutrophils, simulta- neous detection (human), 123, 1047 Luteinizing hormone

-stimulated testosterone production, inhibition by phorbol esters (mu-

1062

B-subunit mRNA, regulation during estradiol feedback states (ovine pituitary gland), <u>122</u>, 1307

rine Leydig cell culture), 119,

subunit precursor mRNA, in vitro
 translation (porcine pituitary),
 118, 254

α- and β-subunit precursors, physiochemical properties (porcine pituitary), 124, 383

Luteinizing hormone-releasing hormone antagonists, synthesis and effects, chicken II and salmon LHRH use as models, 123, 1221

Lycopene

cyclization, inhibition by nicotine (<u>Phaseolus vulgaris</u> cotyledons), 120, 625

Lymphadenopathy-associated virus
-associated RNA-dependent DNA polymerase, characterization, <u>121</u>, 126

Lymphoblasts

ataxia telangiectasia, cellular actin levels in culture, regulation by cell density (human), 119, 561

cultured, interferon- γ mRNA levels (human), 119, 157

β-hexosaminidase deficiency, frequency (various cell lines), <u>119</u>, 841

Lymphocytes

antibody response, enhancement by bovine and human thyrotropin <u>in vi-</u> <u>tro</u> (murine spleen), 125, 30

B-cell

antibody response to sheep erythrocytes, restoration and stimulation by interleukins and muramyl dipeptide (mouse), 125, 431

helper activity, peripheral blood mononuclear cell mRNA-encoded, effect on antibody synthesis by nude murine spleen cells (human), 119, 868

immature, nonresponsiveness to antiimmunoglobulin, pronase effect (mouse), 119, 1

palmitoyl-tetrapeptide mitogenic effects <u>in vitro</u> (Escherichia coli), 121, 55

proliferation induction, endogenous
 membrane protein phosphorylation
 enhancement (murine spleen), 124,
544

tyrosine residue phosphorylation, enhancement upon membrane immunoglobulin complexing (human), <u>125</u>, 859

and bone marrow cells, normal and leukemic: tyrosine phosphorylation, comparison (human), 124, 766

lectin-treated, tyrosine phosphorylation stimulation (human), 124, 682

leukemic, B-hexosaminidase iso-

enzyme separation (human), <u>122</u>, 966

peripheral blood mononuclear, interferon-γ mRNA levels (human), 119, 157

permeability to chloride, kinetics (human), <u>122</u>, 522

phospholipase A₂ activity, characterization (human, rat), <u>125</u>, 719

phytohemagglutinin-stimulated, short
 DNA fragment secretion, 5'-end
 analysis (human peripheral
 blood), 118, 140

prolactin receptors, identification (human), <u>121</u>, 899

proliferation, concanavalin A-stimulated and phorbol ester-inhibited, protein kinase identification (bovine), 121, 392

quiescent and concanavalin A-stimulated, intracellular transferrin receptor expression (murine spleen), <u>119</u>, 598

T-cell, monoclonal antigen-binding proteins, production and purification (murine ascites), <u>125</u>, 475

thymic, see Thymocytes

tonsillar, <u>in vitro</u> excretion of [3H]thymidine-labeled DNA and concomitant reversion to resting state (human), <u>125</u>, 1110

viability loss, <u>in vitro</u> induction by aphidicolin and deoxycoformycin (human), 120, 959

Lysine

ornithine decarboxylase short-term regulation (<u>Dictyostelium discoideum</u>), 119, 1141

residues

clustered, histone: role in silver staining (calf thymus), <u>123</u>, 729

heparin cofactor II, covalent modification with pyridoxal 5'-phosphate: effect on activity (human plasma), 124, 745

identification in F₁-ATPase βsubunit with 7-chloro-4-nitro-[14C]benzofurazan (thermophilic bacterium PS3), 123, 1040

methionyl-tRNA synthetase, modification by crosslinking to formylmethionine-tRNA (Escherichia coli), 119, 677

Lysine decarboxylase

selective irreversible inhibition by DL-a-difluoromethyllysine (Mycoplasma dispar), 125, 205

Lysipressin

purification and characterization, analysis of gene evolution (<u>Di-delphis virginiana</u>), <u>123</u>, 306 Lysophospholipids

production enhancement by free radicals (rat hepatic lysosomes), 124, 229

Lysosomes

exogenous mannitol accumulation (rat liver), 123, 286

lysophospholipid production and phospholipid degradation, enhancement by free radicals (rat liver), 124, 229

Lysozyme

multiple phosphorescent tryptophan residues, identification by optically detected magnetic resonance, 125, 974

release from neutrophils, induction by cyclic tetrameric clusters of chemotactic peptides (human), 124, 939

Lytic enzyme

spore, precursor: energy-dependent
 activation by germinated spores
 (Clostridium perfringens), 123,
463

м

a-Macroglobulins

and ovomacroglobulin, CD spectra, comparison (bovine, chicken, frog), 123, 771

a,-Macroglobulins

and C₃ chain of rat prostatic steroid-binding protein, amino acid sequence homology (human), 122, 662

long-term production by hepatocytes
 cocultured with epithelial cells
 (adult rat liver), 120, 311

and matrix-linked trypsin reaction,
 proteinase-binding site nonproductive activation (human), 118,
691

Macrophages

alveolar, tumoricidal activation by muramyldipeptide-bound mannosylated bovine serum albumin (mouse, rat), 121, 579

interaction with <u>Trypanosoma cruzi</u> regulation by parasite membrane phospholipase A₂-sensitive components (mouse), <u>121</u>, 931

surface galactose residue role (mouse), <u>119</u>, 228

major source for lipoprotein lipase
 in lung (rat), 125, 273
peritoneal

activation and tumor cell cytolysis, inhibition by cyclosporin A (rat), 123, 710 -mediated tumor cell cytotoxicity,
role of Fe depletion (murine L10,
L1210 cells), 123, 716

progenitor cells, radioprotection by superoxide dismutase (murine bone marrow), 119, 1089

tuftsin endocytosis, receptor-mediated (mouse), 119, 203

Magnesium ion

-binding subsite, identification in ATP-binding site of Ca²⁺-ATPase (rabbit skeletal muscle sarcoplasmic reticulum), 124, 183

and Ca²⁺-induced conformational changes in S-100a protein, subnanosecond-pulse fluorometric analysis (bovine brain), <u>123</u>, 959

effect on spermine-induced phosphorylase kinase inhibition (porcine liver), <u>121</u>, 271

intracellular free, concentration
 regulation by Mg²⁺ efflux
 (chicken erythrocytes), <u>119</u>, 124

Magnetic fields
homogenous, effect on insulin secretion (isolated rat pancreatic islets), 122, 191

Malate

-oxaloacetate shuttle reconstruction and oxaloacetate uptake by mitochondria (rat brain), <u>119</u>, 1039

Malate dehydrogenase

binding to mitochondrial inner membranes, tissue distribution (lemon fruit, mammals), 121, 612

Malate dehydrogenase (oxaloacetatedecarboxylating) (NADP⁺)

regulation by dietary fructose and insulin, comparison (diabetic rat), <u>121</u>, 730

Malate synthase

inactivation after irradiation, <u>118</u>,

Malic enzyme, <u>see</u> Malate dehydrogenase (oxaloacetate-decarboxylating) (NADP⁺)

Malondialdehyde

levels in coleoptiles, reduction by indole-3-acetic acid (<u>Avena sativa</u> L.), <u>125</u>, 76

Maltooligosaccharides

hydrolysis by α-amylase, subsite binding kinetics (porcine pancreas), 122, 75

Maltoporin

affinity for starch and maltose, enhancement by affinity-chromatographic selection (Escherichia coli), 121, 34

Maltose

maltoporin affinity, enhancement by affinity-chromatographic selection (<u>Escherichia coli</u>), <u>121</u>, 34

Manganese ion

-Mn interaction in adenylated and unadenylated glutamine synthetase (<u>Escherichia coli</u>), <u>120</u>, 939

release into restricted aqueous compartment after photosynthetic oxygen evolution inhibition (chloroplast nonvesicular membrane fragments), 119, 168

role in activity of calmodulin dependent protein phosphatase
 subunit A (bovine brain), 122,
 1389

Mannitol

exogenous, accumulation in lysosomes and mitochondria (rat liver), 123, 286

Mannose

high, and complex oligosaccharidecontaining form of acid α-Dmannosidase, identification (Macaca radiata brain), 123, 1185

α-Mannosidases

l-deoxymannojirimycin effects (rat liver), 125, 324

Mass spectrometry

secondary-ion, amino acids in glycerol
 matrix, hydrophobicity effect,
 123, 27

Mast cells

antigen-stimulated, polyphosphoinositide metabolism (rat peritoneum), 123, 875

extracts, stimulation of collagenase and prostaglandin-E production in vitro by human adherent rheumatoid sinovial cells (canine), 122, 270

histamine release, synergistic role of Ca²⁺ mobilization and protein kinase-C activation (rat peritoneum), <u>121</u>, 573

MDL 12330A, see N-(cis-2-Phenyl cyclopentyl)azacyclotridecan-2-imine hydrochloride

Mechlorethamine

-induced DNA crosslinks, sensitivity
 to alkaline conditions (human fibroblasts), 123, 549

Melanin

-concentrating hormone, synthesis and biological activities (<u>Anolis</u> <u>carolinensis</u>, <u>Rana pipiens</u>, teleSubject Index

ost), <u>122</u>, 613

Melanocytes

normal and neoplastic, ganglioside composition (human), 120, 500

γ-Melanotropin

identification in nerve endings, nerve fibers, and neurons by immuno-fluorescence microscopy (rat duodenum), 125, 448

Melatonin

cerebral metabolite N-acetyl-5-methoxy kynurenamine, prostaglandin biosynthesis inhibition (bovine, ovine seminal vesicle microsomes), 121, 372

Melibiose

operon promoter region, nucleotide sequence, comparison with lactose operon (Escherichia coli), 121, 41

Melittin

stimulation of

arachidonic acid metabolism by cultured malignant keratinocytes (human epidermis), <u>124</u>, 303 increase in intracellular free Ca²⁺ concentration (human fibroblasts), <u>119</u>, 69

Membranes

acetylcholine receptor, reconstituted: multiple binding sites for local anesthetics (Torpedo californica), 123, 862

apical and basolateral cells, resistance: insulin effects in vitro (toad kidney), 124, 614

B-lymphocyte, immunoglobulin complexing, enhancement of B-cell tyrosine residue phosphorylation (human), 125, 859

brush border

glutathione uptake analysis
 (porcine jejunum), 123, 929
Na+ transport (rat kidney), 123,

sulfate transport (human placental syncytiotrophoblasts), <u>123</u>, 223

cardiac, 42-kDA protein, Ca channel
 subunit-comigratory: identifica tion and isoproterenol- and
 nitrendipine-induced phosphoryla tion (canine), 121, 890

-cytoskeleton interaction, effect of receptor- and non-receptor-medi-ated platelet activation, 120, 898

dipalmitoyl phosphatidylcholine, amphotericin B incorporation, antibiotic selectivity enhancement: circular dichroism and permeability analysis, 125, 360

electrical potential

changes in response to formylmethionyl-leucyl-phenylalanine or 12-O-tetradecanoylphorbol 13-acetate (human myeloid leukemia cells, neutrophils), 123, 937

effect of macromolecular polylysine (Escherichia coli), 122, 401

epithelial, [125] vasoactive intestinal peptide binding and adenylate cyclase activity, peptide partial sequence effect (human, rat intestine), 121, 493

erythrocyte

anti-Rh_O(D) binding, band-3 proteolysis enhancement (human), 124, 437

band-4.1 phosphorylation, stimulation by phorbol 12-myristate 13acetate (rabbit), 120, 291

ceruloplasmin receptor identification (human), 125, 157

cholesterol content, effect on Ca
influx through channel (human),
124, 822

phosphoenolpyruvate transport, inhibition by 2,3-bisphosphoglycerate, and 3-phosphoglycerate (human), 122, 609

surface property differences, detection by cell partitioning (human), 120, 250

Triton X-100-dispersed and intact, O_2^- and H_2O_2 -dependent lipid peroxidation (human), <u>118</u>, 474

F₁-ATPase expression, K⁺ and pH effects (<u>Streptococcus faecalis</u>), <u>122</u>, 151

fatty acid composition, alteration in V79 cell mutants with defective low-density lipoprotein endocyto-sis (Chinese hamster), 122, 627

fluidity

fluorescence polarization analysis (active, torpid European hamster brain), 119, 396

and 3-hydroxy-3-methylglutaryl CoA reductase activity, growth-rate-related and hydroxysterol-induced changes (cultured hepatoma cells), 120, 192

inner mitochondrial lipid bilayers,
 succinate and phenylsuccinate effects, EPR and fluorescence (rat
liver), 119, 854

hepatic, identification of inhibitory and stimulatory growth factors (mouse), 120, 891

intestinal microvillus, glycan biosynthesis, developmental shift from
sialylation to fucosylation
(rat), 125, 546

lipid bilayer

cytochrome P-450 substrate-binding

```
site location (rabbit liver microsomes), <u>118</u>, 916
```

- 7,7,8,8-tetracyanoquinodimethanecontaining, cyclic voltammetry, 119, 372
- liposome, lipid composition, effect
 on carbocyanine dye fluorescent
 response, 123, 178

microsomal

- BAY K 8644 binding (rabbit heart), 121, 317
- rough, antiestrogen high-affinity
 binding site concentration (rat
 liver), 120, 109
- rough and smooth, cholesteryl ester bidirectional movement, facilitation by plasma lipid transfer proteins (rat liver), <u>120</u>, 586 mitochondrial
 - cholesterol distribution, regulation by sterol-carrier protein, (rat adrenal), 122, 509 functional efficiency, chronic Fe overload effect in vivo (rat liv-

er), <u>124</u>, 462 inner

- citrate synthase and malate dehydrogenase binding, tissue distribution and substrate effects (lemon fruit, mammals), 121, 612
- protein sulfhydryl groups, modification by succinate and phenylsuccinate, EPR analysis (rat liver), 122, 1404
- outer membrane transverse plane, glycerophosphate acyltransferase location (guinea pig lung), <u>123</u>, 569

myocardial

- [3H]nitrendipine binding to Ca channel site, thioridazine diltiazem-like effect (rat), 121, 657
- sarcolemmal, creatine kinase and ATP-dependent Na⁺ pump, relationship (canine, guinea pig), 124, 696
- neuronal, phospholipid fatty acid composition, ethanol effect (murine embryos), 122, 516
- neutrophil, surface DNA-binding site, identification with biotin-la-beled DNA (human), <u>122</u>, 1034
- nonvesicular fragments, Mn²⁺ release into restricted aqueous compartment after oxygen evolution inhibition (chloroplasts), 119, 168
- nuclear, peptides, androgen dependence (rat ventral prostate), 125, 469
- phosphatidylcholine bilayer, cholesterol dissociation, hydrogen belt

- interactions, <u>118</u>, 743 phospholipid bilayer
 - fluidity, phosphatidylethanolamine <u>N</u>-methylation effects (rat basophile leukemia cells), <u>120</u>, 989
 - structural transitions, induction by diacylglycerol (bovine brain), 124, 491
- photosynthetic, reaction center integrity after proteolysis and detergent solubilization (<u>Rhodopseudomonas viridis</u>), 120, 164
- planar bilayer, des-L. Val 7-D. Val 8-Gramicidin A, side chain orientation, role in single channel conductance dispersity, 118, 885
- plasma, see Plasma membranes
- plastic, DNA alkaline transfer (rat), 122, 340
- platelet external and internal fractions, simultaneous isolation: biochemical, immunological, and functional characterization, 123,
- porous, triolein-doped, Na⁺/K⁺ concentration gradient-induced: electrical potential oscillation, 123, 792

proteins

- ADP-ribosylation, effect of Bordetella pertussis toxin (rat pancreatic islets), 124, 190
- biologically active, HPLC isolation (Rhodopseudomonas sphaeroides R 26 reaction centers), 121, 47
- carboxyl methylation, role in erythrocyte response to cytoskeletal stress (human), 123, 133
- endogenous, phosphorylation enhancement during B-lymphocyte proliferation induction (murine spleen), 124, 544
- 36-kDa, Ca²⁺-dependent phorbol ester-activated phosphorylation and immunoprecipitation with IgE-anti IgE system (rat basophilic leukemia cells), <u>125</u>, 867 purple
 - carboxyl modifications, effect on bacteriorhodopsin blue-species and O₆₅₀ photocycle intermediate (<u>Halobacterium halobium</u>), 122, 1110
 - surface charge, measurement by laser Doppler velocimetry (<u>Halobacterium halobium</u>), <u>122</u>, 252
- sarcolemma, role in adrenochrome formation (bovine heart), 120, 22
- sarcoplasmic reticulum, lipid phase transitions, Raman spectroscopy (rabbit combined muscle), <u>122</u>, 446 skeletal muscle transverse-tubular

[3H]dihydropyridine binding, temperature and d-cis-diltiazem effects (rabbit), 123, 41 [3H]verapamil-binding sites

(rabbit), 118, 239

spin-labeled, interaction with hexachlorophene (rat brain), 120, 434 substrate-adhesion sites, ganglioside composition (normal, virally

transformed Balb/c 3T3 cells), 125, 142

surface cAMP-binding sites, modulation by guanine nucleotides (<u>Dictyostelium discoideum</u>), <u>124</u>, 597

synaptosomal

ammonia effect (murine brain), 119, 516

BAY K 8644 binding (guinea pig brain), <u>121</u>, 317

Trypanosoma cruzi, phospholipase
A₂-sensitive components,
parasite-macrophage interaction
regulation (mouse), 121, 931

unsaturated digalactosyl diacylglycerol bilayer, with 1,6-diphenyl-1,3,5-hexatriene, angleresolved fluorescence depolarization (spinach leaves), 123, 352

zymogen granule, protein phosphorylation <u>in vitro</u> (rat pancreatic acinar cells), <u>122</u>, 413

Mesenchymal cells

cultured, protein synthesis, comparison with mammary cuboidal epithelial cell derivatives (rat), <u>120</u>, 351

Mesohemin

cytochrome P-450 functional reconstitution in vitro after allyliso-propylacetamide-mediated destruction (rat liver), 121, 95

Mesotocin

purification and characterization, analysis of gene evolution (<u>Di-delphis virginiana</u>), <u>123</u>, 306

Metal ions

divalent, noncovalent complexes with
 diadenosine 5',5'''-P1,P4-tetra phosphate, 120, 1037

Metallothionein

Cd,Zn-, binding to Cd, spectroscopy and protein concentration estimation by Cd saturation methods (rat liver), 121, 1006

Cu-facilitated chemiluminescence (rabbit liver), 125, 425

Methanol

-water solutions, poly(dA-dT) · poly-(dA-dT) thermal melting, 123, 831

Methanol: 5-hydroxybenzimidazolylcobamide methyltransferase reductive activation, hydrogenase and ferredoxin roles (<u>Methanosarcina</u> barkeri), 118, 760

Methionine radicals

repair by vitamin E analog, <u>119</u>, 245 Methionyl-tRNA synthetase

lysine residue modification by crosslinking to formylmethionine-tRNA (Escherichia coli), 119, 677

Methotrexate

affinity of dihydrofolate reductase multiple forms, comparison (murine leukemia L1210 cells), 119, 352

5-Methoxypsoralen, <u>see</u> Bergapten Methoxyvinylpyrene

analog, chemiluminescent probe for singlet oxygen, 123, 869

[Methyl]-S-adenosyl-L-methionine

3H-labeled, uv-induced covalent
binding to bovine adrenal phenylethanolamine N-methyltransferase
and human erythrocyte protein-Ocarboxylmethyltransferase, methyl
acceptor substrate effects, 122,
499

Methylation

carboxyl, membrane proteins, role in erythrocyte response to cytoskeletal stress (human), <u>122</u>, 133

heat shock protein 70, sodium arsenite effect (chicken embryo fibroblasts), 119, 735

phospholipid, stimulation by glucose (rat pancreatic islets), <u>122</u>, 706

N-Methylation

phosphatidylethanolamine, effect on phospholipid bilayer membrane fluidity (rat basophile leukemia cells), <u>120</u>, 989

2-Methylbutyryl CoA dehydrogenase role in NADH-dependent 2-methylcrotonyl CoA reduction (Ascaris suum mitochondria), 118, 783

3-Methylcholanthrene

-induced skin carcinogenesis, inhibition by ellagic acid (BALB/C mouse), 119, 751

Methylcoenzyme-M methylreductase inhibition by NAD⁺ and NADP⁺ (<u>Methanosarcina barkeri</u> cell extracts), <u>123</u>, 238

2-Methylcrotonyl CoA

NADH-dependent reduction, 2-methylbutyryl CoA dehydrogenase role (<u>Ascaris suum</u> mitochondria), <u>118</u>, 783

3'-Methyl-4-dimethylaminoazobenzene -induced carcinogenesis, aldolase A and B mRNA expression (rat liver), 124, 337

N-Methylformamide

effect on plasma membrane potential and microsomal and mitochondrial Ca²⁺ uptake (murine liver), 125, 712

-induced glutathione depletion and growth inhibition, reversal by Lcysteine (human colon carcinoma cells), 122, 798

3-O-Methyl-D-glucose

phosphorylation (rat heart), 119, 1008
Methylglyoxal bis(guanylhydrazone), see
 Mitoguazone

<u>N</u>²-Methyl-9-hydroxy-ellipticinium oxidized, covalent binding to yeast RNA and poly A in vitro, 124, 416

l-Methyl-3-isobutylxanthine

guanylate cyclase inhibition (rat brain, liver, lung), 123, 1194

Methyl methanesulfonate

lethality, enhancement by B-lapachone (human fibroblasts), <u>118</u>, 828

2'-O-Methyl-1-methyl adenosine identification in tRNA (<u>Eleusine</u> coracana seedlings), <u>121</u>, 243

2-Methyl-4-nitroaniline ethylene dimethylammonium hydrobromide

crystalline complex formation with 5-iodocytidylyl (3'-5')guanosine, structural analysis, <u>121</u>, 188

<u>M</u>-Methyl-<u>M</u>'-nitro-<u>M</u>-nitrosoguanidine effect on deoxynucleoside triphosphate pool (murine FM3A cells), <u>122</u>, 1160

1-Methyl-4-phenyl-1,2,3,6-tetrahydropyridine

metabolism in hepatic microsomal preparations (mouse), <u>125</u>, 484

oxidation by and suicide inactivation of monoamine oxidases A and B (bovine liver, human placenta), 125, 831

N-Methyl-4-phenyl-1,2,3,6-tetrahydropyridine

dopamine uptake inhibition (rat PC12 cells), <u>119</u>, 1186

1-Methyl-4-phenyl-1,2,4,5-tetrahydropyridine

metabolism by monoamine oxidase (rat brain), 120, 574

N⁵-Methyltetrahydrofolate-homocysteine methyltransferase, <u>see</u> Tetrahydro-pteroylflutamate methyltransferase

5'-Methylthioadenosine

effect on murine erythroleukemia cell differentiation and proliferation, 124, 172

efflux and influx in adenosine deaminase-deficient lymphoma cells, dipyramidole and nitrobenzylthioinosine effects (human), $\underline{121}$, 514 O^2 -Methylthymidine

repair by DNA glycosylase (<u>Escherich</u>-<u>ia coli</u>), <u>120</u>, 1

O4-Methylthymidine

repair by DNA transalkylase (<u>Escherichia coli</u>), <u>120</u>, 1

Metoclopramide

-stimulated serum factor, role in aldosterone secretion regulation (bovine adrenal zona glomerulosa cells), 119, 95

Metorphamide

regional distribution in brain (guinea pig, rat), 122, 892

Mevalonate

isoprene <u>in vitro</u> biosynthesis (rat hepatic cytosolic fraction), <u>123</u>,

metabolism by sterol and nonsterol pathways, effect of dietary cholesterol (male chicks), 122, 945

Mevinolin

neuroblastoma cell differentiation induction (mouse), 120, 454

Mezerein

protein kinase-C activation in vitro and in vivo, competitive inhibition of tumor-promoting phorbol ester binding (rat brain), 121, 649

Microcin 7

purification and properties (<u>Bscherichia coli</u>), <u>119</u>, 779; <u>erratum</u>, <u>121</u>, 741

Microciona prolifera

Ca-dependent cell aggregation, induction by leukotriene B₄, inhibition by arachidonic acid, <u>121</u>, 863

Micrococcal endonuclease

-generated chromatin fragments, angiotensin-II receptor identification (rat hepatic nuclei), 119, 220

Microsomes

epidermal, ability to biosynthesize arachidonic acid from linoleic acid in vitro (guinea pig, rat), 124, 784

hepatic

Ca²⁺ release, induction by inositol (1,4,5)triphosphate (rat), 120, 858

 Ca^{2+} uptake, N-methylformamide effect (mouse), 125, 712

epidermal growth factor and insulin binding (human), 119, 1181

lipid fatty acid composition after
long- and short-term cholesterol
feeding, age effect (chick), 124,
677

1-methyl-4-phenyl-1,2,3,6-tetrahydro-

pyridine metabolism <u>in vitro</u> (mouse), <u>125</u>, 484

neonatal structural changes, UDPglucuronosyltransferase role (rat), 119, 29

<u>N</u>-nitrosodiphenylamine formation from 1,1-diphenylhydrazine (rat), 118, 958

protein fraction, reconstituted vitamin D₃ 25-hydroxylase inhibition (rat), <u>123</u>, 1209 rough

membrane antiestrogen high-affinity binding site concentration (rat), 120, 109

and smooth membranes, cholesteryl ester bidirectional movement facilitation by plasma lipid transfer proteins (rat), <u>120</u>, 586

stereoselective hydroxylation of
7,8- and 9,10-dihydrobenzo[a]pyrene aliphatic carbons (rat),
124, 114

and microsomal lipids, membrane fluidity, fluorescence polarization (active, torpid European hamster brain), 119, 396

organosulfur compound oxidation (<u>Pisum</u> sativum seeds), <u>121</u>, 1001

pancreatic, cleavage of rat liver nascent UDPglucuronosyltransferase (canine), 122, 1441

platelet, Ca release, 1-0-alky1-2 acety1-sn-glycery1-3-phosphory1 choline effect (human), 120, 474

ventricular, membranes, BAY K 8644 binding (rabbit), <u>121</u>, 317

Microtuble-associated proteins
1 and 2, competitive binding to micro-

tubules (bovine brain), <u>119</u>, 173 2, phosphorylation by casein kinase-1 and cAMP-dependent protein kinase, comparison, 121, 19

Microtubules

competitive binding by microtubuleassociated proteins 1 and 2 (bovine brain), 119, 173

proteins

assembly inhibition by S-100 proteins, mechanism (bovine brain), 124, 850

effects of chlorpromazine-S-100 protein interactions in vitro (bovine brain), 122, 983

Mitochondria

ATP-driven reverse electron transfer from succinate to acetoacetate, thermodynamics (rat liver), 125, 8

bioenergetic function, inhibition by rhodamine 123 (rat liver), 118, 717

Ca²⁺ efflux

with inorganic pyrophosphate (rat heart), 118, 147

NADP⁺-stimulated, membrane thiol group role (rat liver), <u>119</u>, 305 ruthenium red-induced, inhibition

ruthenium red-induced, inhibition
by antibiotic X-537A (rat liver),
 124, 80

Ca²⁺ influx, N-methylformamide effect (murine liver), 125, 712

carbamyl phosphate synthetase-I <u>in</u>
<u>vitro</u> transport and processing
(murine liver), <u>118</u>, 514

carrier-mediated γ-aminobutyric acid
 translocation (rat brain), <u>121</u>,
 770

CO-bound, cytochrome <u>c</u> oxidase-dioxygen reaction sites, ir spectra (blowfly flight muscle; bovine heart, brain; porcine heart; rat kidney), <u>123</u>, 247

coupling between redox and acid-base energy by cytochrome <u>b</u>-564 (<u>Sac-</u> charomyces cerevisiae), 124, 807

cytochrome redox state <u>in situ</u>, glucagon effects (perfused rat liver), <u>119</u>, 212

electro-injected [14C]sucrose
 trapping, role in cellular autofiltration (rat hepatocytes),
 119, 955

exogenous mannitol accumulation (rat liver), 123, 286

glutathione synthesis in vitro, inhibition by L-buthionine sulfoximine (rat liver), 123, 1116

inner membranes

citrate synthase and malate dehydrogenase binding: tissue distribution and substrate effects (lemon fruit, mammals), 121, 612

lipid bilayer fluidity, succinate
 and phenylsuccinate effects, EPR
 and fluorescence (rat liver),
 119, 854

protein sulfhydryl groups, modification by succinate and phenylsuccinate, EPR analysis (rat liver), 122, 1404

membranes

cholesterol distribution, regulation by sterol-carrier protein₂ (rat adrenal), 122, 509

functional efficiency, chronic Fe
 overload effect in vivo (rat liver), 124, 462

outer, transverse plane, glycerophosphate acyltransferase location (guinea pig lung), 123, 569

```
oxaloacetate uptake and malate/oxalo-
acetate shuttle reconstruction
(rat brain), 119, 1039
```

pancreatic, functional, isolation and properties (rat), 121, 545

proteins, changes during neuroblastoma differentiation (murine brain), 120. 411

structural and functional properties in hexachlorobenzene-induced experimental prophyria (rat liver), 118, 356

ubiquinone-protein binding, quantitation (bovine heart), <u>124</u>, 889

Mitogenic factor

testicular activity, vitamin-A deprivation effect (rat), <u>125</u>, 454

Mitogens

-stimulated increase in intracellular free Ca²⁺ concentration (human fibroblasts), <u>119</u>, 69

Mitoguazone

long-chain fatty acid oxidation inhibition (rat heart muscle), 120, 9

Mitomycin C

effect on deoxynucleoside triphosphate
 pool (murine FM3A cells), 122,
 1160

-induced DNA crosslinks, sensitivity
 to alkaline conditions (human fi broblasts), 123, 549

Mitoxantrone

and doxorubicin and epirubicin, effects on ATP intracellular concentration and oxygen uptake, comparison (rat heart), 125, 954

Moloney leukemia virus

reverse transcriptase inhibitor, mechanism (78A-1, HeLa cells), <u>123</u>,

Molybdate

-stabilized purified glucocorticoid receptor, protein kinase activity (rat liver), <u>125</u>, 1067

Monensin

effect on

[125I]epidermal growth factor binding, internalization, and mitogenic response (human fibroblasts), 124, 585

interphotoreceptor retinoid-binding protein synthesis by retina in organ culture (monkey), 118, 789

Monoacylglycerol lipase

and diacylglycerol lipase, separation by heparin-Sepharose affinity chromatography (bovine brain), 122, 1241

Mono ADP-ribosyltransferase

NAD-dependent, guanidino group-specific activity (porcine, rabbit skeletal muscle), <u>120</u>, 973 Monoamine oxidase, <u>see</u> Amine oxidase (flavin-containing)

Monoclonal antibodies

carbonate dehydratase, comparative characterization (bovine, chicken, fish, human, mouse), <u>125</u>, 690

characterization and localization of photosystem-I complex protein (spinach thylakoids), 123, 995

B-galactoside-binding lectin, recognition of antigen conformational change (chick embryo), 123, 1179

glutathione-insulin transhydrogenase, preparation and screening applications (rat liver), 125, 668

identification of cell surface growthregulating glycopeptide (bovine, murine cerebral cortex), 124, 133

low-density lipoprotein, reactivity with low-density and very-low-density lipoproteins, analysis by ELISA and immunoprecipitation (mouse), 125, 704

-monoamine oxidase B complex, catalytically active, isolation from hepatic mitochondria (human), 125, 748

polymerized C9 neoantigen, inhibition of macromolecule diffusion through complement channels (human erythrocytes), <u>125</u>, 1013

-purified cytochrome P-450 isozymes, amino-terminal sequence analysis (guinea pig, mouse, rat), 123, 1201; addendum, 124, 675

-recognized leukotriene B₄ epitope, characterization (mouse), <u>123</u>, 944

T-lymphocyte antigen-binding, production and purification (murine ascites), <u>125</u>, 475

Monocyte cell factor

human, effect on collagen production, prostaglandin E_2 role (rabbit articular chondrocyte culture), 119, 499

Monocytes

cultured, angiotensin-converting enzyme metabolism and subcellular localization (human), <u>124</u>, 843

Monooxygenases

cytochrome P-450-dependent
 induction by 2-acetylaminofluorene
 (chick embryo), 119, 382

role in genotoxic metabolite formation from N-hydroxyurea (rat hepatoma cell line), 118, 409

effect of cytochrome P-450 LM₂ phosphorylation by cAMP-dependent protein kinase (rabbit hepatic microsomes), 122, 620

flavin-containing, see Dimethylaniline
 monooxygenase (N-oxide-forming)

Morphine receptors

-mediated GTPase stimulation (mor-

```
phine-dependent, normal rat
      brain), 121, 641
Mouse mammary tumor virus
  genome sequence in tumor cells, com-
      parison with sequence in lympho-
      cytes from breast cancer pa-
      tients, 118, 324
Muramyl dipeptide
  and interleukins, restoration and
      stimulation of B-cell antibody
                                              Mutagenesis
      response to sheep erythrocytes
       (mouse), 125, 431
Murine leukemia virus
                                                    119, 860
  endogenous, -related protein, identi-
                                              Mutants
      fication in pancreatic islets
                                                deficient in
      (mouse), 124, 344
Muscarinic receptors
  activation, effect on choline release
      (rat corpus striatum slices),
                                                    ization (yeast), 123, 424
      120, 1002
                                                  epidermal growth factor receptors,
  and B-adrenergic receptors, simulta-
      neous assay with double isotope
      technique (bovine smooth muscle),
      120, 665
  binding properties, verapamil effects
                                                    cells), 118, 124
      (rat heart), 121, 340
  high-affinity guanine nucleotide-in-
      sensitive state, Cu ion- and
                                                    cells), <u>118</u>, 124
      diamide-induced (rat cerebral
      cortical membranes), 120, 271
  [3H]pirenzepine high-affinity
      binding (murine neuroblastoma x
      rat glioma hybrid NG108-15
      cells), <u>119</u>, 289
  pirenzepine-binding site, determina-
      tion by [3H]pirenzepine vs
      [3H](-)quinuclindinylbenzilate
      binding (rat brain), 118, 950
Muscles
  skeletal
    mechanical activity, diltiazem ef-
      fect (mouse, rat), 122, 1091
    plasma membrane isolation and char-
                                                    ovary cells), <u>120</u>, 88
      acterization (rabbit), 123, 216
    transverse-tubular membranes,
      [3H]-dihydropyridine binding,
      temperature and <u>d-cis-diltiazem</u>
      effects (rabbit), 123, 41
  smooth
    Cl /K+/Na+ cotransport regula-
      tion (embryonic rat aorta), 125,
      500
    cultured
      atrial natriuretic factor receptor
        identification (rat), <u>125</u>, 562
                                             Mycoplasma dispar
      prostacyclin synthesis, stimula-
        tion by thromboxane A,-like
        prostaglandin endoperoxide ana-
```

ellite protein phosphorylation-dephosphorylation effects (porcine carotid artery), 120, 933 relaxation in vitro by atrial natriuretic factor-related peptides (chick rectum), 125, 938 12-O-tetradecanoylphorbol-13-acetateinduced contractions isolated rabbit ear artery, 122, rabbit and rat aorta, 125, 1103 site-directed, cys in lac carrier protein (Escherichia coli), acetoacetyl-CoA thiolase and B-hydroxy-B-methylglutaryl-CoA synthetase, isolation and character-

cocultivation effect on complementation (mouse), 118, 60 nucleoside transport, interferon effect (murine T-lymphoma 549

thymidine kinase activity, interferon effect (murine T-lymphoma S49

dysmyelinating, cerebral levels of myelin basic protein-specific protein methylase I, effect of age (mouse), <u>123</u>, 468

glycosylation, altered binding of insulin receptors (Chinese hamster ovary cells), 125, 70

Hemoglobin Miyada globin gene, DNA sequence analysis (human), $\underline{119}$, 968 insulin, [Ser B24] and [Ser B25],

receptor binding and biological activity (human), <u>119</u>, 49

second-step, toyocamycin- and tubercidin-resistant, isolation and characterization (Chinese hamster

threonine deaminase regulatory, reversion by mutation in ilvH gene (Escherichia coli K-12), 118, 270

V79 cells with defective low-density lipoprotein endocytosis, altered membrane fatty acid composition (Chinese hamster), <u>122</u>, 627

vision, <u>norpA</u>, diglyceride kinase activity in photoreceptor cells (<u>Drosophila</u>), <u>119</u>, 389

growth inhibition by DL-a-difluoromethyllysine, reversal by cadaverine, 125, 205

Myelin

-stimulated Schwann cell prolifera-

logs (rat), <u>123</u>, 21

fibers, myosin light chain and sat-

tion, mediation, Ca and cAMP roles (rat), 122, 373

Myelocytes

leukemic, β-hexosaminidase isoenzyme separation (human), <u>122</u>, 966

Myeloma cells

treatment with Colcemid prior to fusion with splenocytes, effect on hybridoma formation (mouse), <u>124</u>, 903

Myeloperoxidase

singlet molecular oxygen generation, ir electronic emission spectra (canine granulocytes), 122, 668

Myelopoiesis

modulation <u>in vitro</u> by retinoic acid (human bone marrow), <u>123</u>, 128

Myoblasts

invasion by <u>Trypanosoma cruzi</u>, surface galactose residue role (rat heart), <u>119</u>, 228

proliferating L6, actin gene expression (rat), 119, 630

Myocytes

isolated ventricular, at rest and during K⁺-depolarization, cytoplasmic free Ca²⁺ measurement
by quin2 fluorescence (rat), <u>122</u>,
1012

Mvosin

heavy chain

cDNA probe, poly(A)+ RNA transient
 species detection during terminal
 differentiation (chick breast
 muscle), 120, 741

gene expression, sodium butyrate effects (rat L6 myoblasts), 125, 1129

light chains, phosphorylation-dephosphorylation, effects on smooth
muscle fibers (porcine carotid
artery), 120, 933
role in Ca²⁺ transport through plas-

role in Ca^{2†} transport through plasma membrane (bovine chromaffin cells), <u>119</u>, 652

Myositis

-specific Jo-1 autoantibody, histidyltRNA synthetase inhibition (rat
liver), 120, 15

Myotubes

differentiated L6, actin gene expression (rat), <u>119</u>, 630

12-Myristate 13-acetate

effect on leukotriene B₄ association with neutrophil cytoskeleton (rabbit), <u>124</u>, 963

N

NAD+ (oxidized nicotinamide adenine dinucleotide)

inhibition of methylcoenzyme-M methylreductase system (Methanosarcina
barkeri cell extracts), 123, 238

levels in isolated limb bud cells, benzamide effect (chicken), 121,

selective depression, induction by tiazofurin (rat hepatoma 3924A),
122, 345

NADH (reduced nicotinamide adenine dinucleotide)

oxidation <u>in vitro</u> by divicine, <u>120</u>, 747

NADH dehydrogenase

Fe-S center-containing subunits, detection by gel electrophoresis and high-performance gel chromatography (bovine cardiac mitochondria), 120, 237

NADH-ferricyanide reductase

microsomal, purification with zwitterionic detergent (potato tubers), 122, 1201

NADP⁺ (oxidized nicotinamide adenine dinucleotide phosphate)

inhibition of methylcoenzyme-M methylreductase system (Methanosarcina
barkeri cell extracts), 123, 238

from NADPH horseradish peroxidase-catalyzed ${\rm H_2O_2}$ -mediated oxidation, nonphotosensitized potentiation by hematoporphyrin, 118, 191

2'-phosphate, glutathione reductase recognition site, identification (yeast), <u>124</u>, 572 -stimulated Ca²⁺ efflux from mito-

-stimulated Ca²⁺ efflux from mitochondria, membrane thiol group role (rat liver), <u>119</u>, 305

NADPH (reduced nicotinamide adenine dinucleotide phosphate)

-dependent leukotriene B₄ catabolism
in cell-free neutrophil preparation (human), <u>125</u>, 615

hydrogens, stereospecific incorporation in arachidoyl-CoA elongation (porcine cerebral microsomes), 124, 322

-induced chemiluminescence, synthetic antioxidant effects (rat hepatic microsomes), <u>125</u>, 1033

oxidation

by divicine in vitro, 120, 747 horseradish peroxidase-catalyzed H₂O₂-mediated, nonphotosensitized potentiation by hematoporphyrin, 118, 191

NADPH-cytochrome reductase

-cytosolic aldehyde oxidase system, nicotinamide N-oxide reduction (rabbit hepatic microsomes), 125, 1117 purification and partial characterization (<u>Trypanosoma cruzi</u> cytosol), 124, 121

NADPH-cytochrome <u>c</u> reductase, <u>see</u> NADPHcytochrome reductase

NADPH cytochrome P-450 reductase incorporation into large unilamellar liposomes, octylglucoside role (rabbit liver), 121, 118

NADPH oxidase

activation by chemotactic peptide, potentiation by diacylglycerol (human neutrophils), 125, 367

Nalidixic acid

effect on DNA ligase, DNA polymerases α and β, and terminal deoxynucleotidyl transferase (chicken thymus), 121, 762

Naloxone

binding to opioid receptors, demonstration by computer modeling and quantitative analysis (rat brain), 122, 265

Naltrexone

derivative-containing affinity gel,
 opioid-binding site solubiliza tion (bovine, rat, toad brain),
 119, 624

a-Naphthofuran receptors

microsomal, selective ligand: centchroman <u>cis</u> isomer (rat), <u>125</u>, 346

B-Naphthofuran receptors

microsomal, selective ligand: centchroman <u>cis</u> isomer (rat), <u>125</u>, 346

Natriuretic factors

atrial, <u>see</u> Atrial natriuretic factor Neocarzinostatin, <u>see</u> Zinostatin Neplanocin A

metabolic conversion to S-neplanocylmethionine (murine L929 cells), 120, 131

5-Neplanocylmethionine

formation by neplanocin-A metabolic conversion (murine L929 cells), 120, 131

Netropsin, see Congocidine

Neurokinin

 α and β , synthesis and substance-P activity, <u>118</u>, 405

Neuromedin B

and neuromedin C, comparative regional
 distribution in adrenal gland,
 brain, pituitary, and spinal cord
 (rat), 124, 925

Neuromedin C

isolation and characterization (porcine spinal cord), <u>119</u>, 14

and neuromedin B, comparative regional distribution in adrenal gland, brain, pituitary, and spinal cord (rat), 124, 925 Neuromedin K

regional distribution in brain and spinal cord (rat), <u>124</u>, 731

Neuromedin L

regional distribution in brain and spinal cord (rat), 124, 731

Neuromedin N

isolation, amino acid sequence, and biological activity (porcine spinal cord), 122, 542

Neurons

histone Hl subfraction cellular accumulation during postnatal development (rat cerebral cortex), 123, 697

membrane phospholipids, fatty acid composition, ethanol effect (murine embryos), 122, 516

substance-P enzymatic degradation in vitro (rat brain), 125, 728

Neuropeptides

M I and II, amino acid sequences, determination by fast-atom bombardment mass spectrometry (cockroach), <u>124</u>, 350

Neurotensin

binding to receptor sites, characterization and visualization (human), 120, 206

release from C cells

forskolin and cholera toxin effects (rat), 120, 540

stimulation by growth hormone-releasing factor (rat), 123, 497

tyrosine 3 residue-iodinated, biological activity and receptor-binding properties (guinea pig, rat), 120, 812

Neurotensin receptors

high-affinity, loss in Parkinsonian subjects (human substantia nigra), <u>125</u>, 395

neurotensin binding, characterization and visualization (human), $\underline{120}$, 206

tyrosine 3 residue-iodinated neurotensin interactions (guinea pig, rat), <u>120</u>, 812

Neurotoxins

<u>Clostridium botulinum</u> type A, heavy and light chains, partial amino acid sequence, <u>119</u>, 900

Neutrophils

amiloride-sensitive Na⁺-H⁺ exchange, activation by chemotactic factors (human), <u>122</u>, 755

cell-free preparation, NADPH-dependent leukotriene B₄ catabolism (human), 125, 615

chemotactic factor production, stimulation by opsonized zymosan particles, inhibition by dexametha-

```
sone (rat), <u>119</u>, 720
chemotaxis
  in inflammatory sites, leukotriene
    B_-stimulated, inhibition by
    dexamethasone (rat), 119, 884
  inhibition by
    organotin compounds (rabbit),
      <u>123</u>, 543
    synthetic peptides (rabbit), 118,
cytoskeleton, association with leuko-
    triene B, chemotactic factor
    and phorbol ester effects (rab-
    bit), <u>124</u>, 963
degranulation
  enhancement by diacylglycerols (hu-
    man), <u>123</u>, 64
  and superoxide anion production,
    4,4'-diisothiocyano-2,2'-disulfonic
    acid stilbene effects (human),
    120, 964
docosahexaenoic acid uptake, release,
    and metabolsim (human), 120, 907
-independent vascular lysosomal hydro-
    lase secretion, stimulation by
    platelet-activating factor (rat),
    125, 980
intracellular free Ca concentration,
    chemotactic factor-induced in-
    crease, inhibition by pertussis
    toxin: role of G protein (rab-
    bit), <u>124</u>, 644
ionophore A23187-stimulated, platelet-
    activating factor formation, in-
    nists (human), <u>118</u>, 629
    P-450 in leukotriene B catab-
```

hibition by calmodulin antagoleukotriene B_4 ω -oxidation, inhibition by CO: role of cytochrome

olism (human), <u>123</u>, 475 lysozyme release, induction by cyclic tetrameric clusters of chemotactic peptides (human), 124, 939

membrane potential, changes in response to formyl-methionyl-leucylphenylalanine or 12-0-tetradecanoylphorbol 13-acetate (human), <u>123</u>, 937

production of platelet-activating factor species: 1-Q-hexadecy1-2-Qacetyl-<u>sn</u>-glycero-3-phosphocholine isolation and characterization (human), <u>121</u>, 815

stimulated

by exogenous leukotriene B, effect on metabolism and release of arachidonic acid and platelet-activating factor synthesis (human), 122, 535

luminol-dependent and native luminescence, simultaneous detection (human), <u>123</u>, 1047

platelet-activating factor release, molecular heterogeneity (human), 122, 325

superoxide

generation, induction by zymosanactivated serum (human), 121, 695 production, synergistic stimulation by A23187 and 1-oleoy1-2-acety1glycerol (human), <u>125</u>, 332

release, synergistic stimulation by ionophore A23187 and 48-phorbol 12-myristate 13-acetate (guinea pig), <u>122</u>, 734

surface membranes, DNA-binding site, identification with biotin-labeled DNA (human), <u>122</u>, 1034

Nicotinamide

inhibition of deoxyglucose uptake in cultured cells (3T3-L1, OK, UMR-106 cells), 1<u>2</u>3, 785

Nicotinamide N-oxide

cytosolic, reduction, hepatic aldehyde oxidase role (rabbit), 120, 602

NAD(P)H-dependent reduction by cytosolic aldehyde oxidase-NADPH-cytochrome c reductase system (rabbit hepatic microsomes), 125, 1117

Nicotine

lycopene cyclization inhibition (Phaseolus vulgaris cotyledons), 120,

Nifedipine

effect on catecholamine release evoked by Ca reintroduction (feline adrenal glands), 120, 851

inhibition of Ca²⁺ uptake and insulin release by pancreatic B cells (rat), <u>123</u>, 1062

Nimodipine

effect in isolated and intact cardiac preparations: pharmacological and radioligand binding correlations (canine, guinea pig, porcine, rat), <u>125</u>, 387

3H-labeled, binding to skeletal muscle transverse-tubular membranes, temperature and d-cis-diltiazem effects (rabbit), 123, 41

Nitrate reductase

activation by formate dehydrogenase (Neurospora crassa nit-1), 121, 1042

derepression in culture with excess ammonium and phosphate limitation (Cyanidium caldarium), 119, 259 siderophore reduction catalysis

(squash cotyledon), <u>125</u>, 52

Nitrendipine

effect in isolated and intact cardiac preparations: pharmacological and radioligand binding correlations

1984 Cumulative (canine, guinea pig, porcine, rat), <u>125</u>, 387 ³H-labeled, binding to Ca channel site, thioridazine diltiazem-like effect (rat myocardial membranes), 121, 657 displacement by tetrodotoxin, effect of age (fetal murine spinal cord culture), 124, 979 to skeletal muscle transverse-tubular membranes, temperature and d-cis-diltiazem effects (rabbit), 123, 41 -induced phosphorylation of Ca channel subunit-comigratory 42-kDa membrane protein (canine heart), 121, 890 Nitrite reductase turnover kinetics, product inhibition analysis (Paracoccus denitrificans, Pseudomonas aeruginosa), 123, 966 6-Nitrobenzo[a]pyrene metabolism by intestinal microflora (human intestine), 123, 262 p-Nitrobenzylidine aminoguanidine -specific activity of NAD-dependent mono ADP-ribosyltransferase (porcine, rabbit skeletal muscle), 120, 973 Nitrobenzylthioinosine effect on adenine nucleoside efflux 121, 514 high-affinity binding sites, photoaflung), 118, 594

and influx in adenosine deaminasedeficient lymphoma cells (human),

finity labeling (guinea pig, rat

Nitrogenase

short-term inhibition by ammonium (Azotobacter chroococcum), 123, 431

Nitrogen mustard, see Mechlorethamine 1-Nitropyrene

metabolism by intestinal microflora (human intestine), 123, 262

N-Nitrosodiethylamine

-induced hepatocarcinoma, increased expression of c-Ha-ras, c-Ki-ras, and N-<u>ras</u> genes (rat), <u>122</u>, 259

N-Nitrosodimethylamine N-demethylase I polyriboinosinic:polyribocytidylic acid-induced depression, inhibition by actinomycin D or cycloheximide (murine liver), 121, 237

N-Nitrosodimethylamine N-demethylase II polyriboinosinic:polyribocytidylic acid-induced depression, inhibition by actinomycin D or cycloheximide (murine liver), 121, 237

N-Nitrosodiphenylamine formation from 1,1-diphenylhydrazine by hepatic microsomes (rat), 118, 958

2-Nitroso-6-methyldipyrido[1,2-a:3',2'd]imidazole

conjugation with glutathione, detection of labile intermediates in situ by fast-atom bombardment mass spectrometry, 124, 1

Nitrous oxide reductase

and Cu protein, comparison (Paracoccus denitrificans, Pseudomonas denitrificans, P. perfectomarinus), 119, 588

Nitroxide radicals

oxidation by hemoglobin-hydrogen peroxide reactions, 120, 534 NOE, see Nuclear Overhauser effects Noradrenalin N-methyltransferase

uv-induced covalent binding of 3H-[methyl]-S-adenosyl-L-methionine, methyl acceptor substrate effects (bovine adrenal), <u>122</u>, 499

Nordihydroguaiaretic acid

effect on

Ca-activated phospholipid-dependent protein kinase (murine epidermal cytosol), <u>124</u>, 63 thromboplastin activity (human mono-

cytes), <u>119</u>, 179

Norepinephrine

-induced [3H]inositol-l-phosphate accumulation, inhibition by phorbol esters (rat hippocampal slices), <u>123</u>, 703

19-Nor-10-keto-25-hydroxyvitamin D₃ formation from 25-hydroxyvitamin D, (canine renal cell culture), 120, 919

NSC 264137, see N2-Methyl-9-hydroxyellipticinium

Nuclear magnetic resonance (NMR)

¹H, [d-(GGAATTCC], nonexchangeable resonance assignment by 2D nuclear Overhauser effect spectra, <u>119</u>, 663

proton, spectrum, virtual coupling of N,N'-diacetylchitobiose, characterization by 2D J-resolved spectroscopy, <u>123</u>, 555

with solenoid transmit/receiver coil, kinetic analysis in vivo of [13C]glucose intragastric utilization (mouse), <u>123</u>, 882

two-dimensional

correlation spectroscopy, sequential assignment of double-stranded deoxynucleotide 1H and 31P resonances, <u>124</u>, 774 deoxyribose proton NMR signal as-

signment in d(ApGpCpT), 121, 1021 peptide and protein spectra, computer-aided evaluation, 125, 1143

```
Nuclear Overhauser effects
  <sup>1</sup>H-<sup>13</sup>C selective, gramicidin-S
      analysis, <u>124</u>, 739
  spectra, 2D, [d-(GGAATTCC], non-
      exchangeable 1H NMR resonance
      assignment, <u>119</u>, 663
Nuclease
  endoplasmic reticulum, DNase activity
      and effect on DNA synthesis in
      vitro (rat liver), 121, 62
Nuclease Sl
  sensitivity to
    cis- and trans-diamminedichloro-
      platinum (II)-modified DNAs: ef-
      fects of nucleotide sequence and
      cytosine and guanine content
      (calf thymus, Micrococcus lyso-
      <u>deikticus</u>), <u>124</u>, 367
    negatively superhelical DNA, en-
      hancement by netropsin (simian
      virus 40), <u>124</u>, 388
Nuclei
  androgen-dependent proteins, changes
      during functional differentiation
      and dedifferentiation (rat dorso-
      lateral prostate), 118, 467
  binding of activated receptor-gluco-
      corticoid complex, enhancement by
      ATP-stimulated factor (rat hepat-
      ic cytosol), 121, 940
 binding sites, RNA-containing, for
      glucocorticoid-receptor complexes,
      localization (HeLa cells), <u>123</u>, 78
  matrix
    DNA polymerase and DNA topoisomerase
      identification and solubilization
      (normal, regenerating rat liver),
      124, 917
    estrogen binding (isolated rat uter-
      ine cells), 123, 84
    isolated, DNA polymerase \alpha and \beta
      activities (Ehrlich ascites
      cells), <u>118</u>, 609
    proteins, induction by heat shock,
      composition (Chinese hamster ova-
      ry cells), 118, 444
  membrane peptides, androgen dependence
      (rat ventral prostate), 125, 469
Nucleoli
  matrix, proteins, induction by heat
      shock, composition (Chinese ham-
      ster ovary cells), 118, 444
  phosphoproteins, 19-kDa, purification
      and partial characterization
      (Novikoff hepatoma cells), 122, 47
Nucleophiles
  specificity in chymotrypsin peptide
      synthesis (bovine pancreas), 118,
      317
Nucleoside diphosphatase
```

and thiamine pyrophosphatase, separa-

tion and properties (rat brain),

```
118, 292
Nucleoside transport
  -deficient mutants, interferon effect
      (murine T-lymphoma S49 cells),
      118, 124
  in lung (guinea pig, rat), 118, 594
Nucleoside triphosphates
  -induced phosphofructokinase activa-
      tion in liver (fed, starved
      rats), 118, 567
Nucleosomes
  acetic anhydride-modified, single-
      and double-stranded DNA release
      (chicken erythrocytes), 121, 907
  orientation maintenance in chromatin
      fiber, role of histone Hl and
      core histone nonstructural do-
      mains (calf thymus), 122, 1021
Nucleotides
  -binding sites
    location on RNA polymerase II (wheat
      germ), 125, 569
    in tubulin, affinity labeling (human
      platelets), <u>123</u>, 92
  d(ApGpCpT), deoxyribose ring, proton
      NMR signal assignment by 2D NMR,
      121, 1021
  guanine, see Guanine nucleotides
Nucleotide sequence
  apolipoprotein A-II
    cDNA clone (human), 123, 1
    precursor cDNA (human), 120, 734
  atrial natriuretic factor genomic DNA
      clone (human), <u>125</u>, 797
  cardionatrin cDNA clone (rat), 122,
      1076
  catalase cDNA (rat liver), 122,
      831
  cDNA for protein expressed in embryo
      and chemically-induced pancreatic
      B-cell tumor (rat), 124, 164
  cytochrome oxidase polypeptide I exon-
      2 coding region (Aspergillus nid-
      ulans mitochondria), 119, 786
  cis- and trans-diamminedichloroplati-
      num (II)-modified DNAs, effect on
      Sl nuclease sensitivity (calf
      thymus, Micrococcus lysodeikti-
      cus), 124, 367
  glyceraldehyde-3-phosphate dehydroge-
      nase mRNA (chicken muscle), 118,
  Hemoglobin Miyada abnormal globin gene
      (human), <u>119</u>, 968
```

melibiose and lactose operon promoter

prealbumin cDNA (human liver), 124,

pro-opiomelanocortin mRNA 3' nontrans-

lated regions, heterogeneity

coli), 121, 41

558

regions, comparison (Escherichia

(<u>Onchorhynchus keta</u> pituitary), <u>122</u>, 556

transducin γ-subunit (bovine), <u>124</u>, 250

transferrin cDNA (human), <u>119</u>, 273 tRNA^{Ile} (<u>Saccharomyces cerevisiae</u>), <u>119</u>, 905

Nylon

-coated inorganic matrices, glucoamylase immobilization supports (Aspergillus niger C), 121, 220

0

Octylglucoside

role in cytochrome P-450 and NADPH cytochrome <u>P</u>-450 reductase incorporation into large unilamellar liposomes (rabbit liver), <u>121</u>, 118

Oestradiol 178-dehydrogenase dehydroepiandrosterone substrate kinetics (human placenta), <u>119</u>, 83 OKT-1581

thromboxane synthetase inhibition <u>in</u>
<u>vivo</u> (infarcted, normal canine
myocardium), 121, 552

Olefins

monosubstituted, oxidation by rat hepatic microsomal cytochrome P-450 and heme models: aldehyde, epoxide, and allylic alcohol formation, 119, 319

Oleic acid

peroxisomal oxidation, inhibition by phenothiazines (rat hepatocytes), 120, 505; erratum, 123, 410

1-Oleoy1-2-acety1-glycerol

effect on phospholipases A₂ and C (human platelets), 121, 386

and ionophore A23187, synergistic
 stimulation of superoxide produc tion (human neutrophils), 125, 332
stimulation of

NADPH oxidase activation by chemotactic peptide (human neutrophils), <u>125</u>, 367

phosphatidylinositol 4-phosphate
formation in intact platelets
(human), 123, 589

superoxide generation, retinol effects (human neutrophils), 120, 318

2',5'-Oligoadenylate

analog, probe for RNA ligase and substrate detection (CV-1, HeLa, human neuroblastoma cells), 123, 194

and 2',5'-oligoadenylate phosphodiesterase, levels in plasma and serum (human), 125, 1061

synthesis, 2',5'-oligo(A) synthetase identification (rat hepatic nuclear matrix), 120, 996

2',5'-Oligoadenylate phosphodiesterase
and 2',5'-oligoadenylate, levels in
 plasma and serum (human), <u>125</u>,
 1061

2',5'-Oligoadenylate synthetase
identification and 2',5'-oligoadenylate synthesis (rat hepatic nuclear matrix), 120, 996

stimulation <u>in vitro</u> by phenobarbital (rat hepatic nuclei), <u>121</u>, 788 Oligomycins

sensitivity-conferring proteins, monoclonal antibody preparation: tool for conserved and essential epitope recognition (porcine cardiac mitochondria), 123, 254

Oligosaccharides

complex, and high mannose-containing
form of acid α-D-mannosidase,
identification (Macaca radiata
brain), 123, 1185

O-linked, discrimination of human chorionic gonadotropin a-subunit free and combined forms, 122, 1260

Oligouridylic acid

and polyadenylic acid mRNA-associated
 proteins, comparison (rat liver),
 120, 1044

Oncogenesis

horizontal, by human tumors, mechanism: cell fusion role (nude mice), 124, 933

Oncomodulin

effect on cAMP phosphodiesterase (Morris rat hepatoma), <u>125</u>, 420

Oncornaviruses

actin identification (chicken embryo fibroblasts), 118, 580

Ontogeny

electrolectin distribution variations (female mouse), 119, 801

Operons

lactose and melibiose, promoter region
nucleotide sequence, comparison
(Escherichia coli), 121, 41

Opioid receptors

agonist binding, regulation by Na, pertussis toxin effect (NG108-15 cells), <u>123</u>, 1107

binding site solubilization by affinity chromatography with naltrexone derivative (bovine, rat, toad brain), 119, 624

demonstration by computer modeling and quantitative ligand binding analysis (rat brain), <u>122</u>, 265

and non-opioid receptors for ³Hlabeled ß-endorphin, identification in NG108-15 cells (human), <u>122</u>, 428

recognition by enkephalins, effect of

ligand aromatic group stereo-orientation (rat cerebral membranes), 121, 966

δ-Opioid receptors

environment, simulation by enkephalinamide complexes with 18-crown-6-ether in CDCl₃, NMR spectroscopy, <u>121</u>, 456

Ornithine

side chains in gramicidin S, hydrogen bonding, <u>118</u>, 643

Ornithine carbamoyltransferase

postnatal increase, control, insulin role (rat liver), <u>123</u>, 317

Ornithine decarboxylase

induction by Cd (rat kidney, liver, testes), 125, 882

inhibition by phosphorylcholine and phosphorylethanolamine (murine brain, kidney, liver), 122, 277

phosphorylation by casein kinase type 2 (rat heart), 122, 997

short-term regulation by lysine (<u>Dic-tyostelium discoideum</u>), <u>119</u>, 1141

stimulation by NaCl (rat gastric muco-sa), <u>121</u>, 1027

and uterine growth, dissociated regulation by estrogen (rat), 122, 1186

Ornithine transcarbamylase, <u>see</u> Ornithine carbamoyltransferase

Orosomucoid

crystallization with chlorpromazine (human serum, urine), <u>124</u>, 619
Osteoblasts

-like cells, vitamin D metabolism, bovine serum albumin and cycloheximide effects (fetal chicks), 125, 265

Ouabain

spin-labeled, physicochemical interactions with Na,K-ATPase receptor, analysis (canine kidney),
 124, 210

Ovalbumin

denaturation, amino acid analog incorporation effect (hen), <u>118</u>, 481 Ovomacroglobulin

and a-macroglobulins, CD spectra, comparison (bovine, chicken, frog), 123, 771

Ovotransferrin, <u>see</u> Transferrin Ovulation

long-term inhibition by gonadotropinreleasing hormone inhibitor at low dosage (rat), 118, 351

Oxaloacetate

-malate shuttle reconstruction and ox-

aloacetate uptake by mitochondria (rat brain), <u>119</u>, 1039

Oxidase

mixed-function, cytochrome P-450-dependent, arachidonic acid metabolism (canine neutrophils), 123, 581

NADPH-dependent superoxide radicalgenerating, resolved flavoprotein and cytochrome b₅₅₉ components, catalytic properties (human neutrophils), 118, 430

Oxidation

glucose, insulin and ethanolamine effects <u>in vitro</u>, comparison (rat adipocytes), <u>121</u>, 413

peroxisomal, fatty acids, inhibition by phenothiazines (rat hepatocytes), 120, 505; erratum, 123, 410

protoporphyrinogen, during chlorophyll and heme synthesis, effect of unsaturated fatty acids (barley, spinach etioplasts, mitochondria), 123, 1157

B-Oxidation

peroxisomal system, role in xenobiotic acyl compound chain shortening (rat hepatocytes), <u>125</u>, 123

ω-Oxidation

leukotriene B₄, by neutrophils, inhibition by CO: role of cytochrome <u>P</u>-450 in leukotriene B₄ catabolism (human), <u>123</u>, 475

Oxolinic acid

effect on DNA ligase, DNA polymerases α and β, and terminal deoxynucleotidyl transferase (chicken thymus), 121, 762

Oxygen

-containing free radicals, generation in vitro by 4'-deoxydoxorubicin and doxorubicin, analysis and relationship to cardiotoxicity, 125, 584

incorporated by 4-chlorobenzoate during dehalogenation-hydroxylation, origin (Arthrobacter sp.), 124, 669

photosystem II, evolution

inhibition by calmodulin-type and o

calmodulin-type and other Ca antagonists (stroma-free spinach thylakoids), 121, 626

Zn²⁺, Mn²⁺ release into restricted aqueous compartment (chloroplast nonvesicular membrane fragments), <u>119</u>, 168

role of 16- and 24-kDa polypeptides

methoxyvinylpyrene analog chemiluminescent probe, <u>123</u>, 869

molecular, generation by myeloperoxidase, ir electronic emission
spectra (canine granulocytes),
122, 668

quenching by D-a-tocopherol (human granulocytes), 119, 1056

uptake by cardiac slices, effects of doxorubicin, epirubicin, and mitoxantrone, comparison (rat), 125, 954

Oxytocin

purification and characterization: analysis of gene evolution (<u>Di-delphis virginiana</u>), <u>123</u>, 306

P

Pactamycin

interleukin-2 mRNA superinduction (human tonsils), 123, 842

Palate

developing, adenylate cyclase-coupled ß-adrenergic receptor identification (mouse), 119, 193

Palmitic acid

<u>M</u>-acylation in sphingomyelin, enhancement in rabbit antiserum-stimu-lated L cells (mouse), <u>121</u>, 605

incorporation in cholesteryl esters,
 chronic regulation by thyrotropin
 (thyroid cell culture), 119, 537

-palmitoleic acid membrane ratio, alteration in V79 cell mutants with defective low-density lipoprotein endocytosis (Chinese hamster), 122, 627

peroxisomal oxidation, inhibition by
 phenothiazines (rat hepatocytes),
 120, 505; erratum, 123, 410

Palmitoleic acid

-palmitic acid membrane ratio, alteration in V79 cell mutants with defective low-density lipoprotein endocytosis (Chinese hamster), 122, 627

Palmitoyl-tetrapeptide

B-lymphocyte mitogenicity <u>in vitro</u> (<u>Escherichia coli</u>), <u>121</u>, 55

Pancreas

acinar cells, [125I]Bolton-Huntersubstance P binding and internalization (guinea pig), 124, 578 **B-cells**

Ca²⁺ uptake and insulin release, dihydropyridine effects (rat), <u>123</u>, 1062

insulin release inhibition by glucose, induction by blockage of glucose-promoted Ca²⁺ uptake (mouse), <u>125</u>, 875

cholecystokinin receptor size and subunit structure, comparison with cerebral receptors (mouse), <u>124</u>, 497

islets

adenylate cyclase activity, insulin release, and membrane protein ADP-ribosylation, effect of Bordetel-la pertussis toxin (rat), 124, 190 ADP-ribosylation (rat), 118, 663 glucose-stimulated, endogenous phospholipases C and A₂, activities (neonatal rat), 120, 820 identification of leukemia virus-related protein (mouse), 124, 344 insulin secretion in vitro, effect

insulin secretion in vitro, effect
 of homogenous magnetic fields
 (rat), 122, 191

Papain

bacteriorhopsin proteolytic cleavage, crosslinking analysis (<u>Halobac</u>-<u>terium halobium</u>), <u>124</u>, 565 inhibition by γ-trace (human), <u>120</u>, 631

Papaverine

guanylate cyclase inhibition (rat brain, liver, lung), <u>123</u>, 1194
Parathormone, <u>see</u> Parathyroid hormone
Parathyroid cells

parathyroid hormone release, stimulation by high extracellular K⁺, relationship to cytosolic Ca²⁺ decrease (bovine), <u>123</u>, 684

Parathyroid hormone

effect on alkaline phosphatase and cAMP production in vitro (osteo-blastic MC3T3 cells), 123, 894

plasminogen activator stimulation (rat osteoblast-rich calvarial cells, osteogenic sarcoma cells), 122, 230

release by parathyroid cells, stimulation by high extracellular K⁺, relationship to cytosolic Ca²⁺ decrease (bovine), <u>123</u>, 684

-stimulated bone resorption, inhibition by interferon type I (mouse), 120, 553

Parenchymal cells

Parietal cells

aminopyrine accumulation, 12-0-tetradecanoylphorbol-13-acetate effect (rat), 121, 566

Parkinson's disease

high-affinity neurotensin receptor loss in substantia nigra (human), 125, 395

N-methyl-4-phenyl-1,2,3,6-tetrahydropyridine-induced, dopamine uptake inhibition (rat PCl2 cells), <u>119</u>, 1186

Paromomycin phosphotransferase gene from <u>Streptomyces rimosus f. paromomycinus</u>, cloning and expression in <u>s. lividans</u>, <u>125</u>, 895

Pefloxacin

effect on DNA ligase, DNA polymerases α and β , and terminal deoxynucleotidyl transferase (chicken thymus), $\underline{121}$, 762

D-Penicillamine

-induced Cu-deficiency, Cu and Zn molecular localization (rat fetal liver), <u>118</u>, 697

Penicillin

nuclei, synthesis from carboxymethylcysteine-containing acyclic peptide (<u>Streptomyces clavuligerus</u>), 120, 607

Pent-4-enoic acid

ureagenesis inhibition, potentiation by ammonia (rat hepatocytes), 118, 47

Pentobarbital

-induced anesthesia, effect on fructose 2,6-bisphosphate levels (rat liver), <u>122</u>, 1154

Pentose phosphate pathway

glucose metabolism, alloxan diabetes effect (rat heart), <u>118</u>, 110 Peptidase

assay, dynorphin-A cleavage at single arginine residue (<u>Aplysia cali-fornica</u> atrial gland), <u>119</u>, 415; <u>erratum</u>, <u>124</u>, 994

Peptides

acyclic, carboxymethylcysteine-containing, penicillin and cephalosporin nuclei enzymatic synthesis (<u>Streptomyces clavuligerus</u>), <u>120</u>, 607

β₁-adrenergic receptor, heterogeneity after photoaffinity labeling, preparation procedure role (turkey erythrocytes), <u>119</u>, 458

atrial natriuretic factor

aldosterone secretion inhibition, intramolecular disulfide bond role (rat adrenal glomerulosa cells), 122, 171

components, isolation and sequence determination (rat), <u>120</u>, 981 isolation, structure, and biological activities (rat), <u>123</u>, 444

natriuretic activity <u>in vivo</u> and smooth muscle relaxant activity <u>in vitro</u> (chick rectum, rat), 125, 938

synthesis and analysis of structural factors in tissue specificity (chick rectum, rabbit aorta, rat), 123, 338

atriopeptigen, bioactive, purification
 and amino acid sequence (rat),
 121, 802

calcitonin-related, gene structure and expression (human lung, medullary thyroid carcinoma cells), 123, 648

chymotrypsin, synthesis, nucleophile
 specificity (bovine pancreas),
 118, 317

cyclic pseudohexapeptide, somatostatin analog, synthesis and biological activity, 120, 840

endogenous, in pancreatic juice, trypsinogen secretion stimulation with atropine, exogenous trypsin inhibitor action mode comparison (rat duodenum), <u>118</u>, 532

gastric inhibitory, <u>see</u> Gastric inhibitory peptide

generated by maltoporin limited proteolysis, location by computer search, <u>125</u>, 926

gliadin-derived, agglutinating activity, role in celiac disease pathogenesis (human K562(S) cells), 121, 428

gonadotropin-releasing hormone-like, biological activity (rat testes), 122, 1071

high-molecular-weight, activation by kallikrein (rat atrium), 120, 461 insulin

-like, common high-affinity receptor identification by insulin growth factor-II binding (human lymphoid cells), <u>118</u>, 774

-stimulating, isolation from bovine serum albumin tryptic digests, characterization, 122, 1179

leucine-enkephalin backbone, thiomidesubstituted, effect on selective receptor recognition (guinea pig ileum, murine vas deferens), <u>120</u>, 305

mapping, 2D, by polyacrylamide-gel electrophoresis with limited proteolysis in sodium dodecyl sulfate (bovine serum, murine splenocytes), 122, 932

nonsomatostatin, prosomatostatin amino terminal-derived, identification in medullary thyroid carcinoma cells (rat), <u>124</u>, 450

```
nuclear membrane, androgen dependence
    (rat vental prostate), 125, 469
opioid, proenkephalin-derived, purifi-
    cation and amino acid sequence
    (ovine), 118, 299
progastrin amino-terminal, purifica-
    tion (human gastrinoma cells),
    123, 404
ribonuclease A N-terminal, folding,
    fundamental role of salt bridge
    Glu 2<sup>+</sup>...Arg 10<sup>+</sup> (bovine pan-
    creas), 123, 757
semisynthesis, a-chymotrypsin and
    B-trypsin-catalyzed, mechanism
    and specificity, 120, 686
sequences of steroid 21-hydroxylase.
    alignment with cDNA sequence of
    bovine enzyme (porcine), 125, 734
synthetic
  acetylcholine receptor
    antibodies, receptor structural
      characterization (Torpedo cali-
      fornica), 122, 1225
    a-subunit, antibody induction
      (Torpedo californica), 121, 673
  middle sized tumor antigen tyrosine
    phosphorylating site sequence-
    specific, neutrophil chemotaxis
    inhibition (rabbit), 118, 682
  phosphorylation by protein kinase C
    with phospholipid and Ca2+ or
    phorbol ester (rat brain), 124,
  pp60<sup>STC</sup> tyrosine phosphorylating
    site sequence-specific, neutro-
    phil chemotaxis inhibition (rab-
    bit), 118, 682
  proenkephalin, high-molecular-weight
    enkephalin-containing protein rec-
    ognition (bovine adrenal medulla),
    120, 650
 N-(P-substituted phosphinoyl), anti-
    hypertensive activity (spontane-
    ously hypertensive rat), 119, 1205
  vitamin K-dependent carboxylation,
    product characterization (rat
    hepatic microsomes), 119, 836
thymic hormone, conjugation with sper-
    midine and spermine, conjugate
    properties, 122, 21
tryptic, in thyroglobulin, thyroxine-
    containing, isolation and amino
    acid sequence (bovine, ovine, por-
    cine), 118, 423
two-dimensional NMR spectra, computer-
    aided evaluation, 125, 1143
vasoactive intestinal, see Vasoactive
```

intestinal peptide

Peptidyl-3-amino-9-ethyl-carbazole

fluorogenic, selective endopeptidase

detection and characterization

(Plasmodium berghei), 124, 703

```
Peptidyl carbamate esters
  effect on chymotrypsin, elastase, and
      trypsin (porcine pancreas), 122,
Peptidyltransferase
  inhibition by
    chloramphenicol and dipeptidyl ana-
      log, binding mode analysis (Esch-
      erichia coli cell-free system),
      122, 748
    sparsomycin in vitro, role of inhi-
      bitor sulfoxide configuration
      (Escherichia coli), 125, 784
Peptidyl-tRNA
  enzymatic translocation, zaluzanin-C
      effect (HeLa cells, rabbit retic-
      ulocytes, Saccharomyces cerevi-
      siae), 123, 59
Perfluorocarbon
  blood substitution in brain, 31P
      NMR <u>in vivo</u> (rat), <u>119</u>, 913
Peroxidase
  -catalyzed
    acetaminophen metabolism with thi-
      ols, thiyl radical formation,
      125, 109
    H,O,-mediated NADPH oxidation
      to NADP+, nonphotosensitized
      potentiation by hematoporphyrin,
      <u>118</u>, 191
    isobutyraldehyde chemiluminescence,
      rate-limiting factors, 122, 28
  -hydrogen peroxide-tyrosine system:
      bityrosine production and identi-
      fication, 125, 916
  native and type 2-depleted laccase-
      coupled binuclear Cu active site
      oxidation, X-ray absorption spec-
      troscopy (Rhus vernicifera), 119,
      567
  solubilization and activation in ben-
      zene by 2,4-bis(Q-methoxypolyeth-
      ylene glycol)-6-chloro-s-triazine-
      induced modification, 121, 261
Peroxidation
  lipid, see Lipoperoxidation
Peroxisomes
  biliverdin reductase-converting en-
      zymes, isolation and characteri-
      zation (rat liver), 121, 249
  fatty acid oxidation, inhibition by
      phenothiazines (rat hepatocytes),
      120, 505; <u>erratum</u>, <u>123</u>, 410
  8-oxidation system, role in xenobiot-
      ic acyl compound chain shorten-
      ing (rat hepatocytes), 125, 123
Pertussis toxin
  and choleragen, requirement for ade-
      nylate cyclase maximal activation
```

(NG108-15 cell culture), 119, 1068

effect on Na regulation of opioid ago-

nist binding (NG108-15 cells),

123, 1107

pН

-dependent a-lactalbumin structure, fluorescence spectroscopy (bovine), 119, 509

effect on

DNA crosslinked by mitomycin C, nitrogen mustard, and decarbamoyl mitomycin C (human fibroblasts), 123, 549

F₁-ATPase expression (<u>Strepto-coccus faecalis</u> membranes), <u>122</u>, <u>151</u>

Na⁺,K⁺-ATPase regulation by inorganic phosphate (canine renal medulla), <u>123</u>, 438

-induced diphtheria toxin conformational change, fluorescence characterization, 120, 286

Phalloidin

effect on actin filament shortening by actin-protein 90-kD complex and cytochalasin D, comparison (bovine brain), 123, 596

Phanerochaete chrysosporium

DNA sequence autonomous replication in <u>Saccharomyces cerevisiae</u>, <u>118</u>, 821

1,10-Phenanthroline, <u>see</u> <u>o</u>-Phenanthronline

o-Phenanthronline

reversible inhibition of prostate carcinoma cell proliferation in vitro (human), 124, 538

Phenethylamine

effect on amino acid distribution (rat brain), 122, 143

Phenobarbital

and 2-ally1-2-isopropylacetamide, induction of cytochrome <u>P</u>-450 <u>de</u>
<u>novo</u> synthesis (cultured chick embryo hepatocytes), <u>125</u>, 1096

effect on hepatic enzymes in vivo (rat), 122, 770

-induced cytochrome <u>P</u>-450, monoclonal antibody preparation and characterization (rat hepatic microsomes), <u>119</u>, 744

2,5-oligoadenylate synthetase stimulation in vitro (rat hepatic nuclei), 121, 788

Phenothiazines

peroxisomal fatty acid oxidation inhibition (rat hepatocytes), 120, 505; erratum, 123, 410

Phenylalanine

and histidine ring stacking in angiotensin II, interaction: role in receptor activation, NMR, <u>122</u>, 434 D-<u>threo</u>-2-(L-Phenylalanylglycyl)amino-3-<u>p</u>-nitrophenyl-1,3-propanediol

chloramphenicol analog, peptidyltransferase inhibition, binding mode analysis (<u>Bscherichia coli</u> cellfree system), <u>122</u>, 748

N-(cis-2-Phenyl cyclopentyl)azacyclotridecan-2-imine hydrochloride cholera toxin ADP-ribosyltransferase

inhibition (rat liver), <u>120</u>, 700 Phenylethanolamine <u>N</u>-methyltransferase, see Noradrenalin N-methyltrans-

Phenylsuccinate
effect on inner mitochondrial membrane
lipid bilayer fluidity, EPR and

fluorescence (rat liver), <u>119</u>, 854 inner mitochondrial membrane protein sulfhydryl group modification, EPR analysis (rat liver), <u>122</u>, 1404

Phenyl sulfide

oxidation by microsomal fraction of germinating seeds (<u>Pisum sati-vum</u>), <u>121</u>, 1001

Phloretin

inhibition of Ca-activated phospholipid-dependent protein kinase (murine epidermal cytosol), <u>124</u>, 63

Phorbol 12,13-dibutyrate

effect on adenylate cyclase desensitization (duck erythrocytes), <u>121</u>, 973

Phorbol ester receptors

reduction by N-(6-aminohexyl)-5-chloro-1-naphthalenesulfonamide (murine skin), 124, 726

Phorbol esters, <u>see also specific phor-</u> bol esters

and A23187, glycogen phosphorylase
 synergistic activation (rat hepatocytes), 119, 88

binding to protein kinase C, competitive inhibition and enzyme activation by mezerein in vitro and in vivo (rat brain), 121, 649

inhibition of

carbachol- and norepinephrine-induced [3H]inositol-l-phosphate accumulation (rat hippocampus), 123, 703

luteinizing hormone-stimulated testosterone production (murine Leydig cell culture), 119, 1062

lymphocyte proliferation, protein
kinase identification (bovine),

121, 392

progressive inhibition of Ca²⁺-sensitive phospholipid-dependent protein kinase activity (murine 3T3 cells), <u>120</u>, 1053

protein kinase-C activation, characterization (murine brain), <u>121</u>, 448

Phorbol-12-myristate-13-acetate
-activated Ca²⁺-dependent 36-kDa
membrane protein phosphorylation
(rat basophilic leukemia cells),
125, 867

effect on a₁-adrenergic stimulation of glycogenolysis and ureogenesis (rat hepatocytes), <u>119</u>, 1128

stimulation of

membrane band 4.1 phosphorylation
 (intact rabbit erythrocytes),
 120, 291

phosphatidylinositol 4-phosphate and phosphatidylinositol 4,5-bisphosphate formation (human platelets), 124, 507

4B-Phorbol 12-myristate 13-acetate and ionophore A23187, synergistic stimulation of superoxide release by neutrophils (guinea pig), 122, 734

Phosphatase inhibitor-1

activity in smooth muscle (bovine aorta), 120, 397

2'-Phosphate

NADP⁺, glutathione reductase recognition site, identification (yeast), <u>124</u>, 572

Phosphates

depletion, effect on mitogen-mediated
 phospholipid synthesis stimula tion (human peripheral lympho cytes), 118, 371

effect on basal and isoprenaline- and GTP-stimulated adenylate cyclase (rabbit heart), 118, 561

inorganic

-mediated pyruvate,P₁ dikinase activation, regulation (Zea mays), 120, 559

Na⁺,K⁺-ATPase regulation, pH dependence and physiological implications (canine renal medulla), 123, 438

limitation, in culture with excess ammonium, nitrate reductase derepression (Cyanidium caldarium), 119, 259

Phosphatidic acid

stimulation of erythrocyte plasma membrane Ca²⁺-ATPase (rat), <u>125</u>, 908

synthesis, inhibition by prostacyclin,

protein kinase-C role (human platelets), <u>120</u>, 37

Phosphatidylcholine

alkylacyl, diacyl, and alkenylacyl subclasses, differential susceptibility to biosynthesis stimulation by phospholipase C (Krebs II ascites cells), 125, 413

bilayer membranes

cholesterol dissociation, hydrogen belt interactions, 118, 743

structural transitions, induction by diacylglycerol (egg), <u>124</u>, 491

and diether analogs, in vitro transfer
by plasma exchange factor (human,
 rat lipoprotein-deficient sera),
 119, 452

Phosphatidylethanolamine

bilayer membranes, structural transitions, induction by diacylglycerol (egg), 124, 491

composition in liposome membranes, effect on carbocyanine dye fluorescent response, 123, 178

N-methylation, effect on phospholipid bilayer membrane fluidity (rat basophile leukemia cells), 120, 989

Phosphatidylinositol

composition in liposome membranes, effect on carbocyanine dye fluorescent response, <u>123</u>, 178

effect on erythrocyte plasma membrane Ca²⁺-ATPase (rat), <u>125</u>, 908

metabolism in

adrenal fasciculata cells, bacterial
 phospholipase-C effect (bovine),
 123, 33

antigen-stimulated mast cells (rat peritoneum), <u>123</u>, 875

phosphorylation to phosphatidylinositol-4-monophosphate, stimulation by cAMP-dependent protein kinase (porcine granulocyte plasma membrane), 124, 871

Phosphatidylinositol 4,5-bisphosphate effect of angiotensin II-induced steroidogenesis (bovine adrenocortical fasciculata cells), 124, 393

formation, stimulation by phorbol myristate acetate (human platelets), <u>124</u>, 507

light-mediated hydrolysis (isolated
 frog retina), <u>124</u>, 503

metabolism in antigen-stimulated mast cells (rat peritoneum), 123, 875

release site of plasma membrane-bound Ca upon stimulation (human platelets), <u>120</u>, 226

stimulation of plasma membrane Ca²⁺ATPase (rat brain synapses,
erythrocytes), <u>125</u>, 908

Phosphatidylinositol 4-monophosphate effect of angiotensin II-induced steroidogenesis (bovine adrenocortical fasciculata cells), <u>124</u>, 393 formation

in intact platelets, stimulation by l-oleoyl-2-acetyl-glycerol (human), 123, 589

phorbol myristate acetate (human), 124, 507

from phosphatidylinositol, phosphorylation stimulation by cAMP-dependent protein kinase (porcine
granulocyte plasma membrane),
124, 871

metabolism in antigen-stimulated mast cells (rat peritoneum), <u>123</u>, 875

Phosphatidylserine

bilayer membranes, structural transitions, induction by diacylglycerol (bovine brain), 124, 491

composition in liposome membranes, effect on carbocyanine dye fluorescent response, <u>123</u>, 178

vesicles, and brain synaptosomes, interactions (rat), <u>119</u>, 821

Phosphoenolpyruvate

phosphofructokinase-2 inhibition (rat liver), 124, 793

transport across erythrocyte membrane, inhibition by 2,3-bisphosphoglycerate, 2-phosphoglycerate, and 3-phosphoglycerate (human), 122, 609

Phosphofructokinase, <u>see</u> 6-Phosphofructokinase

6-Phosphofructokinase

activation in liver, metabolite-induced (fed, starved rats), <u>118</u>, 567

UDP-glucose-incubated, phosphoryl donor, pyrophosphate utilization (rabbit muscle), 121, 842

6-Phosphofructo 2-kinase

effect of glucose loading (starved rat), 125, 655

-fructose-2,6-bisphosphatase exchange reactions, characterization (rat liver), <u>123</u>, 749

inhibition by phosphoenolpyruvate and ADP (rat liver), 124, 793

3-Phosphoglycerate

inhibition of phosphoenolpyruvate transport across erythrocyte membrane (human), <u>122</u>, 609

Phosphoglycerate kinase

unfolding-folding transition, guanidinium chloride-induced, analysis (equine muscle), <u>118</u>, 416

Phosphoglycerate mutase, <u>see</u> Phosphoglyceromutase Phosphoglyceromutase

anion effects (rabbit muscle), 121, 834

-bisphosphoglyceromutase in vitro hybridization, partial characterization (human erythrocytes), 120, 715

macrostructural organization (yeast), 121, 826

Phosphoinositide

breakdown, role in epidermal growth factor receptor affinity reduction by heterologous ligands (Swiss 3T3 cells), 123, 377

Phosphoinositide receptors

breakdown-coupled, black widow spider venom α-lactrotoxin binding (rat pheochromocytoma cells), 121, 538

Phospholipase A

Phospholipase A,

characterization (human, rat lymphocytes), 125, 719

endogenous, activity in glucose-stimulated pancreatic islets (neonatal rats), <u>120</u>, 820

hydrolysis of 1-acyl-2-[6-[(7-nitro-2,1,3-benzoxadiazol-4-yl)amino]-caproyl]phosphatidylcholine (porcine pancreas), <u>118</u>, 894

1-oleoyl-2-acetyl-glycerol and 1,2-didecanoylglycerol effects (human platelets), 121, 386

phospholipid bilayer hydrolysis, stimulation by long-chain unsaturated diacylglycerols (rat intestinal mucosa), 125, 836

regulation by Ca²⁺, calmodulin effect (human, rat platelets), <u>121</u>, 507

-sensitive <u>Trypanosoma cruzi</u> membrane components, parasite-macrophage interaction regulation (mouse), 121, 931

Phospholipase A2 inhibitor

identification in normal serum (human), <u>122</u>, 1117

Phospholipase C

activation of 3':5'-cyclic-nucleotide phosphodiesterase from rat cardiac cytosol (<u>Clostridium per</u>fringens), 119, 236

bacterial, effect on phosphatidylinositol metabolism and steroidogenesis (bovine adrenal fasciculata cells), 123, 33

endogenous, activity in glucose-stimulated pancreatic islets (neonatal rats), 120, 820

inhibition of dimethyl sulfoxide-in-

- duced differentiation in Friend erythroleukemia cells, 125, 491
- ionomycin effect (human platelets), 123, 393
- l-oleoyl-2-acetyl-glycerol and 1,2didecanoylglycerol effects (human
 platelets), 121, 386
- phosphatidylcholine biosynthesis stimulation, differential susceptibility of alkylacyl, diacyl, and alkenylacyl subclasses (Krebs II ascites cells), 125, 413
- phospholipid bilayer hydrolysis, stimulation by long-chain unsaturated diacylglycerols (human platelets), 125, 836
- proteolytic activation of human platelet Ca²⁺-activated phospholipiddependent protein kinase (<u>Clostridium perfringens</u>), <u>118</u>, 835

Phospholipase D

- synaptosomal, role in providing choline for acetylcholine synthesis (rat brain), 124, 945
- Phospholipids

bilayers

- membrane fluidity, phosphatidylethanol amine N-methylation effects (rat basophile leukemia cells), 120, 989
- phospholipase-catalyzed hydrolysis, stimulation by long-chain unsaturated diacylglycerols, 125, 836
- with Ca²⁺ or phorbol ester, requirement for synthetic peptide phosphorylation by protein kinase C (rat brain), <u>124</u>, 296
- degradation, enhancement by free radicals (rat hepatic lysosomes), 124, 229
- fatty acid composition, ethanol effect
 (murine embryonic neuron cultures), 122, 516
- formation from 1-alky1-2-acety1-snglycerols in platelets (rabbit),
 124, 156
- metabolism during Ca²⁺-regulated
 cellular differentiation (murine
 keratinocyte culture), <u>122</u>, 1234
- methylation, stimulation by glucose (rat pancreatic islets), 122, 706
- vesicles, binding to polyamines, effect on lipid peroxidation (soybean), 122, 550
- Phospholipid synthesis
 - L-cycloserine effect (<u>Bacteroides</u> <u>levii</u> culture), <u>119</u>, 814
 - mitogen-mediated stimulation, phosphate depletion effect (human

- peripheral lymphocytes), <u>118</u>, 371 Phosphoprotein phosphatase
- activated ATP,Mg-dependent and latent, phosphorylase <u>b</u> kinase dephosphorylation, deinhibitor protein and histone Hl effects (rabbit muscle), <u>125</u>, 293
- calmodulin-dependent, subunit A,
 Mn²⁺ role (bovine brain), <u>122</u>,
 1389
- catalytic subunit, role in specificity for phospholipid, Ca²⁺-dependent protein kinase-phosphory-lated histone Hl (rat liver), 118, 278
- latent, purification and subunit
 structure (rabbit skeletal muscle), 118, 923

Phosphoproteins

- effect of interferon-ß in antiproliferative doses (human bladder carcinoma cells), 119, 941
- nucleolar, 19-kDa, purification and partial characterization (Novi-koff hepatoma cells), <u>122</u>, 47
- tyrosine protein kinase-like, 58-kDa, identification (murine lymphoma cells), <u>122</u>, 563

Phosphorylase kinase

- deficiency, role in glycogen storage
 disease (human heart), 119, 582
- spermine-induced inhibition, Mg²⁺ effect (porcine liver), <u>121</u>, 271

Phosphorylase b kinase

- dephosphorylation by activated ATP,Mg-dependent and latent protein phosphatases, deinhibitor protein and histone Hl effects (rabbit muscle), 125, 293
- Phosphorylation, <u>see also</u> Protein kinase actin-binding proteins
 - human Ca²⁴-activated phospholipiddependent protein kinase effect (chicken gizzard), <u>118</u>, 736
 - role in platelet cytoskeleton assembly (human), <u>118</u>, 508
 - activation of partially purified lipid methyltransferase (rat liver), 122, 1065
 - Ca²⁺- and cAMP-enhanced, separate mechanisms for two 57,000 Mr proteins (rat pancreatic islets), 118, 797
 - Ca²⁺-dependent phorbol ester-activated, 36-kDa membrane protein (rat basophilic leukemia cells), 125, 867
 - cascade, bicyclic, 3-hydroxy-3-methylglutaryl CoA reductase regulation
 (human hepatic microsomes), 119,
 488
 - catalytic, ATP-dependent. requirement

```
in ADP-mediated pyruvate,P<sub>i</sub> di-
kinase inactivation (<u>Zea mays</u>),
<u>118</u>, 65
-dephosphorylation
l-alkyl-2-lyso-<u>sn</u>-glycero-3-phosp
```

l-alkyl-2-lyso-sn-glycero-3-phosphocholine:acetyl-CoA acetyltransferase, role in platelet-activating factor synthesis regulation (rat splenic microsomes), 120, 834 deinhibitor protein regulation (ca-

nine liver), 120, 405

myosin light chains and satellite proteins, effects on smooth muscle fibers (porcine carotid artery), <u>120</u>, 933

endogenous membrane protein, enhancement during B-lymphocyte proliferation inducton (murine splenocytes), 124, 544

erythrocyte membrane band 4.1, phorbol ester-stimulated (rabbit), <u>120</u>, 291

glucocorticoid receptors in vivo (rat liver), 120, 59

3-hydroxy-3-methylglutaryl-CoA reductase, enhancement of susceptibility to proteolytic degradation in vitro (rat hepatic microsomes), 125, 629

initlation factor-2, insulin-induced
 decrease, effect on protein syn thesis (bovine chondrocytes), 121,
 134

3~Omethyl-D-glucose (rat heart), 119, 1008

nuclear protein, ll-kDa, inhibition by spermine (various mammalian cell lines), 118, 710

ovarian insulin receptor B-subunit, induction by insulin (cultured porcine granulosa cells), 120, 144 protein

actin antibody-stimulated, effects of prostaglandins E_1 and $F_{2\alpha}$ (murine L cells), $\underline{124}$, 23

mediation by Fc receptor and pharmacologic agents, comparison (murine peritoneal macrophages), 124, 197

stimulation by

human chorionic gonadotropin in primary culture (porcine Leydig cells), <u>118</u>, 8

polyamines (corn coleoptiles),
 122, 1374

purified glucocorticoid receptors, by endogenous protein kinase (rat hepatic cytosol), 119, 700

rhodopsin (isolated bovine rod outer segments), 123, 121

ribosomal protein, <u>in organello</u> and <u>in vitro</u> (<u>Spinacea oleracea</u> chloro-

plasts), 121, 297

threonine, of epidermal growth factor receptors, phorbol ester-induced, mapping (human), <u>123</u>, 618

tyrosine residues

in B-lymphocytes, enhancement upon membrane immunoglobulin complexing (human), 125, 859

in normal bone marrow cells, lymphocytes, and leukemic cells, comparison (human), 124, 766

zymogen granule membrane proteins <u>in</u>
<u>vitro</u> (rat pancreatic acinar
cells), <u>122</u>, 413

Phosphorylcholine

glutamic acid decarboxylase and ornithine decarboxylase inhibition (murine brain, kidney, liver), 122, 277

Phosphorylethanolamine

glutamic acid decarboxylase and ornithine decarboxylase inhibition (murine brain, kidney, liver), 122, 277

Phosphothreonine

ATP-citrate lyase, dephosphorylation, insulin and isoproterenol effects (rat epididymal fat pads), 122, 1047

Phosphotyrosyl-protein phosphatase calcineurin-associated activity, characterization (bovine brain), <u>121</u>,

Photoreceptors

cellular diglyceride kinase activity (<u>Drosophila norpA</u> mutants), <u>119</u>, 389

outer segment proteins, endogenous phosphorylation by Ca-activated phospholipid-dependent protein kinase (bovine retina), 122, 139

kinase (bovine retina), 122, 1397 ventral, intracellular Ca²⁺ increase, induction by inositol-trisphosphate (<u>Limulus</u>), 125, 1137

Photosensitization

-induced irreversible binding of estrone to albumin via hydroperoxide intermediate, role in estrogen (photo-)allergic side-effects, analysis (human), 125, 675

Photosynthesis

anoxygenic, Na₂S role (Nostoc muscorum), 123, 1138

pyruvate,P_i dikinase catalytic dephosphorylation, regulation (<u>Zea mays</u>), <u>120</u>, 559

regulation (Zea mays), 118, 65

membrane reaction center

integrity after proteolysis and detergent solubilization (Rhodopseudomonas viridis), 120, 164 two-dimensional electron transfer from cytochrome <u>c</u> (<u>Rhodopseudomonas sphaeroides</u>), 125, 592

sulfide oxidation, inhibition by organic cations (<u>Chromatium vino-sum</u>), <u>121</u>, 755

Photosystem I

complex proteins, characterization and localization with monoclonal antibodies (spinach thylakoids), 123, 995

donors, reduction rates, dibromothymoquinone effects (pea seedling chloroplasts), <u>120</u>, 721

Photosystem II

-associated polypeptides, radioisotopic identification (<u>Cucumis sativus</u> L. seeds), <u>125</u>, 988

donor function, effect of salt washing, EPR analysis (inside-out thylakoids), <u>124</u>, 269

oxygen evolution

inhibition by calmodulin-type inhibitors and other Ca antagonists (stroma-free spinach thylakoids), 121, 626

role of 16- and 24-kDa polypeptides
 (spinach), 120, 299

Phytohemagglutinin

lymphocyte stimulation, short DNA fragment secretion, 5'-end analysis (human peripheral blood), 118, 140

medullary thymocyte stimulation, inhibition by 1,25-dihydroxyvitamin D_a (mouse), <u>123</u>, 163

Pirenzepine

3H-labeled, high-affinity binding to muscarinic receptors (murine neuroblastoma x rat glioma NG108-15 cells), 119, 289

muscarinic receptor binding site, determination by [3H]pirenzapine
vs [3H](-)quinuclidinyl-benzilate
binding (rat brain), 118, 950

Pituitary

anterior

and intermediate lobes, pro-opiomelanocortin mRNA levels, differential regulation by corticotropin-releasing factor (rat), <u>124</u>,

kallikrein-like activity reduction
(New Zealand genetically hypertensive rats), 119, 689

cellular response <u>in vitro</u> to human pancreatic growth hormone-releasing factors, enhancement by GRF analog administration <u>in vivo</u> (rat), <u>124</u>, 217

GH₄C₁ cells, prolactin secretion, Bay K 8644 effects (rat), 120, 991 regional distribution of neuromedins B and C, comparison (rat), <u>124</u>, 925

Placenta

decidua, prolactin mRNA identification (human), <u>124</u>, 530

term, explants, binding of basic somatomedin, effect on α-aminoisobutyrate uptake (human), 122, 583

Plasma, see also Serum

atrial natriuretic factor detection (rat), 125, 315

fibronectin biochemical and functional heterogeneity (human), 119, 1174

levels of 2',5'-oligoadenylate and 2',5'-oligoadenylate phosphodiesterase (human), 125, 1061

lipid transfer proteins, facilitation of cholesteryl ester bidirectional movement between rough and smooth microsomal membranes (rat liver), 120, 586

Plasma exchange factor

phosphatidylcholine and diether analog in vitro transfer (human, rat li- poprotein-deficient sera), 119, 452

Plasma membranes

adipocyte, functional and structural abnormalities in obese diabetic strains, ascochlorin derivative AS-6 effects (mouse), 125, 64
ATP-dependent Ca²⁺ transport and

ATP-dependent Ca²⁺ transport and Ca²⁺-, Na⁺,K⁺-, and Mg²⁺- ATPase activities, identification (bovine spermatozoa), <u>122</u>, 479

-bound Ca, phosphatidylinositol 4,5bisphosphate release site (human platelets), 120, 226

Ca²⁺ transport, actin and myosin roles (bovine chromaffin cells), <u>119</u>, 652

electrical potential, N-methylformamide effect (murine liver), 125,
712

electron transport system, reduction of various oxidants, effect on HeLa cell growth, <u>125</u>, 649

glycoprotein assembly, ethanol effects (rat liver), <u>123</u>, 951

polyphosphate fraction localization by ³¹P NMR (<u>Saccharomyces fragilis</u>), 119, 447

proton-pumping ATPase purification (oat roots), <u>121</u>, 735

skeletal muscle, isolation and characterization (rabbit), 123, 216

sterol levels, correlation with tumor metastasis (murine LM fibroblastderived cells), <u>124</u>, 283

Plasmids

R773, -encoded arsenite pump, production of arsenite resistance

(<u>Escherichia coli</u>), <u>124</u>, 760

Plasmin

8-casein cleavage, product amino acid sequence determination (human), 125, 463

regulation by embryonal carcinoma F9 cells (mouse), 119, 758

Plasminases

A and B, purification and properties (murine embryonal carcinoma F9 cells), 119, 758

Plasminogen activator, $\underline{\tt see}$ Urokinase Platelet-activating factor

formation

from l-alkyl-2-acetyl-<u>sn</u>-glycerols (rabbit platelets), <u>124</u>, 156

ionophore A23187-induced, inhibition
by calmodulin antagonists (human
neutrophils), 118, 629

isolation and characterization (normal, anephric mammalian blood), 120, 789

precursor, antihypertensive activity
 (hypertensive, normotensive rats),
 118, 344

release

hypoxia-induced (rat pulmonary alveolar fluid), <u>119</u>, 58

by stimulated neutrophils, molecular heterogeneity (human), 122, 325

species: 1-Q-hexadecy1-2-Q-acety1-snglycero-3-phosphocholine, isolation and characterization (human
neutrophils), 121, 815

stimulation of neutrophil-independent vascular lysosomal hydrolase secretion (rat), <u>125</u>, 980

synthesis

by exogenous leukotriene B₄-stimulated neutrophils (human), <u>122</u>, 535

regulation, role of 1-alkyl-2-lyso-<u>sn</u>-glycero-3-phosphocholine:acetyl-COA acetyltransferase (rat splenic microsomes), <u>120</u>, 834

vascular effects, role of cyclooxygenase products (perfused rat liver), 123, 507

Platelet-derived growth factor

exogenous, effect on cell proliferation after inhibition by triamcinolone acetonide (ductus deferens smooth muscle tumor), 122, 68

reduction of epidermal growth factor receptor affinity, role of phosphoinositide breakdown and protein kinase-C activation (Swiss 3T3 cells), 123, 377

Platelets

activation

actin polymerization induction, agonist-specific desensitization (bovine), 120, 846

by ionophore A23187, role of induced Na⁺/H⁺ exchange (human), <u>125</u>, 1123

receptor- and non-receptor-mediated, effect on membrane-cytoskeleton interaction, <u>120</u>, 898 aggregation

diadenosine triphosphate mediation by ADP liberation (human), <u>118</u>, 704

inhibition by antibodies to thrombospondin heparin-binding fragment (bovine), 124, 290

thrombin-stimulated velocity, carbonic anhydrase inhibition effects (human), <u>121</u>, 266

Ca influx, enhancement by CGP 28392 (human), 118, 842

conversion of 1-alky1-2-acety1-<u>sn</u>glycerols to platelet-activating factor and related phospholipids (rabbit), <u>124</u>, 156

cytoskeleton assembly, actin-binding
 protein phosphorylation role (human), 118, 508

docosahexaenoic acid uptake, release, and metabolism (human), 120, 907

glycoprotein expression in normal subjects and patients with congenital bleeding disorders, 123, 1091

intact, phosphatidylinositol 4-phosphate formation, stimulation by
l-oleoyl-2-acetyl-glycerol (human), 123, 589

interactions with glycoproteins secreted by cultured aortic endothelial cells (bovine), 123, 114

intraplatelet Ca²⁺, elevation by ionomycin, effects on phospholipases
A and C (human), 123, 393

membranes, external and internal fractions, simultaneous isolation: biochemical, immunological, and functional characterization, <u>123</u>, 50

-solanum tuberosum agglutinin interactions (human), <u>121</u>, 27

terbium effects, aggregation and fluorescence analysis (human), <u>122</u>, 311

tubulin, nucleotide-binding site, affinity labeling (human), <u>123</u>, 92 (+)PN 200-110

*H-labeled, probe in purification of voltage-dependent Ca²⁺ channel dihydropyridine receptor (rabbit skeletal muscle transverse tubules), <u>122</u>, 1357

Polyadenylic acid

and oligouridylic acid mRNA-associated
 proteins, comparison (rat liver),
 120, 1044

oxidized N²-methyl-9-hydroxy-ellipticinium covalent binding <u>in</u> <u>vitro</u>, <u>124</u>, 416

Poly(ADP-ribose)

metabolism, hyperthermia effects (murine SVT2 cell culture), 122, 1381

Poly(ADP-ribose) polymerase

benzamide and phenobarbital effects in vivo (rat liver), 122, 770

Poly(ADP-ribose) polymerase inhibitors c-myc gene expression modulation (HL-60 cells), <u>119</u>, 473

Polyamide, see Nylon

Polyamines

binding to phospholipid vesicles, effect on lipid peroxidation (soybean), 122, 550

biosynthesis, effect of methionine analog inhibitors of methionine adenosyltransferase (murine Ll210 leukemia cells), 122, 350

concentration and function in <u>Halobac</u>terium halobium, 124, 423

effect on <u>in vivo</u> synthesis of RNA polymerase BB' subunits (<u>Bscherichia coli</u>), <u>123</u>, 528

Poly(A) polymerase, see Polynucleotide
 adenylyltransferase

Poly(dA-dT) · poly(dA-dT)

thermal melting in methanol-water solutions, 123, 831

Polydeoxyribonucleotide synthetase (ATP) quinolone antibiotic effects (chicken thymus), 121, 762

Poly(dG-dC)

conformation, Cr(III) effects, <u>124</u>, 106

Poly d(G-C) • d(G-C)

intercalation with ethidium, NMR and stopped-flow kinetic analysis, 122, 804

Poly(d2NH_A-dT)

B to Z transition, 2-amino substituent effect, 118, 848

Poly(dT)

with methylated pyrimidines, repair by O⁶-alkylguanine-DNA alkyl-transferase, comparison (<u>Bscherichia</u> coli, rat liver), <u>123</u>, 324

noncovalent complexes with diadenosine 5',5'''-p1,P4-tetraphosphate, 120, 1037

Polyenoic acids

oxygenated, serologic and immunochromatographic detection (<u>Euglena</u> <u>gracilis</u> Klebs var. <u>bacillaris</u>), 120, 278

Polyethylene glycol

-modified

catalase, activity increase in benzene (bovine liver), 125, 761 lipoprotein lipase, catalysis of ester synthesis in benzene (<u>Pseudo-monas fluorescens</u>), <u>122</u>, 845

Polyinosylic-polycyticylic acid xanthine oxidase induction (mouse), 119, 144

Polylactosamino-proteoglycan photochemical crosslinking to B-ga-lactoside-binding lectin (chick embryo skin), 123, 1215

Polylysine

macromolecular, effect on membrane potential (<u>Escherichia coli</u>), <u>122</u>, 401

Polymerization

actin, platelet activation-induced, agonist-specific desensitization (bovine), 120, 846

Polynucleotide adenylyltransferase regulation by thyroxine in glial and neuronal nuclei, analysis (neonatal rat cerebral cortex), 125, 931

Polyoma virus

replication <u>in vitro</u>, inhibition by vitamin A (murine embryonic fibroblasts), <u>122</u>, 851

Polypeptides

anionic endothelial cell growth-stimulating, purification and characterization (human brain), 124, 262

aspartokinase II-homoserine dehydrogenase II, triglobular structure (<u>Bscherichia coli</u>), <u>123</u>, 16

atrial natriuretic, multiple forms, isolation and amino acid sequence (rat), 121, 585

a-atrial natriuretic

antiserum production and radioimmunoassay development (human, rat), 124, 815

purification and amino acid sequence (human), <u>118</u>, 131

-containing fractions, 24-, 28-, and 50-kDa: α- and β-globin mRNA translation regulation (Krebs II ascites cell-free system), 120, 804

cytochrome oxidase, exon-2 coding region identification (<u>Aspergillus</u> <u>nidulans</u> mitochondria), <u>119</u>, 786

photosystem II-associated, radioisotopic identification (<u>Cucumis sativus</u> seeds), <u>125</u>, 988

small-nuclear ribonucleoprotein, pattern after reaction with anti-Sm and anti-RNP antibodies, comparison (human), 123, 345 subcellular location by reaction with small nuclear RNA and ribonucleoprotein particle antibodies (HeLa cells), 120, 81

thyroglobulin amino terminus-derived 10K, structure (bovine), <u>119</u>, 335 Polyphosphates

fraction localization outside plasma membrane by ³¹P NMR (<u>Saccharo</u>myces fragilis), <u>119</u>, 447

L-glutamine-controlled metabolism in cells transformed by 9,10-dimethyl-1,2-benzanthracene, simian virus 40, or H-<u>ras</u> oncogene, protease role (human, mouse), <u>124</u>, 6

Polyphosphoinositide

metabolism, gonadotropin-releasing hormone and agonist effects (rat granulosa cells), 122, 1289

Polyriboinosinic:polyribocytidylic acid -induced depression of hepatic mixed function oxidases, inhibition by actinomycin D or cycloheximide (mouse), 121, 237

Polyribonucleotide synthetase (ATP) and substrates, detection with 2-5A analog probe (CV-1, HeLa, human neuroblastoma cells), 123, 194

Porphyria

experimental, hexachlorobenzene-induced, mitochondrial structural and functional properties (rat liver), <u>118</u>, 356

Potassium chloride

activation of androgen receptor complex <u>in vitro</u> (rat liver), <u>120</u>, 953

Potassium ion

channels, Ca²⁺-dependent, distinct classes, coexistence in muscle cells (rat), <u>118</u>, 669

-Cl⁻-Na⁺ cotransport in smooth muscle cells, regulation (embryonic rat aorta), <u>125</u>, 500

effect on

basal and isoprenaline- and GTPstimulated adenylate cyclase (rabbit heart), <u>118</u>, 561

F₁-ATPase expression (<u>Strepto-coccus faecalis</u> membranes), <u>122</u>, <u>151</u>

extracellular

and angiotensin II, effects on cytosolic Ca²⁺ and steroidogenesis, comparison (rat adrenal glomerulosa cells), <u>123</u>, 810

high, stimulation of parathyroid hormone release, relationship to cytosolic Ca²⁺ decrease (bovine), 123, 684

-Na⁺ concentration gradient-induced triolein-doped porous membrane, electrical potential oscillation, 123, 792

permeability of cardiac sarcolemmal vesicles, Ca²⁺-dependent, modulation by calmodulin and cAMP-dependent protein kinase (bovine), 122, 237

transport, Cl-dependent, volume—and thiol-stimulated, effect of ionophore A23187 with Ca²⁺ or ethylene glycol tetracetic acid (ovine erythrocytes), <u>125</u>, 790

Prasterone

substrate for estradiol 178-dehydrogenase, kinetics (human placenta), 119, 83

Prealbumin

CDNA

cloning and sequence analysis (human liver), 124, 558

use in diagnosis of familial amyloidotic polyneuropathy (human), <u>125</u>, 636

-related low-molecular-weight amyloid fibril protein, isolation and sequence analysis (Japanese familial amyloidotic polyneuropathy patient), 125, 622

serum, variant isolation and characterization (familial amyloidotic polyneuropathy patient), <u>122</u>, 712

variant, amino acid sequence, revision
 (familial amyloidotic polyneuropathy patient), 123, 921

Proacrosin

and acrosin, amino-terminal sequences, comparison (boar sperm), <u>121</u>, 884 Procarboxypeptidase A

6 S, two-step dissociation, induction by 2,3-dimethylmaleic anhydride (bovine pancreas), 121, 162

Procollagen

type-I, gene demethylation by 5-azacytidine, effect on expression (human SVWI-38 cells), 124, 236

Proenkephalin

-derived opioid peptide, purification and amino acid sequence (ovine), 118, 299

synthetic peptide, high-molecularweight enkephalin-containing protein recognition (bovine adrenal
medullar), 120, 650

Progastrin

Progesterone

biosynthesis, inhibition by insulin receptor antibody (cultured porcine granulosa cells), <u>120</u>, 144 -induced synthesis of 250-kDa protein (human breast cancer MCF,, T,D cells), 121, 421

metabolism by ovarian granulosa cells, follicle-stimulating hormone and androgen effects (rat), 119, 694

Progesterone receptors

B-subunit, antibody purification and characterization (chick oviduct), 119, 433

Progestin, <u>see</u> Progesterone Prolactin

cation-dependent activation of guanylate cyclase in various organs (rat), <u>123</u>, 1084

mRNA, identification in decidua (human placenta), <u>124</u>, 530

plasminogen activator induction in rat tissues (ovine), 122, 1005

secretion from

GH_C, cells, stimulation by Bay K 8644 (rat pituitary), <u>122</u>, 991 pituitary tumor cells, stimulation by A23187, forskolin, phorbol ester, and thyrotropin-releasing hormone, comparison, 123, 735

serum concentration, cyclosporine effect (rat), 120, 614

Prolactin receptors

binding affinity, iodination effects (rat liver), <u>121</u>, 686

changes during estrous cycle (rat mammary gland), 123, 612

identification on lymphocytes and regulation by cyclosporine (human),

L-Proline

effect on hepatocyte growth in culture (rat), <u>122</u>, 884

hydroxylation to L-hydroxyproline (Streptomyces griseoviridus P8648 cell-free extract), 120, 45

Pronase

effect on immature B-lymphocyte nonresponsiveness to anti-immunoglobulin (mouse), 119, 1

photosynthetic membrane proteolysis, reaction center integrity (Rhodopseudomonas viridis), 120, 164

proteolytic activity, lymphoma cell electrofusion facilitation (mouse), 120, 138

Pro-opiomelanocortin

isolation and amino-terminal sequence characterization (bovine posterior pituitary), 125, 229

mRNA

levels in anterior and intermediate pituitary lobes, differential regulation by corticotropin-releasing factor (rat), 124, 407

3' nontranslated regions, heterogeneity (Onchorhynchus keta pituitary), 122, 556

Prosomatostatin

and amino terminal-derived nonsomatostatin peptides, identification in medullary thyroid carcinoma cells (rat), 124, 450

Prostacyclin

phosphatidic acid synthesis inhibition, protein kinase-C role (human platelets), 120, 37

production in isolated renal arteries. vascular endothelial cell role (canine), <u>118</u>, 873

synthesis stimulation by thromboxane A,-like prostaglandin endoperoxide analogs (rat vascular smooth muscle cell culture), 123, 21

Prostacyclin synthetase

modulation in microsomes (bovine coronary artery), <u>118</u>, 33

Prostaglandin E

production in vitro by adherent rheumatoid sinovial cells, stimulation by canine mast cell extracts (human), 122, 270

Prostaglandin E,

effect on actin antibody-stimulated DNA synthesis and protein phosphorylation (murine L cells), 124, 23

-mediated Ca²⁺ mobilization and cGMP synthesis, correlation (neuroblastoma cells), 122, 333

Prostaglandin E2

catabolism by renal medulla (rat), 124, 69

plasminogen activator stimulation (rat osteoblast-rich calvarial cells, osteogenic sarcoma cells), 122, 230

production in isolated renal arteries, vascular endothelial cell role (canine), <u>118</u>, 873

role in human monocyte cell factor effect on collagen production (rabbit articular chondrocyte culture), <u>119</u>, 499

Prostaglandin E2 isomerase

unmasking in microsomes (bovine coronary artery), <u>118</u>, 33

Prostaglandin endoperoxide

analogs, thromboxane A,-like, prostacyclin synthesis stimulation (rat vascular smooth muscle cell culture), 123, 21

Prostaglandin $F_{2\alpha}$ Ca²⁺ mobilization, Na⁺ influx independence (quiescent Swiss 3T3 cells), 123, 803

catabolism by renal medulla (rat), 124, 69

effect on actin antibody-stimulated

DNA synthesis and protein phosphorylation (murine L cells), 124, 23

motional parameters in aqueous media, temperature- and field-dependent ¹H NMR relaxation rates, <u>121</u>, 702

Prostaglandin H synthase

13-<u>cis</u>-retinoic acid cooxidation with alkyl or fatty acid hydroperoxides, arachidonic acid, or H₂O₂ (ram seminal vesicle microsomes), <u>124</u>, 430

Prostaglandin H2

and decomposition pathways, high-field 1H NMR, 120, 512

Prostaglandin $\overline{I_2}$, see Prostacyclin Prostaglandins

biosynthesis inhibition by N-acetyl-5methoxy kynurenamine (bovine, ovine seminal vesicle microsomes), 121, 372

Prostaglandin synthetase

enhancement by dexamethasone (rat renal medulla), 121, 255

Protease inhibitors

repression by ATP-ubiquitin proteolytic system (rabbit reticulocyte extract), <u>122</u>, 116

Proteases, <u>see also specific proteases</u>
Ca²⁺-activated

α-actinin susceptibility (human platelets), 124, 877

neutral, -associated kinases, isolation (rat skeletal muscle), 120, 767

extra- and intracellular protocollagen
 degradation, qualitative and
 quantitative evaluation (chick
 embryo liver), 123, 1002

prostate-specific antigen-associated, identification and characterization (human), 123, 482

role in L-glutamine control of nucleic acid and polyphosphate metabolism in cells transformed by 9,10-dimethyl-1,2-benzanthracene, simian virus 40, or H-ras oncogene (human, mouse), 124,6

Protein (arginine) methyltransferase myelin basic protein-specific, brain levels, effect of age (dysmyelinating mutant, normal mice), 123, 468

a₁-Proteinase inhibitor
inactivation

by gas-phase cigarette smoke (hu-man), 122, 676

hyposialylated immunoglobulin role (human), <u>119</u>, 185

synthesis, demonstration in experimentally-inflammed and normal lung tissue (rat), 122, 394
Proteinase inhibitor IIA
α-helix and antiparallel β-sheets,
amide proton exchange, comparison

(bovine seminal plasma), <u>122</u>, 1174 Proteinases, <u>see also specific protein</u>ases

-binding sites, nonproductive activation after α_2 -macroglobulin and matrix-linked trypsin reaction (human), 118, 691

(human), <u>118</u>, 691
neutral Ca²⁺-dependent, activation
by hemoglobin, structural requirements (human erythrocytes),
123, 331

Protein-Q-carboxylmethyltransferse, see
Protein Q-methytransferase
Protein-disulphide reductage (glutathia

Protein-disulphide reductase (glutathione)

monoclonal antibodies, preparation and screening application (rat liver), 125, 668

Protein kinase C

activation

and Ca²⁺ mobilization, synergistic
role in histamine release from
mast cells (rat peritoneum), <u>121</u>,
573

by diolein, stereospecificity, <u>122</u>, 818

by diradylglycerols, structural and chemical specificity (murine brain), <u>125</u>, 163

by mezerein <u>in vitro</u> and <u>in vivo</u>, competitive inhibition of tumorpromoting phorbol ester binding (rat brain), <u>121</u>, 649

by phorbol esters and other tumor promoters, characterization (murine brain), 121, 448

role in epidermal growth factor receptor affinity reduction by heterologous ligands (Swiss 3T3 cells), <u>123</u>, 377

adrenocortical cytochrome P-450_{scc} phosphorylation in vitro (bovine), 125, 554

effect on prostacyclin inhibition of
 phosphatidic acid synthesis (human platelets), 120, 37

photoreceptor outer segment protein
 endogenous phosphorylation (bo vine retina), 122, 1397

purification, characterization, and substrate-dependent diacylglyc-erol effect (rat brain), 122, 1268

selective inhibition by 1-(5-iso-quinolinesulfonyl)-2-methylpiper-azine (rabbit platelets), 125, 258

soluble Ca²⁺- and phosphatidylserine-dependent, bovine retinoidbinding protein phosphorylation

- (murine brain), <u>120</u>, 593 strain differences (inbred mice), 122, 492
- synthetic peptide phosphorylation in presence of phospholipid and Ca²⁺ or phorbol ester (rat brain), 124, 296

Protein kinase NII

- fractions, heterogeneity (rat hepatic nuclei), 123, 398
- role in ornithine decarboxylase inactivation/phosphorylation and RNA polymerase-I stimulation (murine kidney), 120, 219
- Protein kinases, <u>see also</u> Phosphorylation
 - -associated activity of
 - Ca-activated neutral protease, isolation (rat skeletal muscle), 120, 767
 - molybdate-stabilized purified glucocorticoid receptor (rat liver), 125, 1067
 - pp60^{Src}-related proteins (human lymphoblastoid cells), 121, 779
 - Ca²⁺-activated, phospholipid-dependent, <u>see also</u> Protein kinase C
 - activation by tumor promoters (rat brain), 120, 339
 - effect on actin-binding proteins from chicken gizzard (human), 118, 736
 - effects of complete and incomplete tumor promoters and other compounds (murine epidermal cytosol), 124, 63
 - progressive inhibition by phorbol
 ester (murine 3T3 cells), 120,
 1053
 - proteolytic activation by <u>Clostridi</u>-<u>um perfringens</u> phospholipase C (human platelets), <u>118</u>, 835
 - stimulation by retinoic acid (rabbit retina), 118, 460
 - 12-O-tetradecanoylphorbol-13-acetate
 effect (human platelets), 122, 158
 CAMP-dependent
 - activation in macrophages (rat), 119, 1082
 - and casein kinase-1, phosphorylation
 of tubulin and microtubule-asso ciated protein 2, comparison,
 121, 19
 - cytochrome P-450 LM₂ phosphorylation, effect on monooxygenase activity (rabbit hepatic microsomes), 122, 620
 - identification and characterization (Aphelenchus avenae), 125, 947
 - modulation of Ca²⁺-dependent K⁺
 permeability of cardiac sarcolemmal vesicles (bovine), <u>122</u>, 237

- nuclear, androgen receptor phosphorylation (rat ventral prostate), 123, 778
- selective activation by calcitonin (human lung cancer cells), <u>122</u>, 1040
- stimulation of phosphatidylinositol phosphorylation to phosphatidyl-inositol-4-monophosphate (porcine granulocyte plasma membrane), 124, 871
- endogenous, purified glucocorticoid
 receptor phosphorylation (rat
 hepatic cytosol), 119, 700
- identification during concanavalin A stimulated and phorbol ester-inhibited lymphocyte proliferation
 (bovine), 121, 392
- initiation factor-2a, heme-regulated and dsRNA-dependent, effect on protein synthesis (human reticulocytes), 119, 891
- interferon-mediated, characterization
 by polyclonal antibodies (HeLa
 cells), 125, 1
- -substrate complex, precipitable with Ca²⁺, isolation and characterization (AH-66 hepatoma cells), 125, 251
- Protein methylase I, <u>see</u> Protein (arginine) methyltransferase
- Protein O-methyltransferase
 - uv-induced covalent binding of ³H[methyl]-<u>S</u>-adenosyl-L-methionine,
 methyl acceptor substrate effects
 (human erythrocytes), <u>122</u>, 499
- Protein phosphatase, <u>see</u> Phosphoprotein phosphatase

Proteins

- actin-binding, phosphorylation, role
 in platelet cytoskeleton assembly
 (human), 118, 508
- -actin complex, 90-kDa, and cytochalasin D, actin filament shortening, phalloidin and tropomyosin effects, comparison (bovine brain), 123, 596
- acyl-carrier, citrate lyase subunit, repetitive structure (Escherichia coli), 122, 1253
- adrenocorticotropic hormone-induced, mRNA cell-free translation (rat adrenal gland), 119, 975
- amyloid fibril
 - amino acid sequence, revision (familial amyloidotic polyneuropathy patient), 123, 921
 - low-molecular-weight prealbumin-related, isolation and sequence analysis (Japanese familial amyloidotic polyneuropathy patient), 125, 622

- antigenic, nitrocellulose-blotted, visualization by immuno-gold staining, 121, 284
- B1, and DNA-binding protein, comparison (<u>Bscherichia coli</u>), <u>119</u>, 1147
- band 4.5 and [*H]cytochalasin B-photolabeled, sensitivity to endoglycosidase F and trypsin, comparison (human erythrocyte membranes), 122, 218
- binding to (+)gossypol, CD spectroscopy (<u>Thespesia populnea</u>), <u>121</u>, 953
- bone inductive, distribution in mineralized and demineralized extracellular matrix (rat), 119, 949
- -bound Zn, distribution in serum (analbuminemic rat), <u>125</u>, 45
- C, activated, inactivation of activated factor IX (human), <u>125</u>, 177
 Ca²⁺-binding
 - identification and characterization (bovine liver), <u>119</u>, 440
 - quinate:NAD⁺ oxidoreductase regulatory subunit, characterization (dark-grown carrot cells), <u>125</u>,
 - skin levels, vitamin D effect (rat), 123, 230
 - vitamin D-dependent, identification
 in intestinal cell cytosol (normal, X-linked hypophosphatemic
 mice), 119, 850
- calmodulin-binding, identification and distribution in mitochondria (rat liver), 119, 343
- cell division-active, purification and characterization (<u>Escherichia</u> <u>coli</u>), <u>118</u>, 587
- cerebrovascular amyloid
 - in Alzheimer's disease and Down's
 syndrome patients, chemical relationship, 122, 1131
 - isolation and characterization (Alzheimer's disease patients), 120, 885
- chromatin, nonhistone, binding affinity for isopeptidase (Chinese hamster DON cells), <u>122</u>, 1296
- crosslinking to nascent DNA in simian virus-40 chromatin, induction by disopropylfluorophosphate (CV-1 cells), 123, 271
- cryptic estrogen-binding, effect on estrogen receptor distribution analysis (rat uterus), <u>125</u>, 577
- Cu, and nitrous oxide reductase, comparison (<u>Paracoccus denitrificans</u>, <u>Pseudomonas denitrificans</u>, <u>P.</u> <u>perfectomarinus</u>), <u>119</u>, 588
- deinhibitor
 - effect on phosphorylase b kinase de-

- phosphorylation by activated ATP,Mg-dependent protein phosphatase (rabbit muscle), <u>125</u>, 293
- regulation by phosphorylation-dephosphorylation (canine liver), 120, 405
- DNA-binding
 - HU-type, isolation, characterization, and comparison (<u>Agrobacterium tumefaciens</u>, <u>Rhizobium japonicum</u>, R. meliloti), 121, 471
 - isolation, characterization, and comparison with proteins H1 and B1 (Escherichia coli), 119, 1147
- erbB oncogene, site-specific antibodies, epidermal growth factor receptor immunoprecipitation (chicken embryo fibroblasts), 123, 797
- expressed in embryo and chemicallyinduced pancreatic B-cell tumor, cDNA molecular cloning and characterization (rat), 124, 164
- extracellular matrix, bone inductive, dependence on vitamin D (rat), 124, 829
- 57,000 Mr, Ca²⁺- and cAMP-enhanced phosphorylation, separate mechanisms (rat pancreatic islet), <u>118</u>, 797
- G, role in Ca mobilization (rabbit neutrophils), <u>119</u>, 644
- glucagon-related, immunoreactive highmolecular-weight, characterization (fetal bovine pancreas), 125, 524
- H1, and DNA-binding protein, comparison (<u>Escherichia coli</u>), <u>119</u>, 1147 heat shock
 - composition in nuclear and nucleolar matrices (Chinese hamster ovary cells), <u>118</u>, 444
 - induction during temperature-induced differentiation of <u>Leishmania</u> mexicana in vitro, 125, 755
 - methylation, sodium arsinite effect (chicken embryo fibroblasts), 119, 735
- high-mobility-groups 1 and 2, effect on DNA denaturation temperature (bovine thymus nuclei), <u>120</u>, 782
- high-molecular-weight aggregates, Western blot analysis (human cataracts), <u>122</u>, 1028
 - enkephalin-containing, recognition by synthetic proenkephalin peptide antisera (bovine adrenal medulla), 120, 650
- hyaluronate-binding, binding to collagen, fibronectin, and laminin (chicken cardiac fibroblasts, 3T3 cells), 121, 808
- hypertension-associated, purification

(rat plasma), 125, 888
interphotoreceptor retinoid-binding,
 synthesis by retina in organ culture, monensin effect (monkey),
 118, 789

lac carrier, cys₁₄₈ site-directed
mutagenesis (Escherichia coli),
119, 860

lens

glycosylation (diabetic, nondiabetic senile cataract patients), 123, 888

tyrosine residues, microenvironmental change in cold cataract, Raman spectroscopy (rat), <u>119</u>, 989 lysine-rich, role in adrenocortico-

tropin-stimulated steriodogenesis (rat adrenal cells), <u>118</u>, 400 membrane

ADP-ribosylation, effect of Bordetella pertussis toxin (rat pancreatic islets), 124, 190

biologically active, HPLC isolation (Rhodopseudomonas sphaeroides R 26 reaction centers), 121, 47

carboxyl methylation, role in erythrocyte response to cytoskeletal stress (human), 123, 133

endogenous, phosphorylation enhancement during B-lymphocyte proliferation induction (murine splenocytes), 124, 544

42-kDa, Ca channel subunit-comigratory, identification and isoproterenol- and nitrendipine-induced phosphorylation (canine heart), 121, 890

36-kDa, Ca²⁺-dependent phorbol ester-activated phosphorylation and immunoprecipitation with IgE-anti IgE system (rat basophilic leukemia cells), <u>125</u>, 867

microsomal, reconstituted vitamin D_3 25-hydroxylase inhibition (rat liver), $\underline{123}$, $\underline{1209}$

microtubule

assembly, inhibition by S-100 proteins, mechanism (bovine brain), 124, 850

effect of chlorpromazine-S-100 protein interactions in vivo (bovine brain), 122, 983

microtubule-associated, <u>see</u> Microtubule-associated proteins

mitochondrial

changes during neuroblastoma differentiation (murine brain), 120, 411

inner membrane, sulfhydryl group,
 modification by succinate and
 phenylsuccinate, EPR analysis
 (rat liver), 122, 1404
monoclonal T-lymphocyte antigen-bind-

ing, production and purification (murine ascites), 125, 475

noncovalent complexes with diadenosine 5',5'''-P1,P4-tetraphosphate, 120, 1037

nuclear

androgen-dependent, changes during functional differentiation and dedifferentiation (rat dorsolateral prostate), 118, 467

11-kDa, phosphorylation inhibition
by spermine (various mammalian
cell lines), 118, 710

oligomycin sensitivity-conferring, monoclonal antibody preparation: tool for conserved and essential epitope recognition (porcine cardiac mitochondria), 123, 254

oriC DNA-binding, detection (Escherichia coli), 125, 600

from pancreatic juice, isolation,
 characterization, and N-terminal
 sequence (human), 125, 516

phospholipid-exchange, nonspecific, amino-terminal sequence (bovine liver), <u>120</u>, 232

phosphorylation

actin antibody-stimulated, effects of prostaglandins E₁ and F₂₀ (murine L cells), 124, 23

increase by human chorionic gonadotropin in primary culture (porcine Leydig cells), <u>118</u>, 8

mediation by Fc receptor and pharmacologic agents, comparison (murine peritoneal macrophages), 124, 197

polyamine-stimulated (corn coleoptiles), <u>122</u>, 1374

photoreceptor outer segment, endogenous phosphorylation by Caactivated phospholipid-dependent protein kinase (bovine retina), 122, 1397

photosystem-I complex, characterization and localization with monoclonal antibodies (spinach thylakoids), 123, 995

plasma

lipid transfer, facilitation of cholesteryl ester bidirectional movement between rough and smooth microsomal membranes (rat liver), 120, 586

sex steroid-binding, immunohistochemical detection (human mammary carcinoma cells), <u>118</u>, 488

polyadenylic and oligouridylic acid mRNA-associated, comparison (rat liver), 120, 1044

polyprenyl pyrophosphate transport, 4-hydroxybenzoate:polyprenyl Subject Index

transferase stimulation (rat mitochondria), 119, 1109

pp60<u>V-SrC</u>, avian sarcoma virus isolation by immunoprecipitation and kinase activity identification (human lymphoblastoid cells), 121, 779

mitogenic activity (rat kidney), 123, 411

protein 4.1-like, identification in lens (bovine, canine, human, rabbit), 119, 726

red paramagnetic, [2Fe-2s] clusters, and spinach ferredoxin clusters, structural comparison, resonance Raman spectroscopy (<u>Clostridium pasteurianum</u>), <u>119</u>, 828

retinoic acid-binding, phosphorylation by soluble murine Ca²⁺- and phosphatidylserine-dependent protein kinase (bovine uterus), <u>120</u>, 593

retinol-binding

phosphorylation by soluble murine Ca²⁺- and phosphatidylserinedependent protein kinase (bovine liver), 120, 593

photoaffinity labeling with synthesized 4-azidoretinol (vitamin Adeficient chick liver), 122, 577

ribosomal, phosphorylation in organello and in vitro (spinach chloroplasts), 121, 297

S-100

-chlorpromazine interactions, effects on microtubule proteins in vitro (bovine brain), 122, 983

microtubule protein assembly inhibition, mechanism (bovine brain), 124, 850

S-100a, Ca²⁺- and Mg²⁺-induced
 conformational changes, subnano second-pulse fluorometric analy sis (bovine brain), 123, 959

 $$100_{\beta}$, conditions for reproducible detection by immunoblot analysis (bovine brain), 124, 752

satellite, phosphorylation-dephosphorylation, effects on smooth muscle
fibers (porcine carotid artery),
120, 933

secretory, induction by estrogen <u>in</u>
<u>vitro</u> and <u>in vivo</u>, analysis (murine Leydig cell tumors), <u>124</u>, 277

sporulation gene <u>spoOA</u>, identification (<u>Bacillus subtilis</u>), <u>122</u>, 1104

src gene, effect on Ca compartments and fluxes in temperature-sensitive Rous sarcoma virus-transformed cells (Fisher rat cells), 125, 337

steroid-binding, C3 chain, and human

a₂-macroglobulin, amino acid sequence homology (rat prostate), <u>122</u>, 662

sterol-carrier

levels in LM fibroblast-derived cells, correlation with tumor metastasis (mouse), <u>124</u>, 283

protein₂, regulation of mitochondrial membrane cholesterol distribution (rat adrenal), <u>122</u>, 509

stress, induction after sodium arsenite intravenous administration (rabbit brain, heart, kidney, liver), 120, 150

Tp100, 2D peptide mapping by polyacrylamide-gel electrophoresis with limited proteolysis in sodium dodecyl sulfate (murine lymphocyte membrane), 122, 932

transmembrane C9, in complement-induced [14C]sucrose release
 (human erythrocyte ghosts), 118,
616

3,3',5-triiodo-L-thyronine-binding, plasma membrane, antibodies: characterization and cross-species immunoreactivity (rat pituitary GH₂ cells), <u>124</u>, 956

two-dimensional NMR spectra, computeraided evaluation, 125, 1143

-ubiquinone binding, quantitation in mitochondria (bovine heart), <u>124</u>, 889

vitamin K-dependent, warfarin-induced
accumulation (rat), 114, 991; erratum, 118, 696

water-soluble 33-kDa, purification and characterization (spinach thylakoids), 122, 17

zymogen granule membrane, phosphorylation <u>in vitro</u> (rat pancreatic acinar cells), <u>122</u>, 413

Protein synthesis

branched-chain amino acid-stimulated, inhibition by tunicamycin or 2-deoxy-D-glucose (rat muscles), 125, 149

cellular 250-kDa, induction by progesterones (human breast cancer MCF, T_{4,D} cells), <u>121</u>, 421

effect of heme-regulated and dsRNA-dependent initiation factor-2α kinases (human reticulocytes), 119, 891

elongated mammary cuboidal epithelial cell derivatives and cultured mesenchymal cells, comparison (rat), 120, 351

ribosomal, amino acid starvation effect (<u>Escherichia coli</u>), <u>118</u>, 246 stimulation, role of insulin-induced Subject Index

decrease of initiation factor-2 phosphorylation (bovine chondrocytes), 121, 134

Protein synthesis factors

particulate, and translatable mRNA, identification in hybridoma cells (mouse), 122, 1314

Proteolysis

band 3, enhancement by anti-Rh_O(D)
binding to membrane (human erythrocytes), 124, 437

3-hydroxy-3-methylglutaryl-CoA reductase susceptibility, enhancement by phosphorylation (rat hepatic microsomes), 125, 629

limited, maltoporin, generated peptide
 location by computer search, <u>125</u>,
 926

Prothrombin

-liposome interactions, analysis, 125, 381

Protons

in d(ApgpCpT), NMR signal assignment by 2D NMR, 121, 1021

¹H and ³¹P, double-stranded deoxynucleotide d(ATGCAT)₂, resonance sequential assignment by 2D NMR correlation spectroscopy, <u>124</u>, 774

pumping by cytochome c oxidase vesicles, inhibition by anti-subunit III mono- and divalent fragments, mechanism (bovine heart), 120, 52

translocation from O₂-pulsed cells, inhibition by vanadate and dicyclohexylcarbodiimide (<u>Anacystis</u> nidulans), <u>123</u>, 358

Protoporphyrinogen

oxidation during chlorophyll and heme synthesis, effect of unsaturated fatty acids (barley, spinach etioplasts, mitochondria), 123, 1157

Pseudouridylic acid

modification of 6-S RNA transcribed <u>in vitro</u> from repetitive and transcribable DNA sequences (salmon), <u>124</u>, 514

Puromycin

Ca²⁺,Mg²⁺-dependent endonuclease inactivation (rat hepatic nuclei), <u>119</u>, 618

Putrescine

anaerobic degradation, pyrrolidine formation, <u>119</u>, 556

stimulation of

protein phosphorylation (corn coleoptiles), <u>122</u>, 1374

pyruvate dehydrogenase phosphatase (bovine heart, kidney), 124, 95

Pyrazole

induction of cytochrome P-450 ethanolinducible form (rabbit hepatic microsomes), 124, 375

Pyridoxal 5'-phosphate

covalent modification of lysine residues in heparin cofactor II, effect on cofactor activity (human plasma), 124, 745

Pyrimidines

methylated, in poly(dT), repair by O⁶-alkylguanine-DNA alkyl-transferase, comparison (<u>Escherichia coli</u>, rat liver), 123, 324

Pyrocarbonic acid diethyl ester

iodothyronine 5'-deiodinase inactivation, active site histidine residue identification (rat hepatic microsomes), 120, 28

Pyrophosphates

phosphoryl donor function in UDP-glucose-treated phosphofructokinase (rabbit muscle), 121, 842

polyprenyl, transport protein, 4-hydroxybenzoate:polyprenyl transferase stimulation (rat mitochondria), 119, 1109

Pyrrolidine

formation by anaerobic polyamine degradation, 119, 556

Pyruvate

binding to flavocytochrome b₂, redox equilibrium modifications with semiquinone stabilization, 118, 753

Pyruvate dehydrogenase

complex, activation by glyburide (rat cardiac mitochondria, ventricular slices), 123, 202

Pyruvate dehydrogenase phosphatase stimulation by polyamines (bovine heart, kidney), 124, 95

Pyruvate kinase

effect of glucose loading (starved rat), 125, 655

regulation by insulin and glycolytic intermediates (rat liver), <u>119</u>, 671

short-term regulation in vivo and in vitro, glucagon and insulin effects, comparison (murine, rat hepatocytes), 124, 651

L-Pyruvate kinase

120, 559

gene transcription, inhibition by cAMP
 (rat liver), 125, 135

Pyruvate,orthophosphate dikinase
 C₄ photosynthesis catalytic de phosphorylation and P₁-mediated
 activation, regulation (Zea mays),

inactivation, ADP-mediated, ATP-dependent catalytic phosphorylation requirement (<u>Zea mays</u>), <u>118</u>, 65 Pyruvate,P₁ dikinase, <u>see</u> Pyruvate, orthophosphate dikinase

Q

Quercetin
inhibition of
Ca-activated phospholipid-dependent protein kinase (murine epidermal cytosol), 124, 63
tyrosine protein kinase in 7,12-dimethylbenz[a]anthracene-induced mammary tumor (rat), 123, 1227

Queuine

-type tRNA, alteration by Cd²⁺, detection by reverse-phase 5 chromatography (<u>Drosophila melano-gaster</u>), <u>123</u>, 1027

Quin 2

-Ca²⁺ interaction, stopped-flow kinetics, <u>123</u>, 604

fluorescence, measurement of cytoplasmic free Ca²⁺ in isolated ventricular myocytes at rest and during K⁺-depolarization (rat), 122, 1012

Quinacrine

effect on thromboplastin activity (human monocytes), 119, 179

Quinate dehydrogenase

Ca²⁺-binding regulatory protein subunit, characterization (dark-grown carrot cells), <u>125</u>, 774

Quinate:NAD+ oxidoreductase, <u>see</u> Quinate dehydrogenase

(-)Quinuclidinylbenzilate

3H-labeled, vs [3H]perenzepine binding to muscarinic receptor, pirenzepine-binding site determination (rat brain), 118, 950

R

Radical scavengers modification of hydroxyurea-induced erythrocyte damage (human), <u>120</u>, 566

Redox equilibria

flavocytochrome b₂, modification by pyruvate binding, <u>118</u>, 753

Renin

and angiotensin-converting enzyme,
 identification in Leydig cells
 (rat testes), <u>122</u>, 1337

mRNA, identification by hybridization with cDNA probe (murine testes), 125, 662

 secretion, Ca and cAMP roles (rat juxtaglomerula cells), <u>124</u>, 359 Renin inhibitors

angiotensinogen analogs, conformational analysis, 122, 700

synthesis from angiotensin-1 peptide aldehyde derivatives (human), <u>118</u>, 929

Retina

Retinal

inhibition of diacylglycerol-induced superoxide production (human neutrophils), <u>120</u>, 318

Retinoic acid

effect on D-[3H]galactose incorporation into epidermal glycoproteins (porcine), 121, 364

myelopoiesis modulation <u>in vitro</u> (human bone marrow), <u>123</u>, 128

role in fetal hepatocyte maturation <u>in vitro</u> (rat), <u>118</u>, 168 stimulation of Ca²⁺-activated phos-

stimulation of Ca²⁺-activated phospholipid-dependent protein kinase (rabbit retina), <u>118</u>, 460

13-cis-Retinoic acid

cooxidation by prostaglandin H synthase with alkyl or fatty acid hydroperoxides, arachidonic acid, or H₂O₂ (ram seminal vesicle microsomes), <u>124</u>, 430

effect on D-[3H]galactose incorporation into epidermal glycoproteins (porcine), 121, 364

Retinol, see Vitamin A

12-O-Retinoylphorbol-13-acetate stimulation of Ca-activated phospholipid-dependent protein kinase (murine epidermal cytosol), 124,

all-trans-Retinyl acetate

effect on D-[3H]galactose incorporation into epidermal glycoproteins (porcine), <u>121</u>, 364

Retrohydroxamate ferrichrome

biological activity (<u>Arthrobacter</u> <u>flavescens</u>, <u>Bacillus subtilis</u>, <u>Ustaliqo sphaerogena</u>), <u>119</u>, 1191

Reverse transcriptase, <u>see</u> DNA polymerase

Rhodamine 123

inhibition of mitochondrial bioenergetic function (rat liver), 118, 717

Rhodopsin

-like pigment, photochemical intermediate, production by simultaneous illumination with red and
near uv light (Halobacterium
halobium), 123, 989
phosphorylation (isolated bovine rod

Subject Index

outer segments), <u>123</u>, 121 target size analysis <u>in situ</u> (bovine retinal rod disk membranes), <u>122</u>,

Rhodotorulic acid

-mediated Fe uptake, stereospecificity (<u>Escherichia coli</u>), <u>121</u>, 922 Riboflavin

xylene moiety enzymatic formation from
['4C]ribulose 5-phosphate
(Candida quilliermondii), 118, 814
Ribonuclease A

S-peptide, folding, fundamental role of salt bridge Glu 2⁻...Arg 10⁺ (bovine pancreas), <u>123</u>, 757

Ribonucleoproteins

small nuclear

particles, antibodies: reactive
 polypeptide subcellular location
 (HeLa cells), 120, 81

reaction with anti-Sm and anti-RNP antibodies, polypeptide pattern, comparison (human), 123, 345

Ribonucleoside diphosphate reductase separation from Yoshida ascites sarcoma (rat), 118, 212

Ribonucleotide reductase

inhibition by <u>Agaricus bisporus</u> γ-Lglutaminyl-4-hydroxybenzene (L1210 leukemia cells), <u>120</u>, 1008

Ribonucleotides

channeling to DNA, analysis in leukemic L1210 cells, <u>123</u>, 656

Ribosomes

proteins, phosphorylation in organello and in vitro (Spinacea oleracea chloroplasts), 121, 297

50S, and 23S RNAs, from 70S ribosome tight and loose couples, physical and biological properties, comparison, 124, 970

405, mRNA-dependent Met-tRNA_f binding, stimulation by eIF-2 and Co-eIF-2 (rabbit reticulocytes), 122, 1418

Ribulose 1,5-bisphosphate carboxylase/ oxygenase

subunit B, effect on subunit A substrate binding (<u>Aphanothece halo-</u> <u>phytica</u>), 122, 763

Ribulose 5-phosphate

14C-labeled, riboflavin xylene moiety enzymatic formation (<u>Can-dida quilliermondii</u>), 118, 814

Ricin

and A-chain, hybrid proteins with
 epidermal growth factor, role of
 binding ligand in toxicity, in ternalization, and protein syn thesis inhibition (A431 cells),
 124, 551

RNA

-containing nuclear binding sites for glucocorticoid-receptor complexes, localization (HeLa cells), 123, 78

detection with 2-5A analog probe (CVl, HeLa, human neuroblastoma cells), 123, 194

L-glutamine-controlled synthesis in cells transformed by 9,10-dimethyl-1,2-benzanthracene, simian virus 40, or H-<u>ras</u> oncogene, protease role (human, mouse), <u>124</u>, 6

maternal, cDNA evolutionary conservation (sea urchins), 123, 278

messenger (mRNA)

adrenocorticotropic hormone-induced protein, cell-free translation (rat adrenal gland), 119, 975

aldolase A, from skeletal muscle
 and ascites hepatoma cells, comparison (rat), 119, 575

aldolases A and B, expression during
azo dye-induced carcinogenesis
(rat liver), <u>124</u>, 337

bisphosphoglyceromutase, cell-free translation (human), <u>120</u>, 441

carbamoylphosphate synthetase (ammonia), regulation by glucocorticosteroids and cAMP, demonstration with specific cDNA (rat liver), 124, 882

cytochrome c oxidase nuclear-coded subunit, cDNA clone construction (rat liver), 118, 902

cytochrome \underline{P} -450_{SCC}, cDNA cloning (bovine adrenal), $\underline{120}$, 264

-encoded helper activity, effect on antibody synthesis by nude murine spleen cells (human peripheral blood mononuclear cells), <u>119</u>, 868

α- and β-globin, translation regulation by 24-, 28-, and 50-kDa polypeptide-containing fractions (Krebs II ascites cell-free system), 120, 804

glyceraldehyde-3-phosphate dehydrogenase, nucleotide sequence (chicken muscle), 118, 767

interferon-γ, levels in fresh lymphocytes and cultured lymphoblasts (human), 119, 157

interleukin-2, superinduction by translation inhibitors (human tonsils), <u>123</u>, 842

luteinizing hormone subunit precursors, in vitro translation (porcine pituitary), 118, 254 8-subunit, regulation during

- estradiol feedback states (ovine pituitary gland), <u>122</u>, 1307
- lysosomal a-D-glucosidase, cloning (monkey testes), 119, 252
- polyadenylic acid and oligouridylic acid-associated proteins, comparison (rat liver), 120, 1044 prolactin, identification in decid-
- ua (human placenta), <u>124</u>, 530 pro-opiomelanocortin
 - levels in anterior and intermediate pituitary lobes, differential regulation by corticotropin-releasing factor (rat), 124, 407
 - 3' nontranslated regions, heterogeneity (<u>Onchorhynchus keta</u> pitultary), <u>122</u>, 556
- renin, identification by hybridization with cDNA probe (murine testes), 125, 662
- spliced <u>in vitro</u>, internucleotide bond formation, characterization (murine myeloma cell nuclear extracts), <u>122</u>, 466
- thyroglobulin, intracellular concentration in vitro and in vivo, regulation by thyrotropin (rat thyroid cells), 122, 472
- thyroid hormone-responsive, synthesis stimulation by triiodothyronine (primary hepatocyte culture), 123, 1122
- translatable, and particulate protein synthesis factors, identification in hybridoma cells (mouse), 122, 1314
- uroporphyrinogen decarboxylase, cell-free translation (human), 118, 378
- mitochondrial, concentration determination (adult rat liver), 118,
 284
- oxidized N²-methyl-9-hydroxy-ellipticinium covalent binding in vitro (yeast), 124, 416 poly(A)*
 - cell-free translation, α₁-proteinase inhibitor synthesis (experimentally-inflammed, normal rat
 lung), 122, 394
 - transient species, detection by myosin heavy-chain cDNA probe during terminal differentiation (chick breast muscle), 120, 741
 - translational efficiency, sodium butyrate effects (rat L6 myoblasts), <u>125</u>, 1129
 - translation <u>in vitro</u> active luciferase synthesis

- (adult firefly lanterns), 124, 592
- DNA polymerase synthesis (bovine thymus), 122, 420
- 6S, transcribed in vitro from repetitive and transcribable DNA sequences, pseudouridylic modification (salmon), 124, 514
- small nuclear (snRNA)
 - antibodies, reactive polypeptide subcellular location (HeLa cells), 120, 81
 - Ul, -like sequences in high-molecular-weight RNA, analysis (human), 122, 838
- synthesis, RNA polymerase-catalyzed,
 inhibition by daunomycin, mechanism, 123, 914
- transcripts, c-<u>sis</u> oncogene-specific, inhibition by glucocorticolds (ductus deferens smooth muscle tumor cells), <u>122</u>, 124
- transfer (tRNA), <u>see also specific</u> tRNAs
 - levels, changes during hemoglobin synthesis induction (Friend leukemia cells), <u>120</u>, 707
 - 2'-O-methyl-1-methyl adenosine identification (<u>Bleusine coracana</u> seedlings), <u>121</u>, 243
 - Met-tRNA_f, binding to 40S ribosomes, stimulation by eIF-2 and Co-eIF-2 (rabbit reticulocytes), 122, 1418
 - queuine-type, alteration by Cd²⁺, detection by reverse-phase 5 chromatography (<u>Drosophila mela-nogaster</u>), <u>123</u>, 1027
 - tRNA^{Ile}, nucleotide sequence (<u>Sac</u> <u>charomyces cerevisiae</u>), <u>119</u>, 905
- 23S, and 50S ribosomes, from 70S ribosome tight and loose couples, physical and biological properties, comparison, 124, 970
- RNA ligase, <u>see</u> Polyribonucleotide synthetase(ATP)
- RNA polymerase I
 - stimulation, and ornithine decarboxylase inactivation/phosphorylation, protein kinase NII role (murine kidney), 120, 219
- RNA polymerase II
 - affinity isolation on amanitin-Sepharose (calf thymus, wheat germ), 119, 42
 - chromatin-dependent reactions, largemolecular-weight regulating factor isolation and characterization (rat hepatic cytoplasm), 125, 286
 - crosslinking with dithiobis(succinimidyl propionate), quaternary

Subject Index

structure analysis (wheat germ), <u>121</u>, 680

localization of DNA- and nucleotidebinding sites (wheat germ), 125,

RNA polymerases

-catalyzed RNA synthesis, inhibition by daunomycin, mechanism, 123, 914

inhibition by N-trifluoroacetyladriamycin-14-O-hemiadipate (chicken myeloblastosis cells, Escherichia coli), 120, 946

subunits, in vivo synthesis, polyamine effects (Escherichia coli), 123, 528

Rose Bengal

iodothyronine 5'-deiodinase inactivation, active site histidine residue identification (rat hepatic microsomes), 120, 28

Rous sarcoma virus

temperature-sensitive

-infected cells, thymidine transport increase at permissive temperature (rat kidney), 125, 129 -transformed cells, Ca compartments and fluxes, src gene product ef-

fect (Fisher rat cells), 125, 337 Rubella

antibodies, firefly luciferin-enhanced luminescent horseradish peroxidase immunoassay (human), 119, 481

Ruthenium red

-induced Ca²⁺ efflux from mitochondria, inhibition by antibiotic X-537A (rat liver), 124, 80

Saccharomyces cerevisiae

cell cycle regulation, glyoxalase-I role, 119, 962

mutants, deficient in acetoacetyl-CoA thiolase and B-hydroxy-B-methylglutaryl-CoA synthase, isolation and characterization, 123, 424

Phanerochaete chrysosporium DNA sequence autonomous replication, <u>118</u>, 821

Salt

-desoxycorticosterone acetate hypertension, increase of circulating digitalis-like substance (rat), <u>122</u>, 129

effect on diptheria toxin conformation, fluorescence characterization, <u>120</u>, 286

Salt bridge

Glu 2 ... Arg 10 , fundamental role in ribonuclease A S-peptide folding (bovine pancreas), 123, 757

Salt washing

effect on photosystem-II donor function, EPR analysis (inside-out thylakoids), 124, 269

granulomas, 25-hydroxyvitamin D, metabolism in vitro (human), 123,

Sarcolemma

adrenochrome formation (bovine

heart), $\frac{120}{}$, 22 vesicles, Ca^{2+} -dependent K^+ permeability, modulation by calmodulin and cAMP-dependent protein kinase (bovine heart), 122, 237

Sarcoplasmic reticulum

membrane lipids, phase transitions, Raman spectroscopy (rabbit combined muscle), <u>122</u>, 446

Schistosoma mansoni

eggs, granulomatous inflammation induction, hydrogen peroxide roles (murine lung), 122, 184

Schwann cells

isolated, inositol uptake (rat), 120,

proliferation, axolemma- and myelinstimulated, mediation, Ca and cAMP roles (rat), 122, 373

Selenium

binding to lipids (Dunaliella primolecta, Porphyridium cruentum), 118, 176

Selenomethionine

effect on S-adenosylmethionine formation, cell growth, leucine incorporation, and polyamine biosynthesis (murine L1210 leukemia cells), <u>122</u>, 350

Semiquinone

flavocytochrome b, stabilization by pyruvate binding, 118, 753

Sepharose

-heparin affinity chromatography, separation of lipoprotein lipase and monoacylclycerol lipase (bovine brain), 122, 1241

Sepiapterin reductase

exhibition of NADPH-dependent dicarbonyl reductase activity (rat erythrocytes), 118, 859

Serine

-borate complex, effect on [3H]leukotriene C and [3H]leukotriene D, binding inhibition by leukotrienes C_4 , D_4 , and B_4 (guinea pig brain, lung homogenates), 119, 612

Serine palmitoyltransferase activity in lung microsomes (normal, hyperoxic rat), 119, 995

Serine proteases

kallikrein-like latent, identifica-

tion and characterization (human erythrocyte membranes), <u>121</u>, 722 Serine proteinase

latent collagenase activation (human skin), 125, 279

Serine proteinase inhibitors

identification in skeletal muscle (rat), <u>120</u>, 96

Serotonin

uptake by intact and isolated dense bodies, comparison (human platelets), 119, 116

Serum, see also Plasma

-dependent post-translational control
 of amino acid transport (cultured
 fetal human fibroblasts), 120, 172

prealbumin variant, isolation and characterization (familial amyloidotic polyneuropathy patient), 122, 712

protein-bound Zn distribution (analbuminemic rat), 125, 45

stimulation of inositol phosphate release from fibroblasts (human), 123, 663

zymosan-activated, superoxide generation induction (human neutrophils), 121, 695

Serum albumin

binding to aluminum, quantitative analysis by chelex competitive binding assay (human), <u>125</u>, 1020 bovine

mannosylated, muramyldipeptidebound, tumoricidal activation of alveolar macrophages (mouse, rat), 121, 579

tryptic digests, insulin-stimulating peptide isolation and characterization, 122, 1179

two-dimensional peptide mapping by polyacrylamide-gel electrophoresis with limited proteolysis in sodium dodecyl sulfate, 122, 932

effect on

gastric mucous glycoprotein viscosity (canine), 121, 521

vitamin D metabolism in fetal chick
 osteoblast-like cells (bovine),
 125, 265

photosensitized irreversible binding to estrone via hydroperoxide intermediate, role in estrogen (photo-)allergic side-effects, analysis (human), 125, 675

Serum factors

metoclopramide-stimulated, role in aldosterone secretion regulation (bovine adrenal glomerulosa cells), 119, 95

nonlipoprotein, hepatic cholesterol- 7α -hydroxylase stimulation <u>in</u> vitro (streptozotocin diabetic
rat), 121, 742

Sialic acid

content on cell surface in X- and and Y-bearing sperm, comparison (human), 124, 950

Sialosylglobotetraosylceramide marker for amyotropic lateral sclerosis (human), 118, 82

Sialvlation

in membrane glycan biosynthesis, developmental shift to fucosylation (rat small intestine microvilli), 125, 546

Siderophores

hydroxamate, -mediated Fe uptake, stereospecificity (<u>Bscherichia</u> coli), 121, 922

Silver staining

histones, mechanism; role of clustered lysine residues (calf thymus), <u>123</u>, 729

Simian virus 40

chromatin, protein crosslinking to nascent DNA, induction by diisopropylfluorophosphate (CV-1 cells), 123, 271

-transformed cells, L-glutamine-controlled nucleic acid and polyphosphate metabolism, protease role (human, mouse), <u>124</u>, 6

SIMS, <u>see</u> Mass spectrometry Sincalide

125I-labeled, and [125I]gastrin, binding characteristics, comparison (guinea pig fundic gastric glands), 123, 641

Sinovial cells

adherent rheumatoid, collagenase and prostaglandin-E production in vitro, stimulation by canine mast cell extracts (human), 122, 270

Skin

epidermal, microsomal preparations, ability to biosynthesize arachidonic acid from linoleic acid (guinea pig, rat), <u>124</u>, 784

Sodium arsenite

effect on heat shock protein methylation (chicken embryo fibroblasts), 119, 735

stress protein induction after intravenous administration (rabbit brain, heart, kidney, liver), 120, 150

Sodium butyrate

effect on

a-actin and myosin heavy-chain gene expression and on poly(A)⁺ RNA translational efficiency (rat L6 myoblasts), <u>125</u>, 1129 histone acetylation and estrogen receptor levels (human breast cancer MCF-7 cells), <u>119</u>, 132

enhancement of 1,25-dihydroxyvitamin D_a effects on clonal osteosarcoma cells (rat), <u>121</u>, 796

Sodium chloride

DNA synthesis and ornithine decarboxylase stimulation (rat gastric mucosa), <u>121</u>, 1027

Sodium dodecyl sulfate

effect on endopeptidase I (<u>Bacil</u>-<u>lus sphaericus</u> NCTC 9602), <u>120</u>,

Sodium ion

-Cl⁻-K⁺ cotransport in smooth muscle cells, regulation (embryonic rat aorta), 125, 500

effect on basal and isoprenaline- and GTP-stimulated adenylate cyclase (rabbit heart), <u>118</u>, 561

-H⁺ exchange

amiloride-sensitive, activation by chimotactic factors (human neutrophils), 122, 755

increase in NaCl-adapted cells (Synechococcus 6311), 122, 452

role in

phorbol ester-stimulated 2-deoxy-D-glucose uptake by lymphocytes (rat thymus), <u>124</u>, 14

platelets activated by ionophore A23187 (human), <u>125</u>, 1123

stimulation by vanadate (A431 cells), 118, 675

influx, -independent Ca^{2+} mobilization by prostaglandin $F_{2\alpha}$ and vasopressin (quiescent Swiss 3T3 cells), 123, 803

-K⁺ concentration gradient-induced triolein-doped porous membrane, electrical potential oscillation, 123, 792

loading, effect on atrial natriuretic factor levels, radioimmunoassay (rat atria, hypothalamus, plasma), 124, 663

pump, ATP-dependent, and myocardial sarcolemmal creatine kinase, relationship (canine, guinea pig), 124, 696

regulation of opioid agonist binding, pertussis toxin effect (NG108-15 cells), 123, 1107

transport in brush border membranes (rat kidney), 123, 562

Sodium sulfide

role in anoxygenic photosynthesis and H₂ production (<u>Nostoc muscorum</u>), 123, 1138

Solanum tuberosum agglutinin -platelet interactions (human), <u>121</u>, 27

Somatomedin C

production <u>in vitro</u> by osteosarcoma cells (human), <u>123</u>, 373

Somatomedin receptors

basic, binding and effect on a-aminoisobutyrate uptake in term placenta explants (human), <u>122</u>, 583

Somatostatin

cyclic pseudohexapeptide analog, synthesis and biological activity, 120, 840

Somatotropin

effect on glucose utilization in 3T3 adipocytes (human), <u>125</u>, 237

secretion and synthesis <u>in vitro</u>, effects of growth hormone-releasing factor administration (rat anterior pituitary cells), <u>121</u>, 111

and synthetic adrenocorticotropin, lipolytic activity in isolated rabbit adipocytes, comparison (human, ovine, porcine, rabbit), 122, 197

Sparsomycin

interleukin-2 mRNA superinduction (human tonsils), 123, 842

sulfoxide configuration, role in peptidyltransferase inhibition in vitro (Escherichia col1), 125, 784

Sparteine

-debrisoquine type genetic polymorphism, cytochrome P-450, characterization: Michaelis constant and bufuralol l'-hydroxylation stereoselectivity (human liver), 125, 374

Spectrin

anilinonaphthyl-labeled, interaction with fatty acids and phospholipids, fluorescence, <u>120</u>, 344

-band 4.1-actin complex, cytochalasin binding, inhibition by p-hydroxymercuribenzoate, mechanism (human erythrocyte membranes), 122, 244

identification in lens (bovine, canine, human, rabbit), 119, 726

interaction with bovine calmodulin (avian, human), 122, 1194

Spermatozoa

motility <u>in vitro</u>, human and salmon calcitonin effects (human), <u>125</u>, 199

X- and Y-bearing, sialic acid content on cell surface, comparison (human), <u>124</u>, 950

Spermidine

anaerobic degradation, pyrrolidine formation, <u>119</u>, 556

conjugation with thymic peptide hormone, conjugate properties, <u>122</u>, 21

stimulation of protein phosphorylation (corn coleoptiles), <u>122</u>, 1374 pyruvate dehydrogenase phosphatase (bovine heart, kidney), 124, 95 Spermidine catecholamide Fe chelators, antiherpetic and antineoplastic activity (herpes simplex, vesicular stomatitis viruses, L1210 leukemia cells), 121, 848 Spermine anaerobic degradation, pyrrolidine formation, 119, 556 conjugation with thymic peptide hormone, conjugate properties, 122, 21 -induced phosphorylase kinase inhibition, Mg²⁺ effect (porcine liver), 121, 271 inhibition of 11-kDa nuclear protein phosphorylation (various mammalian cell lines), 118, 710 stimulation of protein phosphorylation (corn coleoptiles), 122, 1374 pyruvate dehydrogenase phosphatase (bovine heart, kidney), 124, 95 Sphingolipids synthesis, inhibition by L-cycloserine (Bacteroides levii culture), <u>119</u>, 814 Sphingomyelin hydrolysis, cannabidiol effect in vitro (Niemann-Pick patient fibroblasts), 121, 168 palmitic acid N-acylation, enhancement in rabbit antiserum-stimulated L cells (mouse), 121, 605 Spinal cord regional distribution of neuromedins B and C, comparison (rat), 124, 925 neuromedins K, L, and substance P (rat), <u>124</u>, 731 Splenocytes hybridoma formation with myeloma cells, effect of myeloma pre-

treatment with Colcemid (mouse), germinated, energy-dependent activation of spore lytic enzyme precursor (Clostridium perfringens),

tion (Escherichia coli), 121, 34 Starvation, see Diet Steroid 21-hydroxylase, see Steroid 21-monoxygenase Steroid 21-monoxygenase peptide alignment with cDNA sequence of bovine enzyme (porcine), 125, Steroidogenesis angiotensin II-induced, effect on polyphosphoinositide compounds (bovine adrenocortical fasciculata cells), 124, 393 bacterial phospholipase-C effect (bovine adrenocortical fasciculata cells), $\underline{123}$, 33 and cytosolic Ca $^{2+}$, angiotensin II and extracellular K+ effects, comparison (rat adrenal glomerulosa cells), 123, 810 stimulation by adrenocorticotropin, lysine-rich protein role (rat adrenal cells), <u>118</u>, 400 Steroids -binding protein, C, chain, and hu-

tate), 122, 662 Sterols

-carrier protein, levels in LM fibroblast-derived cells, correlation with tumor metastasis (mouse), 124, 283

man a2-macroglobulin, amino

acid sequence homology (rat pros-

-carrier protein, regulation of mitochondrial membrane cholesterol distribution (rat adrenal), 122, 509

and nonsterol pathways, mevalonate metabolism, effect of dietary cholesterol (male chicks), 122, 945

plasma membrane levels, correlation with tumor metastasis (murine LM fibroblast-derived cells), 124, 283

Stress

cytoskeletal, erythrocyte response, membrane protein carboxyl methylation role (human), 123, 133

Substance P

-associated activity of neurokinins a and B, 118, 405

-Bolton-Hunter reagent conjugate, 125I-labeled, binding and internalization by pancreatic acinar cells (guinea pig), <u>124</u>, 578

enzymatic degradation in glial cell and neuron cultures (rat brain), 125, 728

-hydrolyzing endopeptidase, purification and characterization (human cerebrospinal fluid), 125, 244

Starch

Spores

124, 903

123, 463

man), <u>118</u>, 339

Spreading factor

maltoporin affinity, enhancement by affinity-chromatographic selec-

serum, thrombin-catalyzed cleavage product, biological activity (huregional distribution in brain and spinal cord (rat), <u>124</u>, 731

Succinate

effect on inner mitochondrial membrane lipid bilayer fluidity, EPR and fluorescence (rat liver), 119, 854

inner mitochondrial membrane protein
 sulfhydryl group modification,
 EPR analysis (rat liver), 122,
 1404

reverse electron transfer to acetoacetate, ATP-driven, thermodynamics (rat hepatic mitochondria), 125, 8

Sucrose

14C-labeled

complement-induced release, inhibition by monoclonal antibodies to C9 (human erythrocyte ghosts), <u>118</u>, 616

electro-injected, trapping by mitochondria, role in cellular autofiltration (rat hepatocytes), 119, 955

Sulfate

transport in brush-border membranes (human placental syncytiotrophoblasts), <u>123</u>, 223

Sulfhydryl groups

identification in aldosterone receptor binding sites (porcine kidney cytosol), 124, 51

inner mitochondrial membrane protein,
 modification by succinate and
 phenylsuccinate, EPR analysis (rat
 liver), 122, 1404

Sulfide

Sulfonium

asymmetric pole, 1-aminocyclopropanel-carboxylic acid, role in stereochemical course during biosynthesis (Lycopersicon esculentum), 121, 181

Sulfoxide

configuration in sparsomycin, role in peptidyltransferase inhibition <u>in</u> <u>vitro</u> (<u>Escherichia coli</u>), 125, 784

Sulfur

-Pe clusters

-containing NADH dehydrogenase subunits, detection by gel electrophoresis and high-performance chromatography (bovine cardiac mitochondria), 120, 237

in spinach ferredoxin and <u>Clostrid-ium pasteurianum</u> red paramagnetic protein, structural comparison,
resonance Raman spectroscopy, <u>119</u>,
828

Superoxide

anion production by neutrophils, 4,4'diisothiocyano-2,2'-disulfonic
acid stilbene effects (human),
120, 964

generation by

1-oleoyl-2-acetyl-glycerol, retinol
 effects (human neutrophils), 120,
318

zymosan-activated serum (human neutrophils), 121, 695

production, synergistic stimulation by
A23187 and 1-oleoy1-2-acety1glycerol (human neutrophils),
125, 332

release by neutrophils, ionophore A23187 and 48-phorbol 12-myristate 13-acetate synergistic effects (guinea pig), 122, 734

role in granulomatous inflammation induced by <u>Schistosoma mansoni</u> eggs (murine lung), <u>122</u>, 184

Superoxide dismutase

Cu,Zn-, oxidation state, 19F NMR (human erythrocytes), 122, 1276

Fe-containing, H₂O₂-induced inactivation, effect on tryptophan residues (<u>Pseudomonas ovalis</u>), <u>122</u>, 635

macrophage progenitor cell radioprotection (murine bone marrow), 119, 1089

Mn-containing, glucose effect (murine brain, heart), 122, 682

Superoxide radicals

formation, gossypol-induced (human sperm, rat liver), 118, 573

-generating oxidase, NADPH-dependent, resolved flavoprotein and cyto- chrome b₅₅₉ components, catalyt- ic properties (human neutrophils), <u>118</u>, 430

Synaptosomes

membranes

ammonia effects (murine brain), <u>119</u>, 516

BAY K 8644 binding (guinea pig brain), 121, 317

neurotransmitter amino acid uptake, stimulation by insulin, role in neuromodulation (rat brain), 119, 1198

and phosphatidylserine vesicles, interactions (rat brain), 119, 821

Syncytiotrophoblasts

brush-border membranes, sulfate transport (human placenta), <u>123</u>, 223

Synechococcus 6311

NaCl-adapted, Na⁺-H⁺ exchange increase, <u>122</u>, 452 T

Tamoxifen

and analogs, high-affinity binding sites, concentration in rough mi- crosomal membranes (rat liver), 120, 109

-binding site

biological role, definition with diphenylmethane derivative probe (human MCF-7 breast cancer cells), <u>124</u>, 244

synthetic diphenylmethane derivative binding affinity (rat hepatic microsomes), 123, 724

calmodulin antagonist in cAMP phosphodiesterase activation (bovine brain), 118, 27

with dexamethasone, estrogen-like effects (chick oviduct), <u>124</u>, 57

Tamoxifen receptors

microsomal, selective ligand: centchroman <u>cis</u> isomer (rat), <u>125</u>, 346

Teleocidin

Ca-activated phospholipid-dependent protein kinase activation (rat brain), 120, 339

Temperature effects

androgen receptor complex activation in vitro (rat liver), 120, 953

concanavalin-A internalization by hepatoma cells (rat), 125, 35

dielectric permittivity and elastomeric force in elastin crosslinked polypentapeptide coacervate, correlation, <u>125</u>, 1082

differentiation of <u>Leishmania mexicana</u> <u>in vitro</u> and induction of heat shock proteins, <u>125</u>, 755

endopeptidase I (<u>Bacillus sphaericus</u> NCTC 9602), <u>120</u>, 448

enzyme-activated inhibition of D-amino acid transaminase by G-cyano-Dalanine (Bacillus sphaericus), 122, 485

[³H]dihydropyridine binding to skeletal muscle transverse-tubular membranes (rabbit), 123, 41

nuclear and nucleolar matrix protein composition (Chinese hamster ovary cells), <u>118</u>, 444

thymidine transport increase in temperature-sensitive Rous sarcoma virus-infected cells (rat kidney), 125, 129

Z conformation of (m⁵dC-dG)₂, <u>125</u>, 803

Teniposide

inhibition of topoisomerase II-catalyzed DNA catenation (rat hepatoma cells), <u>122</u>, 165

Terbium ion

effect on platelets, aggregation and fluorescence analysis (human), 122, 311

Terminal deoxynucleotidyl transferase,

<u>see</u> DNA nucleotidylexotransferase
Testosterone

effect on progesterone metabolism by ovarian granulosa cells (rat), 119, 694

production, luteinizing hormone-stimulated, inhibition by phorbol esters (murine Leydig cell culture), 119, 1062

2,3,7,8-Tetrachlorodibenzo-p-dioxin
 effect on low-density lipoprotein re ceptors (guinea pig, rat hepatic
 plasma membranes), ll8, 548

lipoprotein lipase inhibition (guinea pig adipose tissue), 122, 810

toxicity, enhancement by hexadecane (rat), 125, 996

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

cytosolic, ontogeny (rat lung, liver, thymus), <u>118</u>, 183

7,7,8,8-Tetracyanoquinodimethane -containing lipid bilayer membranes, cyclic voltammetry, 119, 372

12-O-Tetradecanoylphorbol-13-acetate
and A23187, forskolin, and thyrotropin-releasing hormone, stimulation of prolactin release from
pituitary tumor cells, comparison, 123, 735

Ca-activated phospholipid-dependent protein kinase activation (rat brain), 120, 339

and Ca²⁺ ionophore A23187, cortisol production stimulation (bovine adrenocortical fasciculata cell suspension), <u>121</u>, 499

or Ca²⁺ with phospholipid, requirement for synthetic peptide phosphorylation by protein kinase C (rat brain), <u>124</u>, 296

effect on

adenylate cyclase desensitization
 and 8-adrenergic receptor phos phorylation (duck erythrocytes),
 121, 973

aminopyrine accumulation (isolated rat parietal cells), 121, 566

Ca²⁺-activated phospholipid-dependent protein kinase (human platelets), 122, 158

hepatic glycogenolysis and Ca transport (rat), 122, 1057 thyrotropin secretion induced by Ca,

thyrotropin-releasing hormone, and triiodothyronine in vitro (rat pituitary cells), 125, 353 glutathione reductase (NAD(P)H) stimulation, regulation by vitamin A (murine epidermis), 125, 967 induction of membrane potential changes (human

membrane potential changes (human
myeloid leukemia cells, neutrophils), 123, 937

smooth muscle contractions
and inhibition of α-adrenergic
 receptor response (rabbit, rat
 aorta), 125, 1103

threonine phosphorylation, epidermal growth factor receptor structural domains, mapping (human), <u>123</u>, 618

reduction of epidermal growth factor receptor affinity, role of phosphoinositide breakdown and protein kinase-C activation (Swiss 3T3 cells), 123, 377

stimulation of

Ca-activated phospholipid-dependent protein kinase (murine epidermal cytosol), <u>124</u>, 63

2-deoxy-D-glucose uptake by lymphocytes, Ca²⁺ and Na⁺/H⁺ exchange roles (rat thymus), 124, 14

substrate for diacylglycerol lipase (rat serum), <u>123</u>, 170

Tetrahydrobiopterin

intermediates, identification during
 enzymatic synthesis (<u>Drosophilia</u>
 melanogaster), 120, 754

de novo biosynthesis (bovine adrenal medulla), 120, 761

Tetrahydrofolate dehydrogenase

multiple forms, methotrexate affinity, comparison (murine leukemia L1210 cells), <u>119</u>, 352

Tetrahydropteroylflutamate methyltransferase

coenzyme specificity, corrin binding
 mechanism (various species), 120,
74

Tetranucleoside triphosphates

(m⁵dC-dG)₂, Z conformation, thermal stability, <u>125</u>, 803

Tetrapeptides

insulin-releasing, isolation and characterization (lipodystrophic diabetes patient urine), <u>122</u>, 103

Tetraphenylphosphonium

photosynthetic sulfide oxidation inhibition (<u>Chromatium vinosum</u>), <u>121</u>, 755

Tetraphenylporphyrinatoiron(III)chloride with <u>tert</u>-butylhydroperoxide, diarylpropane-1,3-diol C-C bond cleavage, <u>122</u>, 1247

Tetrodotoxin

[*H]nitrendipine binding displacement, effect of age (fetal murine spinal cord culture), 124, 979

B+-Thalassemia

induction by base substitution in IVS-2 of ß-globin gene (Chinese patient), <u>121</u>, 324

Theophylline

effect on 1,25-dihydroxyvitamin D₃ production and Ca fluxes, comparison with caffeine and dibutyryl cAMP (chick renal tubules), <u>121</u>, 355

and [3H]GDP binding, parallel increases in brown-adipose-tissue mitochondria (cafeteria-fed rats), 122, 1328

4-Thiaisoleucine

incorporation by ovalbumin, effect on denaturation (hen), <u>118</u>, 481

Thiamine pyrophosphatase

and nucleoside diphosphatase, separation and properties (rat brain), 118, 292

Thiazolidine-2-carboxylate

derivatives formed from L-cysteine or L-cysteinylglycine and glyoxylate, substrates for D-aspartate oxidase (bovine kidney), 125, 1039

Thioanisole

oxidation by microsomal fraction of germinating seeds (<u>Pisum sati-vum</u>), <u>121</u>, 1001

Thiol groups

membrane, role in NADP⁺-stimulated Ca²⁺ efflux from mitochondria (rat liver), 119, 305

Thiol protease

inhibition by L-trans-epoxysuccinylleucylamido (4-guanidino) butane, effect on antibody formation (mouse), 118, 117; erratum, 119, 431

Thiol proteinase inhibitors

amino acid sequence (rat epidermis), 121, 149

immunohistochemical analysis (rat liver, peripheral blood), <u>123</u>, 816 Thioridazine

diltiazem-like effect on [3H]nitrendipine binding to Ca channel site
in myocardial membranes (rat),
121, 657

Thiyl radicals

formation during peroxidase~catalyzed acetaminophen metabolism with thiols, 125, 109

Threonine

phosphorylation, epidermal growth factor receptors, phorbol ester-induced, mapping (human), 123, 618

Threonine deaminase, see Threonine dehydratase

Threonine dehydratase

regulatory mutant, reversion by mutation in <u>ilvH</u> gene (<u>Bscherichia</u> <u>coli</u> K-12), <u>118</u>, 270

Thrombin

-catalyzed serum spreading factor cleavage product, biological activity (human), <u>118</u>, 339

-stimulated platelet aggregation, velocity, carbonic anhydrase inhibition effects (human), <u>121</u>, 266

Thromboplastin

monocyte, arachidonic acid metabolism inhibitor effects (human), <u>119</u>, 179

Thrombospondin

fibrinogen-binding region, isolation (platelets), 119, 1075

heparin-binding fragment, antibodies, platelet aggregation inhibition (bovine), 124, 290

Thromboxane A2

-like prostaglandin endoperoxide analogs, prostacyclin synthesis stimulation (rat vascular smooth muscle cell culture), 123, 21

Thromboxane B₂

production, recovery <u>in vitro</u> after inhibition by aspirin (guinea pig megakaryocytes), <u>119</u>, 982

Thromboxane synthetase

inhibition <u>in vivo</u> by OKY-1581 (infarcted, normal canine myocardium), <u>121</u>, 552

Thylakoids

inside-out, salt washing, effect on photosystem-II donor function, EPR analysis, 124, 269

Thymidine

transport in temperature-sensitive Rous sarcoma virus-infected cells, increase at permissive temperature (rat kidney), <u>125</u>, 129

Thymidine kinase

-deficient mutants, interferon effect
 (murine T-lymphoma S49 cells),
 118, 124

Thymidylate synthetase

-5-fluorodeoxyuridylate covalent binary complex, isolation by trichloroacetic acid precipitation (<u>Lactobacillus casei</u>), <u>124</u>, 37

Thymocytes

B-cell, glucose-induced electrical activity, forskolin effect (murine pancreas), <u>120</u>, 797

medullary, mitogenic stimulation, inhibition by 1,25-dihydroxyvitamin D_a (mouse), <u>123</u>, 163

mitotically active, 1,25-dihydroxyvitamin D₃ receptor localization (rat), <u>121</u>, 277

phorbol ester-stimulated 2-deoxy-D-glucose uptake, Ca²⁺ and Na⁺/H⁺ exchange roles (rat), 124, 14

-specific growth factor, purification (bovine), <u>120</u>, 420

Thyroglobulins

amino terminus-derived 10K polypeptide, structure (bovine), 119, 335

carboxyl terminal region, hormonogenic
 domain identification (bovine),
 125, 961

mRNA, intracellular concentration <u>in</u>
<u>vitro</u> and <u>in vivo</u>, regulation by
thyrotropin (rat), <u>122</u>, 472

structure, iodination effects (human), 121, 310

tryptic peptides, thyroxine-containing, isolation and amino acid sequence (bovine, ovine, porcine), 118, 423

Thyrotropin

bovine and human, enhancement of antibody response in vitro (murine spleen), 125, 30

chronic regulation of arachidonic acid and palmitic acid incorporation in cholesteryl esters (thyroid cell culture), <u>119</u>, 537

differential effects on glycosyltransferase (porcine thyroid cells), 118, 910; erratum, 119, 1211

-induced follicle reconstruction and iodine metabolism, modulation by insulin (porcine thyroid cell culture), <u>118</u>, 385

regulation of

plasminogen activator (ovine thyroid cell culture), <u>123</u>, 633

thyroglobulin mRNA intracellular concentration in vitro and in vivo (rat thyroid cells), 122, 472

secretion in vitro, induction by Ca,
 thyrotropin-releasing hormone,
 and triiodothyronine, phorbol es ter effects (rat pituitary cells),
 125, 353

Thyrotropin-releasing hormone

and A23187, forskolin, and phorbol ester, stimulation of prolactin release from pituitary tumor cells, comparison, 123, 735

-induced thyrotropin secretion in vitro, phorbol ester effects (rat pituitary cells), 125, 353

Thyroxine

-containing tryptic peptides in thyro-

globulin, isolation and amino acid sequence (bovine, ovine, porcine), 118, 423

effect on glycolipid composition during development (postnatal murine small intestine), 119, 1168

poly(A) polymerase regulation in glial and neuronal nuclei, analysis (neonatal rat cerebral cortex), 125, 931

Thyroxine receptors

and triiodothyronine receptors, DNA
binding, comparison (rat liver),
124, 29

Tiazofurin

-induced NAD selective depression (rat hepatoma 3924A), 122, 345

Tilorone

xanthine oxidase induction (mouse), 119, 144

D-a-Tocopherol, <u>see</u> Vitamin E Tomato golden mosaic virus

-infected plants, negatively supercoiled DNA isolation (Nicotiana benthamiana), 118, 747

Topoisomerase II

-catalyzed DNA catenation, inhibition
by VM-26 and VP-16-213 (rat hepatoma cells), 122, 165

<u>Ma-p-Tosyl-l-arginine</u> methyl ester inhibition of insulin-stimulated insulin receptor subunit phosphorylation (human placenta, rat adipocytes), <u>119</u>, 465

Toxins, see also specific toxins

Bordetella pertussis, effect on adenylate cyclase, insulin release, and membrane protein ADP-ribosylation (rat pancreatic islets), 124, 190

cardio-, cobra venom, interaction with
 erythrocytes (frog skeletal mus cle), 124, 629

Cerebratulus lacteus A-III, liposomal marker release induction, 121, 14

<u>Shiqella dysenteriae</u>, primary amine and lysosomotropic agent effects (HeLa cells), 121, 69

<u>Tityus serrulatus</u> VII, amino acid sequence, <u>122</u>, 1146

Toyocamycin

-resistant second-step mutants, action mechanism, comparison with tubercidin (Chinese hamster ovary cells), 120, 88

γ-Trace, <u>see</u> Cystatin C

Transcription

glycolytic enzyme genes, inhibition by cAMP (rat liver), 125, 135

Transducin

y-subunit, cDNA isolation and partial

nucleotide sequence (bovine), 124, 250

Transferrin

binding to aluminum, quantitative analysis by chelex competitive binding assay (human serum), <u>125</u>, 1020

-bound Fe, uptake by isolated hepatocytes, ethanol effect (rat), <u>125</u>, 824

cDNA, molecular cloning and sequence analysis (human), <u>119</u>, 273

-Cu²⁺ complexes at N- and C-sites, quantification and visible absorption spectra (chicken egg white), <u>119</u>, 298

gene expression in developing nonhepatic tissues (rat), 122, 212

synthesis in recombinant bacteriophage-infected <u>Escherichia coli</u> (rat), 122, 960

Transferrin receptors

increase in regenerating cells after partial hepatectomy (rat), <u>121</u>, 717

intracellular, expression in quiescent
and concanavalin A-stimulated
lymphocytes (murine spleen), 119,
598

Transformation

crown gall, tobacco callus cells after cocultivation with <u>Agrobacterium</u> <u>tumefaciens</u>, <u>123</u>, 458

Transglutaminase, <u>see</u> Glutaminyl-peptide γ-glutamyltransferase

a,a-Trehalose phosphorylase

inhibition by fructose 2,6-bisphosphate (<u>Buglena gracilis</u>), <u>122</u>, 906

Triacylglycerol lipase characterization and su

characterization and subcellular localization (rat skeletal muscle), 122, 87

Triamcinolone acetonide

cell proliferation inhibition, effect of exogenous platelet-derived growth factor (ductus deferens smooth muscle tumor), 122, 68

Tributyltin chloride

neutrophil chemotaxis inhibition (rabbit), 123, 544

Trichloroacetic acid

precipitative isolation of 5-fluorodeoxyuridylate-thymidylate synthetase covalent binary complex, 124. 37

Triethylenetetramine

-induced Cu-deficiency, Cu and Zn molecular localization (fetal rat liver), 118, 697

Trifluoperazine

-calmodulin binding, shift reagent
⁴³Ca NMR (bovine brain, tes-

tes), <u>122</u>, 1350

inhibition of

ionophore A23187-induced plateletactivating factor formation (human neutrophils), 118, 629

photosystem-II oxygen evolution
 (stroma-free spinach thylakoids),
 121, 626

in low concentration, neutrophil chemiluminescence enhancement (human), 118, 53

N-Trifluoroacetyladriamycin-14-Q-hemiadipate

RNA polymerase inhibition (chicken myeloblastosis cells, <u>Bscherichia</u> coli), 120, 946

Triglyceride lipase, <u>see</u> Triacylglycerol lipase

Trihvdroxytetraene

formation from arachidonic acid and structure (human leukocytes), 118, 943

Triiodothyronine

-binding proteins, plasma membrane, antibodies: characterization and cross-species immunoreactivity (rat pituitary GH₃ cells), <u>124</u>, 956

-induced thyrotropin secretion in vitro, phorbol ester effects (rat pituitary cells), 125, 353

mRNA _{Sl4} synthesis stimulation (primary hepatocyte culture), <u>123</u>, 1122

Triiodothyronine receptors and thyroxine receptors, DNA binding, comparison (rat liver), 124, 29

Triolein

-doped porous membrane, Na⁺/K⁺ concentration gradient-induced, electrical potential oscillation, 123, 792

Triphenyltin chloride

inhibition of

carrageenan-induced edema (rat foot), 125, 59

neutrophil chemotaxis (rabbit), <u>123</u>, 544

Tris-BP

Tris(2,3-dibromopropyl) phosphate, <u>see</u>
Tris-BP

Trolox C

amino acid radical repair, $\underline{119}$, 245 Tropomyosin

effect on actin filament shortening by actin-protein 90-kD complex and cytochalasin D, comparison (bovine brain), 123, 596

Trypanosoma cruzi

host cell invasion, cell surface galactose residue role (murine peritoneal macrophages, rat cardiac myoblasts), 119, 228

interaction with macrophages, regulation by parasite membrane phospholipase A₂-sensitive components (mouse), <u>121</u>, 931

Trypsin

bacteriorhopsin proteolytic cleavage, crosslinking analysis (<u>Halobac</u>terium halobium), <u>124</u>, 565

and endoglycosidase F, effect on band 4.5 and [3H]cytochalasin B-photolabeled proteins, comparison (human erythrocyte membranes), 122, 218

-like enzyme, isolation and characterization: substrate specificity and physiological role (<u>Strongylocentrotus intermedius</u> eggs), <u>121</u>, 598

lymphoma cell electrofusion facilitation (mouse), <u>120</u>, 138

matrix-linked, and α_2 -macroglobulin reaction, proteinase-binding site nonproductive activation (human), 118, 691

peptidyl carbamate ester effects (porcine pancreas), 122, 571

photosynthetic membrane proteolysis, reaction center integrity (<u>Rhodopseudomonas viridis</u>), <u>120</u>, 164

B-Trypsin

-catalyzed peptide semisynthesis, mechanism and specificity, <u>120</u>, 686

Trypsin inhibitors

trypsinogen secretion stimulation, action mode, comparison with endogenous peptide in pancreatic juice with atropine (rat duodenum), <u>118</u>, 532

Trypsinogen

secretion, stimulation by endogenous peptide in pancreatic juice with atropine and exogenous trypsin inhibitors, action mode comparison (rat duodenum), 118, 532

Trypsinogen l

proteolysis, pathogenic implication in chronic pancreatitis (human), <u>118</u>, 154

L-Tryptophan holorepressor

-trp operator interactions, protein
 distribution analysis (<u>Bscherich-ia coli</u>), 119, 926

Tryptophan radicals

repair by vitamin E analog, <u>119</u>, 245 Tryptophan residues

modification in H₂O₂-inactivated Fesuperoxide dismutase (<u>Pseudo</u>- monas ovalis), 122, 635

multiple phosphorescent, in lysozyme, identification by optically detected magnetic resonance, 125, 974

T-2 toxin

interleukin-2 mRNA superinduction (human tonsils), <u>123</u>, 842

Tubercidin

nucleotide-binding site, affinity labeling (human platelets), 123, 92

phosphorylation by casein kinase-1 and cAMP-dependent protein kinase, comparison, 121, 19

polymerization in vitro, kainate effect (rat brain), 122, 925

Tuftsin

endocytosis by macrophage cells, re ceptor-mediated (mouse), 119, 203
Tuftsin receptors

-mediated tuftsin endocytosis by macrophage cells (mouse), <u>119</u>, 203

Tumor cells, see also Cell lines

breast, proliferation, indirect and negative control by estradiol-178 (nude mouse), 122, 1097

colon, alkaline phosphatase isozymes, relationship with large intestine isozymes (Fischer 344 rat), <u>122</u>, 740

ductus deferens smooth muscle, proliferation, inhibition by triamcinolone acetonide: effect of exogenous platelet-derived growth factor, 122, 68

gastrinoma, progastrin amino-terminal
 fragment purification (human),
 123, 404

granuloma

induction by <u>Schistosoma mansoni</u>
 eggs, hydrogen peroxide and su peroxide roles (murine lung),
 122, 184

sarcoid, 25-hydroxyvitamin D₃ metabolsim <u>in vitro</u> (human), <u>123</u>, 822

growth inhibition by tumor inhibitory factor in rat ascites fluid (human), 119, 76

hepatoma

c-Ha-<u>ras</u> and c-<u>myc</u> gene expression (rat), <u>119</u>, 1096

concanavalin-A internalization, dependence on temperature and dose (rat), 125, 35

diethylnitrosamine-induced, increased expression of c-Ha-ras, c-Ki-ras, and N-ras genes (rat), 122, 259

protein kinase-substrate complex
 precipitable with Ca²⁺, isola tion and characterization, <u>125</u>,
251

human, horizontal oncogenesis, mechanism: cell fusion role (nude mice), 124, 933

insulinoma, insulin and insulin-like
 growth factor-l receptors: sub unit structure, comparison (rat),
 124, 657

lung and medullary thyroid, calcitonin
 and related peptide genes, struc ture and function (human), 123,
 648

lymphoma

adenosine deaminase-deficient, adenine nucleoside efflux and influx, dipyramidole and nitrobenzylthioinosine effects (human), 121, 514

Burkitt, -derived cells, DNA polymerase induction by 5-iododeoxyuridine treatment, 123, 1170

electrofusion, facilitation by protease proteolytic activities (mouse), 120, 138

proliferation in tissue culture after glutathione depletion with Lbuthionine-S-R-sulfoximine (mouse), 123, 626

mammary

c-<u>ras</u>H oncogene, hormone-regulated expression (rat), <u>123</u>, 141

7,12-dimethylbenz[a]anthracene-induced, tyrosine protein kinase inhibition by quercetin (rat), 123, 1227

medullary thyroid, identification of prosomatostatin and amino terminal-derived nonsomatostatin peptides (rat), <u>124</u>, 450

melanoma

antigens, amino-terminal variation (murine B16 cells), <u>121</u>, 196

differentiation, inhibition by hybrid recombinant human leukocyte
interferon (murine B-16), 119, 108
macrophage-mediated cytolysis, inhi-

bition by cyclosporin A (rat), 123, 710

metastasis, correlation with plasma membrane sterol and sterol-carrier protein levels in LM fibroblast-derived cells (mouse), <u>124</u>, 283

neuroblastoma

differentiation

induction by mevinolin (mouse), 120, 454 mitochondrial protein changes (mu-

rine brain), 120, 411 B-endorphin receptor specificity for COOH-terminal segment (human), 120, 873

osteosarcoma

clonal, 1,25-dihydroxyvitamin D. effects, enhancement by sodium butyrate (rat), 121, 796

insulin-like growth factor production in vitro (human), 123, 373

ovarian, proliferation in vitro, calmodulin antagonist effects (human), <u>123</u>, 385

pancreatic B-cell

chemically-induced, proteins, cDNA molecular cloning and characterization (rat), 124, 164

gastric inhibitory peptide receptors, specific binding and biological effects (hamster), 123, 671

phaeochromocytoma, muscarinic cholinergic receptor identification (rat), <u>119</u>, 163

pituitary

estradiol-induced, dopamine receptors, bromocriptine chronic treatment effects (rat), 123, 312 prolactin release, stimulation by A23187, forskolin, phorbol ester, and thyrotropin-releasing hormone, comparison, <u>123</u>, 735

sarcoma, Yoshida ascites, cytidine diphosphate reductase separation (rat), 118, 212

Tumor disturbing factor

isolation and effect on L1210 cell proliferation in vivo and in vitro (human, BALB/c murine sera), 120, 520

Tumor inhibitory factor

identification in ascites fluid, effect on human carcinoma cells (rat), <u>119</u>, 76

Tumor promoters

-mediated protein kinase-C activation, characterization (murine brain), 121, 448

Tunicamycin

inhibition of branched-chain amino acid-stimulation protein synthesis (rat muscles), <u>125</u>, 149

Tyraminyl-inulin

125 I-labeled, liposomal deposition marker in vivo (rat), 122, 319

Tyrosine

histone, complexes with DNA, fluorescence spectra (bovine thymus), <u>122</u>, 656

-horseradish peroxidase-hydrogen peroxide system, bityrosine production and identification, 125, 916 -iodinated neurotensin, biological activity and receptor-binding properties (quinea pig, rat), 120, 812

lens protein, microenvironmental change in cold cataract, Raman spectroscopy (rat), 119, 989

phosphorylation

in B-lymphocytes, enhancement upon membrane immunoglobulin complexing (human), 125, 859

in normal bone marrow cells, lymphocytes, and leukemic cells. comparison (human), 124, 766 stimulation in lectin-treated lym-

phocytes (human), 124, 682 Tyrosine kinases

inhibition by quercetin in 7,12-dimethylbenz[a]anthracene-induced mammary tumor (rat), 123, 1227

-like 58-kDa phosphoprotein, identification (murine lymphoma cells), 122, 563

stimulation, insulin-like growth factor-1 receptor-mediated (rat hepatic BRL 3A2 cells), 119, 6

Tyrosine 3-monooxygenase

inhibition by endogenous factor (rat brain), 124, 223

Tyrosine radicals

repair by vitamin E analog, 119, 245

U

Ubiquinone

myocardial levels, microanalysis (bovine, canine), 123, 1165

-protein binding, quantitation in mitochondria (bovine heart), 124, 889 Ubiquitin

-ATP proteolytic system, repression of protease inhibitor (rabbit reticulocyte extract), 122, 116

binding affinity for isopeptidase (calf thymus), <u>122</u>, 1296

UDP-qlucose

-incubated phosphofructokinase, phosphoryl donor function of pyrophosphate (rabbit muscle), 121, 842

UDPglucuronosyltransferase

nascent, cleavage by canine pancreatic microsomes (rat liver), 122, 1441 role in neonatal microsomal structural changes (rat liver), 119, 29

Ultraviolet (uv)

effect on deoxynucleoside triphosphate pool (murine FM3A cells), 122, 1160

~induced

changes in deoxynucleoside triphosphate pool, effect on DNA synthesis (Chinese hamster ovary cells), 123, 742

Subject Index

³H-[methyl]-S-adenosyl-L-methionine covalent binding to bovine adrenal phenylethanolamine Nmethyltransferase and human erythrocyte protein-O-carboxylmethyl transferase, methyl acceptor substrate effects, 123, 499 unscheduled DNA synthesis, age-related changes (rat hepatocytes), 118, 730

Ureagenesis

a₁-adrenergic stimulation, phorbol
 ester effects (rat hepatocytes),
 119, 1128

L-carnitine effect after acute ammonia intoxication (mouse), 120, 726 epinephrine-stimulated, insulin effect

epinephrine-stimulated, insulin effect
 (euthyroid, hypothyroid rat hepatocytes), 118, 451

inhibition by pent-4-enoic acid, potentiation by ammonia (rat hepatocytes), 118, 47

Uridine triphosphate

3H-labeled, cellular incorporation inhibition by lamin-B antibodies (permeabilized murine L cells), 120, 256

Urokinase

regulation by thyrotropin (ovine thyroid cell culture), 123, 633

stimulation by

bone-resorbing hormones (rat osteoblast-rich calvarial cells, osteogenic sarcoma cells), 122, 230 ovine prolactin (rat tissues), 122,

Uroporphyrinogen decarboxylase mRNAs, cell-free translation (human), 118, 378

Uteroglobin

crosslinking into higher-molecularweight proteins by guinea pig transglutaminase or human factor XIIIa (rabbit), <u>121</u>, 400

Uterus

γ-aminobutyric acid and glutamate decarboxylase detection and γaminobutyric acid receptor-binding site identification (rabbit, rat), 125, 18

estrogen-specific internalization by isolated cells and binding to nuclear matrix (rat), <u>123</u>, 84

growth and ornithine decarboxylase,
 dissociated regulation by estrogen (rat), 122, 1186

ν

Valine

-sensitive acetolactate synthase basal

unit, purification and stabilization (Neurospora crassa), 123, 418

Valproic acid

metabolism by cytochrome P-450 (rat hepatic microsomes), 122, 1166

Vanadate

inhibition of proton translocation from O₂-pulsed cells (<u>Anacys-tis nidulans</u>), 123, 358

stimulation of Na⁺/H⁺ exchange (A431 cells), 118, 675

Vasoactive intestinal peptide

effect on cAMP generation and receptor desensitization in human HGT-1 cells (chicken, porcine), 120, 641

inhibition of platelet-activating factor-stimulated leukotriene release (rat lung homogenates), 125, 105

partial sequences, effect on ¹²⁵I-VIP binding and adenylate cyclase in epithelial membranes (human, rat intestine), <u>121</u>, 493

Vasopressin

arginine, <u>see</u> Arginine vasopressin Ca²⁺ mobilization, Na⁺ influx independence (quiescent Swiss 3T3 cells), 123, 803

reduction of epidermal growth factor receptor affinity, role of phosphoinositide breakdown and protein kinase-C activation (Swiss 3T3 cells), 123, 377

stimulation of

glycogenolysis and ureagenesis, phorbol ester effects (rat hepatocytes), 119, 1128

inositol phosphate release from fibroblasts (human), 123, 663

Vasopressin receptors

photoaffinity label [1,6-a-aminosuberic acid,3-(p-azidophenylalanine),8-arginine]vasopressin, evaluation (bovine kidney), 122, 974

Verapamil

effect on muscarinic receptor binding properties (rat heart), <u>121</u>, 340 ³H-labeled, binding sites in trans-

*H-labeled, binding sites in transverse tubule membranes (rabbit skeletal muscle), 118, 239

Very-low-density lipoproteins

lipolysis <u>in vitro</u>, effects of antiapolipoproteins CII and CIII, high-density lipoproteins, and very-low-density lipoprotein cholesterol ester hydrolysis (human), <u>121</u>, 946

reactivity with low-density lipoprotein monoclonal antibodies, analysis by ELISA and immunoprecipitation (mouse), 125, 704 Subject Index

Vesicular stomatitis virus

inhibition by

cloned human leukocyte interferon (human amnion U cells), <u>119</u>, 326 spermidine catecholamide Fe chelators, 121, 848

Vinculin

phosphorylation, human Ca²⁺-activated phospholipid-dependent protein kinase effect (chicken gizzard), 118, 736

VIP, <u>see</u> Vasoactive intestinal peptide Vitamin A

-binding proteins, interphotoreceptor, synthesis by retina in organ cul- ture, monensin effect (monkey), <u>118</u>, 789

deprivation, effect on mitogenic factor activity (rat testes), <u>125</u>, 454

inhibition of polyoma virus replication in vitro (murine embryonic fibroblasts), 122, 851

interaction in arachidonic acid binding to α -fetoprotein (human), 119, 1122

plasma concentrations, relationship
 to glutatione <u>S</u>-transferase (human platelets), <u>122</u>, 407

regulation of glutathione reductase (NAD(P)H) stimulation by 12-Q-tetradecanoylphorbol-13-acetate (murine epidermis), 125, 967

Vitamin A acid, <u>see</u> Retinoic acid Vitamin D

-dependent bone inductive extracellular matrix proteins (rat), 124, 829

effect on skin Ca-binding protein levels (rat), 123, 230

metabolism in fetal chick osteoblastlike cells, bovine serum albumin and cycloheximide effects, <u>125</u>, 265

Vitamin D,

25-hydroxylation by cytochrome P-450. enzyme purification, characterization, and amino-terminal sequence analysis (rat hepatic microsomes). 121, 994

Vitamin D, 25-hydroxylase

reconstituted, inhibition by microsomal protein fraction (rat liver), 123, 1209

Vitamin B

analog, amino acid radical repair, 119, 245

singlet oxygen quenching (human granulocytes), 119, 1056

Vitamin K

-dependent proteins, warfarin-induced accumulation (rat), 114, 991; erratum, 118, 696 VM-26, see Teniposide

Von Willebrand factor

-factor VIII, plasma and platelet, lectin activity (human), <u>ll8</u>, 495 VP-16-213, see Etoposide

V

Warfarin

-induced accumulation of vitamin Kdependent proteins (rat), <u>114</u>,
991; erratum, <u>118</u>, 696

Wasting syndrome

2,3,7,8-tetrachlorodibenzo-p-dioxininduced, primary target: brown adipose tissue (rat), 125, 996

Water

 -methanol solutions, poly(dA-dT) poly-(dA-dT) thermal melting, 123, 831
 180-enriched, incorporation into 4hydrobenzoic acid during 4-chlorobenzoate dehalogenase reaction

(<u>Pseudomonas</u>), <u>124</u>, 178 Wheat germ agglutinin

-monosaccharide binding, fluorescence and NMR spectroscopy, <u>119</u>, 603

X

Xanthine oxidase

induction by interferon and interferon
inducers (mouse), 119, 144

X rays

effect on type-I aldolases purified by Cibacron Blue dye-ligand chroma-tography (pigeon, rabbit, rat, trout), 123, 1069

macrophage progenitor cell irradiation, protection by superoxide dismutase (murine bone marrow), 119, 1089

malate synthase post-irradiation inactivation, <u>118</u>, 364

Xylene

riboflavin moiety, enzymatic formation from [14C]ribulose 5-phosphate (<u>Candida quilliermondii</u>), <u>118</u>, 814

Y

Yeast viruses

Yohimbine

³H-labeled, binding to lymphocytes, a₂-adrenoceptor subtype characterization (human), 121, 1 Z

Zaluzanin C

effect on peptidyl-tRNA enzymatic translocation (HeLa cells, rabbit reticulocytes, <u>Saccharomyces cere-</u> visiae), 123, 59

Zeatin

 N^6 -isopentenyladenine conversion (Actinidia tissues), 124, 470

Zellweger syndrome

acyl~CoA:dihydroxyacetone phosphate
acyltransferase deficiency (human
brain, liver, cultured skin fibroblasts), 120, 179

peroxisomal enzyme activity and intracellular distribution (human), 123, 1054

Zinc ion

~Ca²⁺ derivatives of lentil and pea lectins, preparation and characterization, comparison with native forms, <u>124</u>, 857

content in and effect on DNA polymerase (bacteriophage T7), 122, 1410 glycogen synthesis inhibition (fasted rat hepatocytes), <u>122</u>, 726 identification in cytochrome <u>c</u> oxidase preparations (bovine cardiac muscle), <u>124</u>, 836

molecular localization in dietary and drug-induced Cu-deficient liver (rat fetus), 118, 697

protein-bound, distribution in serum (analbuminemic rat), <u>125</u>, 45

Zinostatin

hydrogen abstraction during 5'-thymidine aldehyde formation on DNA, 122, 642

Zymogens

granule membrane proteins, phosphorylation in vitro (rat pancreatic acinar cells), 122, 413

Zymosan

-activated serum, superoxide generation induction (human neutrophils), 121, 695

opsonized particles, stimulation of chemotactic factor production by polymorphonuclear leukocytes (rat), 119, 720