

Index

Pharmacological Reviews

Volume 37

1985

- Acebutolol**
acetylation, 39
polymorphically acetylated amines, metabolism to (fig.), 28
- Acetylation**
polymorphism
amines, drugs metabolized to (fig.), 28
drug and environmental chemical structures (fig.), 27
genotype determination, 59
hereditary, animal models, 63, 65, 67, 68
phenotype determination, 58
- N-Acetylation**
capacity, ethnic and geographic variation, 60
half-lives, sulfadiazine, frequency distribution (fig.), 63
pharmacogenetics, 25
- Acetylator phenotype, liver N-acetyltransferase and arylhydroxamic acid N,O-acyltransferase (table), 44**
- Acetylators, rapid and slow, N-acetyltransferase activity, liver (table), 43**
- Acetylator status**
aromatic amine-induced bladder cancer, possible predisposing factor for, 51
chemically induced DNA repair and, hepatocytes (table), 44
diabetes and, 55
drug-related lupus erythematosus, predisposing factor for, 45
drug toxicity and disease, 44
hydrazine- and arylamine-induced neurotoxicity, predisposing factor for, 45
isoniazid-induced hepatitis, possible predisposing factor for, 49
methods for determination (table), 59
phenelzine toxicity, possible predisposing factor for, 54
phenytoin-isoniazid interaction, predisposing factor for, 48
promizole-induced hemolysis in glucose-6-phosphate dehydrogenase deficiency, possible predisposing factor for, 54
spontaneous lupus erythematosus, possible predisposing factor for, 53
sulfasalazine-induced side effects, predisposing factor for, 48
- Acetylcholine**
exocytosis, possible forces controlling (fig.), 110
release
agonists, alkaline earth metals, 94
alkaline earth cations and, 86, 102
alkaline earth metals 84(fig.), 119
calcium-dependent, 81, 111(fig.), 118(table)
competitive antagonists, alkaline earth metals, 87
electrophysiological and structural observations (fig.), 83
inactivation, 8
intracellular physical forces controlling, 107
latency fluctuations and (fig.), 105
nerve activity-evoked, 5
repetitive nerve stimulation increasing (table), 113
resting, 4
synchronous, calcium receptor model for (fig.), 101
synthesis, 6
- Acetylisoniazid, plasma concentrations and urinary excretion (table), 32**
- Acetyl transfer**
acetyl coenzyme-A-dependent N-acetyl transfer, 60
acetyl coenzyme-A-independent N-acetyl transfer, 62
- N-Acetyltransferase**
activities, liver (table), 64
rapid and slow acetylators (table), 43
arylhydroxamic acid N,O-acyltransferase and, specified acetylator phenotype, liver (table), 44
- Acromegaly, growth hormone and, 268**
- Adrenoceptors, identification, lymphocytes, 236**
- α -Adrenoceptors**
dopamine inhibitory effects mediated by, gastrointestinal system, 199
norepinephrine and antibody response, 231
- α_2 -Adrenoceptors, presynaptic, presynaptic dopamine receptor *vs.*, 184**
- β -Adrenoceptors**
dopamine inhibitory effects mediated by, gastrointestinal system, 199
norepinephrine and antibody response, 230
- Adrenocorticotrophic hormone**
dopaminergic regulation, 272
secretion
cholinergic regulation, 297
histaminergic regulation, 300
noradrenergic and adrenergic regulation, 278
opioid peptides regulating, 292
regulation, gamma-aminobutyric acid, 295
regulation, serotonergic systems in, 286
- Aging**
drug absorption and, 134
small intestine (table), 135
drug clearance rate and (table), 136
drug disposition and, 133
drug distribution and, 135
plasma protein binding, 137
drug excretion and, 143
drug metabolism and, 138
drug plasma half-lives (table), 136
hepatic smooth-surfaced endoplasmic reticulum, changes related to (fig.), 140
hepatobiliary parameters, changes dependent on (table), 144
liver microsomal NADPH cytochrome c (P-450) reductase immunoprecipitable, age-dependent changes (table), 140
kinetic properties, changes induced by (table), 139
mixed function oxidase system, liver microsomal, 138(table), 142(fig.)
- Alcohol metabolizing enzyme. See Enzymes**
- Aldehyde metabolizing enzyme. See Enzymes**
- Alkaloids**
khat
behavioral effects, 156
cellular effects, 159
somatic effects, 154
- Alkyltins, neurobehavioral toxicology, 375**
- Amino acid, transmitters, pituitary hormone secretion regulation, 293**
- Aminoglutethimide, acetylation, 30**
- AMP, cyclic, Ca²⁺ calmodulin, dopamine, and, prolactin secretion control (fig.), 255**

- AMP—continued**
 (+)Amphetamine, radioactivity release, effects on, nucleus accumbens (table), 160
 Anatomy, cardiac parasympathetic innervation, 1
 Antibody assay system, in vitro, norepinephrine and antibody response, 233
 Antibody response
 cells and soluble factors in, 232(fig.), 233
 norepinephrine and, 229
 primary, cell populations and interactions, 231
 Aromatic amine, bladder cancer induced by, acetylator status and, 51
 Arylacetamides, arylamines and, metabolic activation, parallel pathways proposed for (fig.), 43
 Arylamines
 acetylation, 28
 arylacetamides and, metabolic activation, parallel pathways proposed for (fig.), 43
 mutagens and carcinogens, acetylation, 40
 neurotoxicity induced by, acetylator status and, 45
 polymorphically acetylated, structures (fig.), 28
 secondary metabolites, acetylation, 35
 Arylhydroxamic acid N,O-acyltransferase and, specified acetylator phenotype, liver (table), 44
- Barium**
 acetylcholine release and, 84
 interactions with magnesium and calcium, cholinergic nerve endings (fig.), 89
- B cell, response regulation, norepinephrine and, 233**
- Behavior**
 khat alkaloid effects, 156
 triethyltin effects, 365
- Bladder, cancer, aromatic amine-induced, acetylator status and, 51**
- Blood vessels, presynaptic dopamine receptors, 182**
- Bogaert, M. G. See Willems et al., 165**
- Braenden, Olav. See Kalix and Braenden, 149**
- Brain**
 deaminated dopamine metabolites, 346
 dopamine metabolism pathways (fig.), 347
 nerve endings and, norepinephrine distribution and metabolism (fig.), 356
 norepinephrine metabolism by, 341
 norepinephrine metabolites, 350
- Bromocriptine**
 levodopa and, Parkinson disease, 221(table), 222(table), 223(table), 224(table)
 Parkinson disease, 217
 adverse reactions, 222, 223(table)
 dose comparison (table), 221
 dose determinants, 223
 mode of action, 225
 therapeutic efficacy, 220
- Buylaert, W. A. See Willems et al., 165**
- Caffeine**
 acetylation, 39
 metabolic data, probit transformation, Caucasian and Oriental subjects (fig.), 38
 metabolites, proposed formation pathways (fig.), 41
 polymorphically acetylated amines, metabolism to (fig.), 28
- Calcium**
 acetylcholine release and, 84
 consequences, 111
 models (table), 118
 intracellular, acetylcholine release and, 107
 magnesium and, interactions with barium, cholinergic nerve endings (fig.), 89
 processes dependent on, nerve impulses outlasting (fig.), 111
 receptor model, synchronous acetylcholine release (fig.), 101
 strontium and
 interactions (fig.), 90
 receptor theory, mathematical equations (fig.), 97
 Calmodulin, Ca²⁺, cAMP, dopamine, and, prolactin secretion control (fig.), 255
 Cancer, bladder, aromatic amine-induced, acetylator status and, 51
 Carcinogens
 arylamines
 acetylation, 40
 polymorphically acetylated, structures (fig.), 28
 Catecholamines
 metabolism, 333, 339, 342
 metabolites, 335(fig.)
 body fluids, 343
 concentrations, plasma and cerebrospinal fluid (table), 347
 formation, anatomically selective diminution, 357
 plasma and cerebrospinal fluid, 350
 quantification of origins, 355
 urinary excretion (fig.), 349
 metabolizing enzyme. *See* Enzymes
 renal and hepatic handling, 342
 Catechol-O-methyltransferase, cellular and subcellular distributions, 335(fig.)
 Cathionine, racemic, milk intake and (fig.), 158
 (-)Cathionine, radioactivity release, effects on, nucleus accumbens (table), 160
 Cations
 acetylcholine release and, 126
 alkaline earth
 acetylcholine release and, 86, 102
 behavior, aqueous media and membrane fixed negative charges (fig.), 91
 inorganic chemistry (table), 86
 Caudate, cerebrospinal fluid and, homovanillic acid concentrations (fig.), 348
 Central nervous system
 gamma-aminobutyric acid effects, pituitary hormone secretion, 293
 immune system and, information interchange, 243
 triethyltin effects, 367
 Cerebrospinal fluid
 caudate and, homovanillic acid concentrations (fig.), 348
 deaminated dopamine metabolites, 346
 norepinephrine metabolites, 350
 plasma, catecholamine metabolite concentrations (table), 347
 plasma and
 4-hydroxy-3-methoxyphenyl(ethylene)glycol concentrations (fig.), 352
 two-compartment model (fig.), 351
 striatum and, dopamine metabolite concentrations (table), 347
 Cholinergic systems, pituitary hormone secretion regulation, 296
 Clonazepam, acetylation, 39
 Corticosteroids, secretion, diurnal rhythms, 5-hydroxytryptamine effects on, 286
 Corticotropin releasing hormone, secretion, noradrenergic system effects, 281
 Corticotropin releasing hormone-adrenocorticotropin hormone-adrenocortical axis, stimulation, noradrenergic activation, 280
 Cyclic AMP. *See* AMP, cyclic
 Cyclic nucleotides. *See* Nucleotides, cyclic
- Dapsone, acetylation, 29**
- Diabetes, acetylator status and, 55**
- 3,4-Dihydroxymandelic acid, formation, norepinephrine metabolism and, 340**
- 3,4-Dihydroxyphenyl(ethylene)glycol, formation, norepinephrine metabolism and, 339**

- DNA, chemically induced repair, acetylator status and, hepatocytes, 44
- Dopamine
- adrenocorticotrophic hormone secretion regulation, 272
 - α - and β -conformers (fig.), 171
 - Ca²⁺ calmodulin, cAMP, and, prolactin secretion control (fig.), 255
 - excitatory effects, receptor mediating, 200
 - ganglionic transmission, effects on, 189
 - gastrointestinal motility, effects on, 193(table), 200
 - gastrointestinal secretory processes, effects on (table), 202
 - growth hormone secretion regulation, 267
 - inhibitory effects
 - receptor mediating, gastric acid and pancreatic secretion, 205
 - receptor mediating, salivary secretion, 206
 - metabolism, 342
 - metabolic pathways, brain (fig.), 347
 - metabolites
 - brain and cerebrospinal fluid, 346
 - concentrations, striatum and cerebrospinal fluid (table), 347
 - plasma, 348
 - urinary excretion, 349
 - neurons
 - 5-hydroxytryptamine and opiate neurons and, prolactin secretion regulation (fig.), 284
 - noradrenaline neurons and, thyrotropin release regulation (fig.), 275
 - prolactin secretion regulation, 252
 - thyrotropin secretion regulation, 263
 - urinary metabolites (table), 344
- Dopamine receptors
- agonists
 - effects on gastrointestinal motility (table), 193
 - gastrointestinal secretory processes (table), 202
 - presynaptic inhibitory dopaminergic actions (fig.), 170
 - gastrointestinal exocrine secretions influenced by, 201
 - gastrointestinal motility regulation, 200
 - gastrointestinal system, 192, 197
 - neuronal, autonomic ganglia and sympathetic nerves, gastrointestinal system and, 165
 - pharmacological characterization and classification, 167
 - presynaptic
 - heart, 172(table)
 - nictitating membrane, 169, 171(table)
 - physiological and pharmacological significance, 188
 - postsynaptic dopamine receptor *vs.*, 185
 - presynaptic α_2 -adrenoceptor *vs.*, 184
 - spleen and *vas deferens*, 183
 - vascular system, 176, 177(table)
 - presynaptic DA₂ and postsynaptic DA₁, receptor agonist potency comparison (table), 187
- Drugs
- absorption, age-dependent changes, 134, 135(table)
 - disposition, aging and, 133
 - distribution
 - age-dependent changes, 134
 - aging and, plasma protein binding, 137
 - excretion, age-dependent changes, 138
 - metabolism, age-dependent changes, 138
 - plasma half-lives, age-dependent changes (table), 138
 - total clearance rates, age-dependent changes (table), 136
- Electrophysiology, synaptic, methods, calcium-dependent acetylcholine secretion, 82
- Endoplasmic reticulum, hepatic smooth-surface, age-dependent changes (fig.), 140
- Energy barriers, electrostatic, acetylcholine secretion and, 108
- Enzymes
- aldehyde and alcohol metabolizing, 338
 - catecholamine metabolizing, 335
 - relative activities, 338
 - conjugating
 - glucuronide formation, 338
 - sulfoconjugation, 337
- Epinephrine
- metabolites, 355
 - urinary metabolites (table), 355
- Ergolines, bromocriptine and, Parkinson disease, 224
- Errata, 228
- Estrous cycle, prolactin surges, dopamine regulation, 261
- Ethnic differences, N-acetylation capacity, 60
- Gamma-aminobutyric acid, pituitary hormone secretion regulation, 293
- Ganglia, transmission, dopamine effects, 189
- Gastrointestinal system
- dopamine inhibitory effects
 - α - and β -adrenoceptors mediating, 199
 - dopamine receptors, 165, 192, 197
 - exocrine secretions, dopamine receptors influencing, 201
 - exocrine secretory processes, dopamine and dopamine receptor agonist effects (table), 202
 - motility
 - dopamine and dopamine receptor agonist effects (table), 193
 - regulation, dopamine and dopamine receptors, 200
- Genotype, acetylator, determination, 59
- Geographic differences, N-acetylation capacity, 60
- Gestation, prolactin surges, dopamine regulation, 262
- Glucose-6-phosphate dehydrogenase, deficiency, promizole-induced hemolysis in, acetylator status, 54
- Goldstein, Menek. *See* Lieberman and Goldstein, 217
- Growth hormone
- dopaminergic regulation, 267
 - secretion
 - cholinergic regulation, 297
 - histaminergic regulation, 300
 - noradrenergic and adrenergic regulation, 276
 - opioid peptides regulating, 288
 - regulation, gamma-aminobutyric acid, 294
 - regulation, serotonergic systems in, 281
- Growth retardation, growth hormone and, 268
- Heart
- parasympathetic neuroeffector junction, 1
 - parasympathetic neuroeffector transmission
 - integration of sympathetic innervation, 16
 - spatial aspects, 18
 - temporal aspects, 17
 - presynaptic dopamine receptors, 172(table)
- Hein, David W. *See* Weber and Hein, 25
- Hemolysis, promizole-induced, glucose-6-phosphate dehydrogenase deficiency and, acetylator status, 54
- Hepatitis, isoniazid-induced, acetylator status and, 49
- Hepatobiliary parameters, age-dependent changes (table), 144
- Hepatocytes, chemically induced DNA repair, acetylator status and (table), 44
- Histamine, pituitary hormone secretion regulation, 298
- Homovanillic acid
- concentrations, caudate and cerebrospinal fluid (fig.), 348
 - jugular venous-arterial differences, 356
- Hormone. *See* specific hormone
- Hydralazine
- acetylation, 33
 - metabolism, pathways (fig.), 34
- Hydrazine
- acetylation, 31
 - neurotoxicity induced by, acetylator status and, 45
 - secondary metabolites, acetylation, 35
 - polymorphically acetylated, structures (fig.), 28

- 4-Hydroxy-3-methoxyphenyl(ethylene)glycol
 concentrations, plasma and cerebrospinal fluid (fig.), 352
 in vitro studies (table), 340
 jugular venous-arterial differences, 356
 plasma and cerebrospinal fluid levels, 351
 production, central and peripheral, 352
 unconjugated, distribution and metabolism, plasma (fig.), 354
- 5-Hydroxytryptamine
 adrenocorticotrophic hormone and corticosteroid secretion, diurnal rhythm, effects on, 286
 neurons, opiate and dopamine neurons and, prolactin secretion regulation (fig.), 284
- Hypothalamus
 dopamine turnover, steroid hormone-induced changes, 260
 pituitary unit (fig.), 251
- Immune response
 cyclic nucleotides, 241
 modulation, sympathetic nervous system role in, 234
 norepinephrine and adrenoceptor agonists, 237
- Immune system, central nervous system and, information interchange, 243
- Inheritance
 acetylation polymorphism, 62
 animal models, 63, 65, 67, 68
- Innervation
 sympathetic, integration, heart, 16
 vagal, 1
- Intestine, small, drug absorption, age-dependent changes (table), 135
- Isoniazid
 acetylation, 31
 elimination in urine (table), 32
 hepatitis induced by, acetylator status and, 49
 interaction with phenytoin, acetylator status and, 48
 metabolism, pathways (fig.), 32
 plasma concentrations and urinary excretion (table), 32
- Kalix, Peter, and Olav Braenden. Pharmacological aspects of the chewing of khat leaves, 149
- Khatamines, chemical structure (fig.), 153
- Khat leaves
 alkaloids
 behavioral effects, 156
 cellular effects, 159
 somatic effects, 154
 chewing
 effects, 150
 epidemiological aspects, 151
 pharmacology, 149
 plant physiology, 152
- Kidney, catecholamine handling, 342
- Kopin, Irwin J. Catecholamine metabolism: Basic aspects and clinical significance, 333
- Lefebvre, R. A. See Willems et al., 165
- Levodopa, bromocriptine and, Parkinson disease, 221, 222(table), 223(table), 224(table)
- Lieberman, Abraham N., and Menek Goldstein. Bromocriptine in Parkinson disease, 217
- Lipid domain, liver microsomes, age-dependent changes (table), 141
- Liver
 N-acetyltransferase activities (table), 64
 N-acetyltransferase and arylhydroxamic acid N,O-acyltransferase, specified acetylator phenotype (table), 44
 catecholamine handling, 343
 microsomes
 lipid domain, age-dependent changes (table), 141
 mixed-function oxidase system, possible age-related changes, 138(table), 142(fig.)
 NADPH cytochrome c (P-450) reductase, immunoprecipitable, age-dependent changes (table), 140
 NADPH cytochrome c (P-450) reductase, kinetics, age-dependent changes (table), 139
 smooth-surface endoplasmic reticulum, age-dependent changes (fig.), 140
- Löffelholz, Konrad, and Achilles J. Pappano. The parasympathetic neuroeffector junction of the heart, 1
- Lupus erythematosus
 drug-related, acetylator status and, 46
 spontaneous (idiopathic), acetylator status and, 53
- Lymphocytes, adrenoceptor identification on, immune response, 236
- Lymphoid organs, innervation, immune response, 235
- Magnesium
 acetylcholine release and, 84
 calcium and, interactions with barium, cholinergic nerve endings (fig.), 89
- Männistö, Pekka. See Tuomisto and Männistö, 249
- McMillan, D. E., and G. R. Wenger. Neurobehavioral toxicology of trialkyltins, 365
- Mesenteric artery, presynaptic dopamine receptors, 181
- Metals
 alkaline earth
 acetylcholine release and, 84(fig.), 87, 94, 117, 119
 antagonists and agonists, equation derivations, binding constants and efficacies, 120
 chemical properties, acetylcholine secretion, 119
 equilibrium constants at nerve endings (table), 88
 function, structural correlates in nerve endings (fig.), 99
 inorganic chemistry, 85
- O-Methylation, sites, norepinephrine metabolism and, 341
- Munson, Albert E. See Sanders and Munson, 229
- Muscarinic agonist
 myocardial responses to
 electrophysiological effects, 11
 receptor activation and cardiac function, 12
 regional variations, 10
- Muscarinic receptor
 myocardial
 properties, 9
 regional distribution, 8
- Mutagens, arylamine, acetylation, 40
- Myocardium
 muscarinic receptor
 properties, 9
 regional distribution, 8
 vagal activity and muscarinic agonists, responses to, 10-16
- NADPH cytochrome c (P450) reductase, liver microsomal, immunoprecipitable, age-dependent changes (table), 140
- NADPH cytochrome c (P-450) reductase, liver microsomal, kinetics, age-dependent alterations (table), 139
- Nerve
 impulse, calcium-dependent processes outlasting (fig.), 111
 repetitive stimulation, acetylcholine release increased by (table), 113
- Nerve endings
 alkaline earth metals
 equilibrium constants (table), 88
 function, possible structure correlates (fig.), 99
 sites of action, acetylcholine release, 117
 brain and, norepinephrine distribution and metabolism (fig.), 356
 cholinergic, barium interactions with magnesium and calcium (fig.), 89
- Nervous system, central. See Central nervous system

- Nervous system, sympathetic. *See* Sympathetic nervous system
- Neuroeffector transmission
 parasympathetic, spatial aspects, 18
 parasympathetic, temporal aspects, 17
- Neuroeffector junction, parasympathetic, ultrastructure, heart, 1
- Neurons
 catecholamine-producing, destruction, 357
 dopamine and noradrenaline, interaction, thyrotropin release regulation (fig.), 275
 5-hydroxytryptamine, opiate, and dopamine, interaction, prolactin secretion regulation (fig.), 284
 hyperpolarization, postsynaptic, recording, 191
 pre- and postganglionic, regional distribution, 2
 tuberoinfundibular dopamine, prolactin secretion and, 252, 257
- Neurotoxicity, hydrazine- and arylamine-induced, acetylase status and, 45
- Neurotransmitters
 anterior pituitary hormone regulation by, 249
 triethyltin and, 368
- Nicotinic membrane, presynaptic dopamine receptors, 169, 171(table)
- Nitrazepam
 acetylation, 39
 polymorphically acetylated amines, metabolism to (fig.), 28
- Norepinephrine
 antibody response and, 229
 metabolism, 339
 brain, 341
 metabolites
 brain and cerebrospinal fluid, 350
 distribution and metabolism, brain and nerve endings (fig.), 356
 plasma, 354
 plasma and cerebrospinal fluid 4-hydroxy-3-methoxyphenyl(ethylene)glycol levels, 351
 relative specific activities (table), 344
 urinary, 354
 neurons, dopamine neurons and, thyrotropin release regulation (fig.), 275
- Nucleotides, cyclic, immune responses to, 241
- Nucleus accumbens, radioactivity release, (-)cathionine and (+)amphetamine effects on (table), 160
- Opiate, neurons, 5-hydroxytryptamine and dopamine neurons and, prolactin secretion regulation (fig.), 284
- Opioid peptides, pituitary secretion regulation, 288
- Oxidases
 mixed function, liver microsomes, possible age-related changes, 138(table), 142(fig.)
 monoamine, 336(fig.)
 norepinephrine metabolism and, 341
- Pappano, Achilles J. *See* Löffelholz and Pappano, 1
- Parkinson disease, bromocriptine in, 217
- Phenelzine
 acetylation, 33
 toxicity, acetylase status and, 54
- Phenotype, acetylase, determination, 58
- Phenytin-isoniazid interaction, acetylase status and, 48
- Pituitary, anterior, tuberoinfundibular dopamine neurons, schematic presentation (fig.), 253
- Pituitary hormone
 anterior, neurotransmitter regulation, 249
 secretion
 cholinergic regulation, 296
 dopaminergic regulation, 252
 noradrenergic and adrenergic regulation, 273
 regulation, serotonergic systems in, 281
- Plasma
 cerebrospinal fluid and
 catecholamine metabolite concentrations (table), 347
 catecholamine metabolites, relationship, 350
 4-hydroxy-3-methoxyphenyl(ethylene)glycol concentrations, 351, 352(fig.)
 two-compartment model (fig.), 351
 dopamine metabolites, 348
 norepinephrine metabolites, 352
 unconjugated 4-hydroxy-3-methoxyphenyl(ethylene)glycol, distribution and metabolism (fig.), 354
- Potassium ion, current, time-independent, myocardium, 11
- Procainamide, acetylation, 28
- Prolactin
 dopaminergic regulation, 252
 secretion
 Ca²⁺ calmodulin, cAMP, and dopamine effects (fig.), 255
 cholinergic regulation, 296
 histaminergic regulation, 298
 5-hydroxytryptamine, opiate, and dopamine neurons regulating (fig.), 284
 noradrenergic and adrenergic regulation, 275
 opioid peptides regulating, 289
 regulation, gamma-aminobutyric acid, 293
 surges
 dopamine regulation, estrous cycle, 261
 dopamine regulation, gestation, 262
 stimulation, 281
 thyrotropin and, secretion concurrency, 265
- Promizole, hemolysis induced by, glucose-6-phosphate dehydrogenase deficiency and, acetylase status, 54
- Protein, binding, drug distribution and, age-dependent changes, 137
- Receptor
 dopamine, pharmacological characterization and classification, 167
 neuronal dopamine, autonomic ganglia and sympathetic nerves, gastrointestinal system and, 165
- Renal artery, presynaptic dopamine receptors, 181
- Sanders, Virginia M., and Albert E. Munson. Norepinephrine and the antibody response, 229
- Schmucker, Douglas L. Aging and drug disposition: An update, 133
- Silinsky, Eugene M. The biophysical pharmacology of calcium-dependent acetylcholine secretion, 81
- Somatostatin, secretion, regulation, 271
- Spleen, presynaptic dopamine receptors, 183
- Steroid hormone, dopamine turnover changes induced by, hypothalamus, 260
- Steroids, adrenocortical, negative feedback caused by, serotonergic mediation, 288
- Striatum, cerebrospinal fluid and, dopamine metabolite concentrations (table), 347
- Strontium
 acetylcholine release and, 84
 calcium and
 interactions (fig.), 90
 receptor theory, mathematical equations (fig.), 97
- Sulfadiazine, N-acetylation half-lives, frequency distribution (fig.), 63
- Sulfadimidine, slow and rapid acetylators (table), 38
- Sulfapyridine, slow and rapid acetylators (table), 38
- Sulfasalazine
 acetylation, 35
 metabolism, pathways (fig.), 37
 polymorphically acetylated amines, metabolism to (fig.), 28
 side effects induced by, acetylase status and, 48
- Sulfomethazine, slow and rapid acetylators (table), 38

- Sympathetic nervous system, immune response modulation, role in, 234
- Thyrotrophs, dopaminergic inhibition, 263
- Thyrotropin
dopaminergic regulation, 263
prolactin and, secretion concurrency, 265
release, dopamine and noradrenaline neuron regulating (fig.), 275
secretion
cholinergic regulation, 296
histaminergic regulation, 299
noradrenergic and adrenergic regulation, 273
opioid peptides regulating, 291
regulation, gamma-aminobutyric acid, 294
regulation, serotonergic systems in, 285
- Toxicity, phenelzine, acetylator status and, 54
- Trialkyltins, neurobehavioral toxicology, 365
- Triethyltin
behavioral effects
schedule-controlled, 366
unconditioned, 365
nervous system effects
edema, 367
neurotransmitters and, 368
- Trimethyltin
behavioral effects
conditioned, 370
unconditioned, 368
- nervous system effects, 372
neurotransmitters and, 374
tissue distribution, 372
- Tuomisto, Jouko, and Pekka Männistö. Neurotransmitter regulation of anterior pituitary hormones, 249
- Urine
catecholamine metabolite excretion (fig.), 349
dopamine metabolite excretion, 349
dopamine metabolites (table), 344
epinephrine metabolites (table), 355
norepinephrine metabolites, 354
- Vagus nerve
innervation, 1
myocardial responses to
electrophysiological effects, 11
receptor activation and cardiac function, 12
regional variations, 10
- Vascular system, presynaptic dopamine receptors, 176, 177(table)
- Vas deferens, presynaptic dopamine receptors, 183
- Weber, Wendell W., and David W. Hein. N-Acetylation pharmacogenetics, 25
- Willems, J. L., W. A. Buylaert, R. A. Lefebvre, and M. G. Bogaert. Neuronal dopamine receptors on autonomic ganglia and sympathetic nerves and dopamine receptors in the gastrointestinal system, 165