AUTHOR INDEX FOR VOLUME 29

A

Adamik, R., see Halpern, J. L., 515

Ahlijanian, M. K., see Cooper, D. F., 113

Ahmed, K., see Griffin, J. F., 270

Albuquerque, E. X., see Swanson, K. L., 250

Allan, A. M., and Harris, R. A. γ-Aminobutyric acid agonists and antagonists alter chloride flux across brain membranes, 497

Allan, P. W., see Bennett, L. L., Jr., 383

Allen, C. N., see Swanson, K. L., 250

Alvarez, R., Banerjee, G. L., Bruno, J. J., Jones, G. L., Liittschwager, K., Strosberg, A. M., and Venuti, M. C. A potent and selective inhibitor of cyclic AMP phosphodiesterase with potential cardiotonic and antithrombotic properties, 554

Amar, S., see Bozou, J.-C., 489

Antonello, C., see Palù, G., 211

Anundi, I. M., Kauffman, F. C., El-Mouelhi, M., and Thurman, R. G. Hydrolysis of organic sulfates in periportal and pericentral regions of the liver lobule: Studies with 4-methylumbelliferyl sulfate in the perfused rat liver, 599

Armstrong, R. D., see Takimoto, C. H., 637

Aronstam, R. S., see Swanson, K. L., 250

Asano, T., and Ogasawara, N. Uncoupling of aminobutyric acid B receptors from GTP-binding proteins by N-ethylmaleimide: effect of N-ethylmaleimide on purified GTP-binding proteins, 244

Ashida, K., see Gonoi, T., 347

В

Bachur, N. R., see Pan, S.-S., 622 Baker, P. F., see Powis, D. A., 134

Bali, J.-P., see Magous, R., 39

Banerjee, G. L., see Alvarez, R., 554

Barnett, G. Alteration of cytosine-guanine interactions due to N7 metal cation binding: A structure-activity relationship for cisplatin analogues, 378

Beavo, J. A., see Harrison, S. A., 506

Bekesi, E., see Halpern, J. L., 515

Bend, J. R., see Horton, J. K., 484

Bennett, L. L., Jr., Allan, P. W., Rose, L. M., Comber, R. N., and Secrist, J. A., III. Differences in the metabolism and metabolic effects of the carbocyclic adenosine analogs, neplanocin A and aristeromycin, 383

Bier-Laning, C. M., see Cooper, D. F., 113

Bigelow, J., see Oswald, R. E., 179

Black, K. A., see Tephly, T. R., 81

Blackmore, P. F., see Lynch, C. J., 196

Bocckino, S. B., see Brostrom, C. O., 104

Bolger, M. B., see Sherman, M. A., 589

Borowski, E., see Cybulska, B., 293

Boyd, N. D., see Oblas, B., 649

Bozou, J.-C., Amar, S., Vincent, J.-P., and Kitabgi, P. Neurotensinmediated inhibition of cyclic AMP formation in neuroblastoma N1E115 cells: Involvement of the inhibitory GTP-binding component of adenylate cyclase, 489

Brigelius, R., see Horton, J. K., 484

Britt, M., Zunino, F., and Chaires, J. B. The interaction of the β anomer of doxorubicin with B and Z DNA, 74

Brostrom, C. O., Bocckino, S. B., Brostrom, M. A., and Galuska, E. M. Regulation of protein synthesis in isolated hepatocytes by calcium-mobilizing hormones, 104

Brostrom, C. O., see Wolfe, S. E., 411

Brostrom, M. A., see Brostrom, C. O., 104

Brostrom, M. A., see Wolfe, S. E., 411, 420

Brown, R. D., Prendiville, P., and Cain, C. α₁-Adrenergic and H1-histamine receptor control of intracellular Ca²⁺ in a muscle cell line: The influence of prior agonist exposure on receptor responsiveness, 531

Bruno, J. J., see Alvarez, R., 554

Bruns, R. F., Lu, G. H., and Pugsley, T. A. Characterization of the A₂ adenosine receptor labeled by [³H]NECA in rat striatal membranes, 331

Butt, T. R., Sternberg, E. J., Mirabelli, C. K., and Crooke, S. T. Regulation of metallothionein gene expression in mammalian cells by gold compounds, 204

C

Cadd, G. G., see Harrison, S. A., 506

Cadman, E. C., see Takimoto, C. H., 637

Cain, C., see Brown, R. D., 531

Calder, I., see Hayward, N. K., 478

Campanile, C., see Wrighton, S. A., 405

Cantoni, O., see Christie, N. T., 173

Cantoni, O., see Sugiyama, M., 606

Cascieri, M. A., Chicchi, G. G., Freidinger, R. M., Colton, C. D., and Perlow, D. S. Conformationally constrained tachykinin analogs which are selective ligands for the eledoisin binding site, 34

Cashman, J. R., and Ziegler, D. M. Contribution of N-oxygenation to the metabolism of MPTP (1-methyl-4-phenyl-1,2,3,6-tetrahydropyridine) by various liver preparations, 163

Cattabeni, F., see Christie, N. T., 173

Catterall, W. A., see Gonoi, T., 347

Chaires, J. B., see Britt, M., 74

Chicchi, G. G., see Cascieri, M. A., 34

Christie, N. T., Cantoni, O., Sugiyama, M., Cattabeni, F., and Costa, M. Differences in the effects of Hg(II) on DNA repair induced in Chinese hamster ovary cells by ultraviolet or X-rays, 173

Clark, M. A., see Mong, S., 235

Coffman, B. L., see Tephly, T. R., 81

Colton, C. D., see Cascieri, M. A., 34

Comber, R. N., see Bennett, L. L., Jr., 383

Conn, P. M., see McArdle, C. A., 570

Cooper, D. F., Bier-Laning, C. M., Halford, M. K., Ahlijanian, M. K., and Zahniser, N. R. Dopamine, acting through D-2 receptors, inhibits rat striatal adenylate cyclase by a GTP-dependent process,

Coornaert, S., see Gasnier, B., 275

Costa, M., see Christie, N. T., 173

Costa, M., see Sugiyama, M., 606

Couvineau, A., see Laburthe, M., 23

Creese, I., see Morrow, A. L., 321

Crooke, S. T., see Butt, T. R., 204

Crooke, S. T., see Mong, S., 235

Cybulska, B., Herve, M., Borowski, E., and Gary-Bobo, C. M. Effect of the polar head structure of polyene macrolide antifungal antibiotics on the mode of ergosterol- and cholesterol-containing lipidic vesicles studied by ³¹P-NMR, 293

D

Daly, J. W., see Jacobson, K. A., 126

Dannan, G. A., see Tephly, T. R., 81

Dempster, J., see Henderson, F., 52

Desplanches, G., see Gasnier, B., 275

Dickie, P., Morgan, A. R., Scraba, D. G., and von Borstel, R. C. The binding of the antihelmintic pyrvinium cation to deoxyribonucleic acid in vitro, 427

Dolnick, B. J., see Will, C. L., 643

El-Mouelhi, M., see Anundi, I. M., 599 Escale, R., see Magous, R., 39 Exton, J. H., see Lynch, C. J., 196

F

Feller, D., see Gonoi, T., 347 Fernandes, K. G., see Lippiello, P. M., 448 Ferry, N., see Motulsky, H. J., 1 Fournie-Zaluski, M.-C., see Maigret, B., 314 Foxall, D., see Matthews, P. M., 65 Freidinger, R. M., see Cascieri, M. A., 34

Frey, E. A., Kebabian, J. W., and Guild, S. Forskolin enhances calciumevoked prolactin release from 7315c tumor cells without increasing the cytosolic calcium concentration, 461

From, A. H. L., see Griffin, J. F., 270 Fujiwara, M., see Gonoi, T., 347 Fullerton, D. S., see Griffin, J. F., 270

G

Gallis, B., see Harrison, S. A., 506 Galuska, E. M., see Brostrom, C. O., 104 Gary-Bobo, C. M., see Cybulska, B., 293

Gasnier, B., Roisin, M.-P., Scherman, D., Coornaert, S., Desplanches, G., and Henry, J.-P. Uptake of meta-lodobenzylguanidine by bovine chromaffin granule membranes, 275

Girard, J.-P., see Magous, R., 39

Giros, B., Gros, C., Solhonne, B., and Schwartz, J.-C. Characterization of aminopeptidases responsible for inactivating endogenous (Met⁵)enkephalin in brain slices using peptidase inhibitors and antiaminopeptidase M antibodies, 281

Gonoi, T., Ashida, K., Feller, D., Schmidt, J., Fujiwara, M., and Catterall, W. A. Mechanism of action of a polypeptide neurotoxin from the coral coniopora on sodium channels in mouse neuroblastoma cells, 347

Graham, R. M., see Lanier, S. M., 219 Green, M. D., see Tephly, T. R., 81

Gresh, N., and Pullman, B. A theoretical study of the binding of phenothiazine derivatives to residues 82-93 of calmodulin, 355

Griffin, J. F., Rohrer, D. C., Ahmed, K., From, A. H. L., Hashimoto, T., Rathore, H., and Fullerton, D. S. The effect of 16β-substitution on the structure and activity of digitoxigenin: Is there an additional binding interaction with Na+K+-ATPase?, 270

Grodski, A., see Lanier, S. M., 219 Gros, C., see Giros, B., 281 Guild, S., see Frey, E. A., 461 Guzelian, P. S., see Wrighton, S. A., 405

H

Hagiwara, M., see Inagaki, M., 577 Halford, M. K., see Cooper, D. F., 113

Halpern, J. L., Tsai, S.-C., Adamik, R., Kanaho, Y., Bekesi, E., Kung, H.-F., Moss, J., and Vaughan, M. Structural and functional characterization of guanyl nucleotide-binding proteins using monoclonal antibodies to the α -subunit of transducin, 515

Halpert, J., see Miller, N. E., 391

Haniu, M., see Wrighton, S. A., 405

Hansch, C., see Recanatini, M., 436

Harden, T. K., see Nakahata, N., 188

Harden, T. K., see Tanner, L. I., 455

Harris, C., and Thurman, R. G. A new method to study glutathione

adduct formation in periportal and pericentral regions of the liver lobule by microreflectance spectrophotometry, 88

Harris, R. A., see Allan, A. M., 497

Harrison, S. A., Reifsnyder, D. H., Gallis, B., Cadd, G. G., and Beavo, J. A. Isolation and characterization of bovine cardiac muscle cGMP-inhibited phosphodiesterase: A receptor for new cardiotonic drugs, 506

Hartig, P. R., see Yagaloff, K. A., 120

Hashimoto, T., see Griffin, J. F., 270

Hayward, N. K., Calder, I., and Lavin, M. F. Effect of N-hydroxyparacetamol on DNA, RNA, and protein synthesis and chromatin structure. 478

Heimbrook, D. C., and Sartorelli, A. C. Biochemistry of misonidazole reduction by NADPH-cytochrome c (P-450) reductase, 168

Henderson, F., Prior, C., Dempster, J., and Marshall, I. G. The effects of chloramphenicol isomers on the motor end-plate nicotinic receptor-ion channel complex, 52

Henry, J.-P., see Gasnier, B., 275

Hepler, J. R., see Nakahata, N., 188

Herve, M., see Cybulska, B., 293

Hess, H.-J., see Lanier, S. M., 219

Hidaka, H., see Inagaki, M., 577

Hidaka, H., see Tanaka, T., 264

Hinson, J. A., see Potter, D. W., 155

Hnilica, L. S., 447

Homcy, C. J., see Lanier, S. M., 219

Horton, J. K., Brigelius, R., Mason, R. P., and Bend, J. R. Paraquat uptake into freshly isolated rabbit lung epithelial cells and its reduction to the paraguat radical under anaerobic conditions, 484

Howlett, A. C., Qualy, J. M., and Khachatrian, L. L. Involvement of Gi in the inhibition of adenylate cyclase by cannabimimetic drugs,

Hughes, A. R., see Nakahata, N., 188

Hughes, R. J., and Insel, P. A. Agonist-mediated regulation of α_{1} - and β_2 -adrenergic receptor metabolism in a muscle cell line, BC3H-1,

I

Inagaki, M., Kawamoto, S., Itoh, H., Saitoh, M., Hagiwara, M., Takahashi, J., and Hidaka, H. Naphthalenesulfonamides as calmodulin antagonists and protein kinase inhibitors, 577

Insel, P. A., see Hughes, R. J., 521

Insel, P. A., see Mahan, L. C., 7, 16

Insel, P. A., see Motulsky, H. J., 1

Iracki, T., see Pan, S.-S., 622

Ishikawa, T., see Tanaka, T., 264

Ito, M., see Tanaka, T., 264

Itoh, H., see Inagaki, M., 577

Itoh, H., see Tanaka, T., 264

Jacobson, K. A., Kirk, K. L., Padgett, W. L., and Daly, J. W. A functionalized congener approach to adenosine receptor antagonists: Amino acid conjugates of 1,3-dipropylxanthine, 126

Jakobs, K. H., see Watanabe, Y., 258

Johnson, G. V. W., see Jope, R. S., 45

Jones, G. L., see Alvarez, R., 554

Jope, R. S., and Johnson, G. V. W. Quinacrine and 2-(4-phenylpiperidino)cyclohexanol (AH5183) inhibit acetylcholine release and synthesis in rat brain slices, 45

K

Kamaya, H., see Mashimo, T., 149

Kamaya, H., see Ueda, I., 582

Kaminoh, Y., see Ueda, I., 582

Kanaho, Y., see Halpern, J. L., 515

Kauffman, F. C., see Anundi, I. M., 599

Kawamatsu, Y., see Tanaka, T., 264

Kawamoto, S., see Inagaki, M., 577

Kebabian, J. W., see Frey, E. A., 461

Keys, C., see Loew, G., 546

Khachatrian, L. L., see Howlett, A. C., 307

Kim, D., and Smith, T. W. Effects of amiloride and ouabain on contractile state, Ca and Na fluxes, and Na content in cultured chick heart cells, 363

Kirk, K. L., see Jacobson, K. A., 126

Kitabgi, P., see Bozou, J.-C., 489

Klein, T., see Recanatini, M., 436

Klotz, K.-N., see Lohse, M. J., 228

Koop, D. R. Hydroxylation of p-nitrophenol by rabbit ethanol-inducible cytochrome P-450 isozyme 3A, 399

Kuczenski, R., see Strait, K. A., 561

Kung, H.-F., see Halpern, J. L., 515

T.

Laburthe, M., Couvineau, A., and Rouyer-Fessard, C. Study of species specificity in growth hormone-releasing factor (GRF) interaction with vasoactive intestinal peptide (VIP) receptors using GRF and VIP receptors from rat and human: Evidence that Ac-Tyr¹hGRF is a competitive VIP antagonist in the rat, 23

Langridge, R., see Recanatini, M., 436

Lanier, S. M., Hess, H.-J., Grodski, A., Graham, R. M., and Homcy, C. J. Synthesis and characterization of a high affinity radioiodinated probe for the α₂-adrenergic receptor, 219

Larsen, G. L., and Stevens, J. L. Cysteine conjugate β-lyase in the gastrointestinal bacterium Eubacterium limosum, 97

Larsson, A., Sundqvist, A., and Parnerud, A.-M. Inhibition of herpes simplex virus-induced DNA polymerase α by triphosphates of acyclic guanosine analogs, 614

Lavin, M. F., see Hayward, N. K., 478

Levin, W., see Wrighton, S. A., 405

Lin, S. H., see Ueda, I., 582

Linthicium, D. S., see Sherman, M. A., 589

Lippiello, P. M., and Fernandes, K. G. The binding of L-[3H]nicotine to a single class of high affinity sites in rat brain membranes, 448 Liittschwager, K., see Alvarez, R., 554

Loew, G., Keys, C., Luke, B., Polgar, W., and Toll, L. Structure-activity studies of morphiceptin analogs: Receptor binding and molecular determinations of μ -affinity and selectivity, 546

Lohse, M. J., Klotz, K.-N., and Schwabe, U. Effect of temperature and membrane phase transitions on ligand binding to α₂-receptors of human platelets. 228

Lu, G. H., see Bruns, R. F., 331

Lueddens, H. W. M., Newman, A. H., Rice, K. C., and Skolnick, P. AHN 086: An irreversible ligand of "peripheral" benzodiazepine receptors, 540

Luke, B., see Loew, G., 546

Luster, M. I., see Tucker, A. N., 372

Lynch, C. J., Prpic, V., Blackmore, P. F., and Exton, J. H. Effect of islet-activating pertussis toxin on the binding characteristics of Ca²⁺-mobilizing hormones and on agonist activation of phosphorylase in hepatocytes, 196

M

Ma, S.-M., see Ueda, I., 582

Magous, R., Bali, J.-P., Escale, R., Girard, J.-P., Rechencq, E., and Rossi, J.-C. Evidence for the existence of high affinity binding sites for indomethacin on human blood platelets, 39

Mahan, L. C., and Insel, P. A. Expression of β -adrenergic receptors in synchronous and asynchronous S49 lymphoma cells. I. Receptor metabolism after irreversible blockade of receptors and cells traversing the cell division cycle. 7

Mahan, L. C., and Insel, P. A. Expression of β -adrenergic receptors in synchronous and asynchronous S49 lymphoma cells. II. Relationship between receptor number and response, 16

Maigret, B., Fournie-Zaluski, M.-C., Roques, B., and Premilat, S.

Proposals for the μ-active conformation of the enkephalin analog Tyr-cyclol(-Nγ-D-A₂-bu-Gly-Phe-Leu-), 314

Maines, S. L., see Wrighton, S. A., 405

Mansour, T. E., see Matthews, P. M., 65

Marciani-Magno, S., see Palù, G., 211

Marshall, I. G., see Henderson, F., 52

Martin, M. W., see Nakahata, N., 188

Martin, M. W., see Tanner, L. I., 455

Mashimo, T., Kamaya, H., and Ueda, I. Anesthetic-protein interaction: Surface potential of bovine serum albumin estimated by a pHsensitive dye, 149

Mason, R. P., see Horton, J. K., 484

Matthews, P. M., Foxall, D., Shen, L., and Mansour, T. E. Nuclear magnetic resonance studies of carbohydrate metabolism and substrate cycling in *Fasciola hepatica*, 65

Maynard, A. T., Pedersen, L. G., Posner, H. S., and McKinney, J. D. An *ab initio* study of the relationship between nitroarene mutagenicity and electron affinity, 629

Mazurek, A. P., see Weinstein, H., 28

McArdle, C. A., and Conn, P. M. Hormone-stimulated redistribution of gonadotrope protein kinase C in vivo: Dependence on Ca²⁺ influx, 570

McClarin, J., see Recanatini, M., 436

McKinney, J. D., see Maynard, A. T., 629

Meloni, G. A., see Palù, G., 211

Mendez-Picon, G., see Wrighton, S. A., 405

Michel, L., see Oswald, R. E., 179

Miller, D. W., see Potter, D. W., 155

Miller, N. E., and Halpert, J. Analogues of chloramphenicol as mechanism-based inactivators of rat liver cytochrome P-450: Modifications of the propanediol side chain, the p-nitro group, and the dichloromethyl moiety, 391

Mirabelli, C. K., see Butt, T. R., 204

Mong, S., Wu, H.-L., Stadel, J. M., Clark, M. A., and Crooke, S. T. Solubilization of [³H]leukotriene D₄ receptor complex from guinea pig lung membranes, 235

Morgan, A. R., see Dickie, P., 427

Morrow, A. L., and Creese, I. Characterization of α_1 -adrenergic receptor subtypes in rat brain: A reevaluation of [3H]WB4101 and [3H] prazosin binding, 321

Moss, J., see Halpern, J. L., 515

Motulsky, H. J., Shattil, S. J., Ferry, N., Rozansky, D., and Insel, P. A. Desensitization of epinephrine-initiated platelet aggregation does not alter binding to the α_2 -adrenergic receptor or coupling to adenylate cyclase, 1

\mathbf{N}

Nakahata, N., Martin, M. W., Hughes, A. R., Hepler, J. R., and Harden, T. K. H₁-histamine receptors on human astrocytoma cells, 188 Newman, A. H., see Lueddens, H. W. M., 540

0

Oblas, B., Singer, R. H., and Boyd, N. D. Location of a polypeptide sequence within the α -subunit of the acetylcholine receptor containing the cholinergic binding site, 649

Ogasawara, N., see Asano, T., 244

Osman, R., see Weinstein, H., 28

Oswald, R. E., Michel, L., and Bigelow, J. Mechanism of binding of a benzomorphan opiate to the acetylcholine receptor from *Torpedo* electroplaque, 179

p

Padgett, W. L., see Jacobson, K. A., 126

Palù, G., Palumbo, M., Antonello, C., Meloni, G. A., and Marciani-Magno, S. A search for potential antitumor agents: Biological effects and DNA binding of a series of anthraquinone derivatives, 211

Palumbo, M., see Palù, G., 211

Pan, S.-S., Iracki, T., and Bachur, N. R. DNA alkylation by enzymeactivated mitomycin C, 622

Parker, G., see Wrighton, S. A., 405

Parnerud, A.-M., see Larsson, A., 614

Patierno, S. R., see Sugiyama, M., 606

Pedersen, L. G., see Maynard, A. T., 629

Perlow, D. S., see Cascieri, M. A., 34

Polgar, W., see Loew, G., 546

Posner, H. S., see Maynard, A. T., 629

Potter, D. W., Miller, D. W., and Hinson, J. A. Horseradish peroxidasecatalyzed oxidation of acetaminophen to intermediates that form polymers or conjugate with glutathione, 155

Powis, D. A., and Baker, P. F. α_2 -Adrenoceptors do not regulate catecholamine secretion by bovine adrenal medullary cells: A study with clonidine, 134

Premilat, S., see Maigret, B., 314

Prendiville, P., see Brown, R. D., 531

Prior, C., see Henderson, F., 52

Prpic, V., see Lynch, C. J., 196

Pugsley, T. A., see Bruns, R. F., 331

Pullman, B., see Gresh, N., 355

Q

Qualy, J. M., see Howlett, A. C., 307

R

Rando, T. A., Wang, G. K., and Strichartz, G. R. Interaction between the activator agents batrachotoxin and veratridine and the gating processes of neuronal sodium channels, 467

Rapoport, H., see Swanson, K. L., 250

Rathore, H., see Griffin, J. F., 270

Recanatini, M., Klein, T., Yang, C.-Z., McClarin, J., Langridge, R., and Hansch, C. Quantitative structure-activity relationships and molecular graphics in ligand receptor interactions: Amidine inhibition of trypsin, 436

Rechencq, E., see Magous, R., 39

Reifsnyder, D. H., see Harrison, S. A., 506

Rice, K. C., see Lueddens, H. W. M., 540

Rohrer, D. C., see Griffin, J. F., 270

Roisin, M.-P., see Gasnier, B., 275

Roques, B., see Maigret, B., 314

Rose, L. M., see Bennett, L. L., Jr., 383

Rossi, J.-C., see Magous, R., 39

Rouyer-Fessard, C., see Laburthe, M., 23

Rozansky, D., see Motulsky, H. J., 1

S

Saitoh, M., see Inagaki, M., 577

Saitoh, M., see Tanaka, T., 264

Sartorelli, A. C., see Heimbrook, D. C., 168

Scherman, D., see Gasnier, B., 275

Schmidt, J., see Gonoi, T., 347

Schwabe, U., see Lohse, M. J., 228

Schwartz, J.-C., see Giros, B., 281

Scraba, D. G., see Dickie, P., 427

Secrist, J. A., III, see Bennett, L. L., Jr., 383

Shattil, S. J., see Motulsky, H. J., 1

Shen, L., see Matthews, P. M., 65

Sherman, M. A., Linthicum, D. S., and Bolger, M. B. Haloperidol binding to monoclonal antibodies: Conformational analysis and relationships to D-2 receptor binding, 589

Shin, T., see Tanaka, T., 264

Shively, J. E., see Wrighton, S. A., 405

Singer, R. H., see Oblas, B., 649

Skolnick, P., see Lueddens, H. W. M., 540

Smith, T. W., see Kim, D., 363

Snyder, S. H., see Strittmatter, S. M., 142

Solhonne, B., see Giros, B., 281

Stadel, J. M., see Mong, S., 235

Sternberg, E. J., see Butt, T. R., 204

Stevens, J. L., see Larsen, G. L., 97

Strait, K. A., and Kuczenski, R. Dopamine autoreceptor regulation of the kinetic state of striatal tyrosine hydroxylase, 561

Strichartz, G. R., see Rando, T. A., 467

Strittmatter, S. M., and Snyder, S. H. Characterization of angiotensin converting enzyme by [3H]captopril binding, 142

Strosberg, A. M., see Alvarez, R., 554

Sugihara, H., see Tanaka, T., 264

Sugiyama, M., Patierno, S. R., Cantoni, O., and Costa, M. Characterization of DNA lesions induced by CaCrO₄ in synchronous and asynchronous cultured mammalian cells, 606

Sugiyama, M., see Christie, N. T., 173

Sundqvist, A., see Larsson, A., 614

Swanson, K. L., Allen, C. N., Aronstam, R. S., Rapoport, H., and Albuquerque, E. X. Molecular mechanisms of the potent and stereospecific nicotinic receptor agonist (+)-anatoxin-a, 250

Sweetnam, P. M., and Tallman, J. F. Regional difference in brain benzodiazepine receptor carbohydrates, 299

7

Takahashi, J., see Inagaki, M., 577

Takimoto, C. H., Cadman, E. C., and Armstrong, R. D. Precursordependent differences in the incorporation of fluorouracil in RNA, 637

Tallman, J. F., see Sweetnam, P. M., 299

Tanaka, T., Umekawa, H., Saitoh, M., Ishikawa, T., Shin, T., Ito, M., Itoh, H., Kawamatsu, Y., Sugihara, H., and Hidaka, H. Modulation of calmodulin function and of Ca²⁺-induced smooth muscle contraction by the calmodulin antagonist HT-74, 264

Tanner, L. I., Harden, T. K., Wells, J. N., and Martin, M. W. Identification of the phosphodiesterase regulated by muscarinic cholinergic receptors of 1231N1 human astrocytoma cells, 455

Tephly, T. R., Black, K. A., Green, M. D., Coffman, B. L., and Dannan, G. A. Effect of the suicide substrate 3,5-diethoxycarbonyl-2,6-dimethyl-4-ethyl-1,4-dihydropyridine on the metabolism of xenobiotics and on cytochrome P-450 apoproteins, 81

Thomas, P. E., see Wrighton, S. A., 405

Thurman, R. G., see Anundi, I. M., 599

Thurman, R. G., see Harris, C., 88

Toll, L., see Loew, G., 546

Topiol, S., see Weinstein, H., 28

Tsai, S.-C., see Halpern, J. L., 515

Tseng, H. S., see Ueda, I., 582

Tucker, A. N., Vore, S. J., and Luster, M. I. Suppression of B cell differentiation by 2,3,7,8-tetrachlorodibenzo-p-dioxin, 372

U

Ueda, I., see Mashimo, T., 149

Ueda, I., Tseng, H. S., Kaminoh, Y., Ma, S.-M., Kamaya, H., and Lin, S. H. Anesthetics release unfreezable and bound water in partially hydrated phospholipid lamellar systems and elevate phase transition temperature, 582

Umekawa, H., see Tanaka, T., 264

v

Vaughan, M., see Halpern, J. L., 515 Venuti, M. C., see Alvarez, R., 554

Vincent, J.-P., see Bozou, J.-C., 489

von Borstel, R. C., see Dickie, P., 427

Vore, S. J., see Tucker, A. N., 372

W

Wang, G. K., see Rando, T. A., 467

Watanabe, Y., and Jakobs, K. H. Inhibition of N_s-stimulated human

platelet adenylate cyclase by forskolin, 258

Watkins, P. B., see Wrighton, S. A., 405

Weinstein, H., Mazurek, A. P., Osman, R., and Topiol, S. Theoretical studies on the activation mechanism of the histamine H₂-receptor: The proton transfer between histamine and a receptor model, 28 Wells, J. N., see Tanner, L. I., 455

Will, C. L., and Dolnick, B. J. 5-Fluorouracil augmentation of dihydrofolate reductase gene transcripts containing intervening sequences in methotrexate-resistant KB cells, 643

Williams, M. V. Effects of mercury (II) compounds on the activity of dUTPases from various sources, 288

Wolfe, S. E., and Brostrom, M. A. Mechanisms of action of inhibitors of prolactin secretion in GH₃ pituitary cells. II. Blockade of voltage-dependent Ca²⁺ channels, 420

Wolfe, S. E., Brostrom, C. O., and Brostrom, M. A. Mechanisms of action of inhibitors of prolactin secretion in GH₃ pituitary cells. I. Ca²⁺-dependent inhibition of amino acid incorporation, 411

Wrighton, S. A., Campanile, C., Thomas, P. E., Maines, S. L., Watkins, P. B., Parker, G., Mendez-Picon, G., Haniu, M., Shively, J. E., Levin, W., and Guzelian, P. S. Identification of a human liver cytochrome P-450 homologous to the major isosafrole-inducible cytochrome P-450 in the rat, 405

Wu, H.-L., see Mong, S., 235

Y

Yagaloff, K. A., and Hartig, P. R. Solubilization and characterization of the serotonin 5-HT_{1c} site from pig choroid plexus, 120 Yang, C.-Z., see Recanatini, M., 436

7

Zahniser, N. R., see Cooper, D. F., 113 Ziegler, D. M., see Cashman, J. R., 163 Zunino, F., see Britt, M., 74

SUBJECT INDEX FOR VOLUME 29

A	Antitumor agents, potential, DNA binding and, 211
Acetaminophen, metabolism, horseradish peroxidase-catalyzed oxida-	Aristeromycin, metabolism, mode of action, 383
tion, 155	Astrocytoma cells
Acetylcholine	H ₁ -histamine receptors, 188
binding, kinetics (frog), 250	phosphodiesterase, regulated by muscarinic cholinergic receptors,
receptors, see Receptors	455
release, Quinacrine and AH5183 inhibition of, 45	Auranofin, metallothionein gene expression and, mammalian cells, 204
Adenosine, receptors, see Receptors	В
Adenylate cyclase	В
calcium ion-mobilizing hormones and, hepatocytes, 196	Batrachotoxin, interaction with veratridine, grating process of neuronal
cannabimimetic drug inhibition of, G protein and, 307	sodium channels (frog), 467
inhibition	B cells, differentiation, suppression by TCDD, 372
D-2 receptors, 113	Benzamidine, quantitative structure-activity relations, inhibition of
forskolin, platelets, 258	trypsin, 436
inhibitory GTP-binding component, neuroblastoma N1E115 cells,	Benzodiazepine, receptors, see Receptors
489	Benzomorphans, binding to acetylcholine receptor, <i>Torpedo</i> , 179
receptor coupling, platelet aggregation desensitization and, 1	Brain
ADP-ribosylation, N-ethylmaleimide effects, GTP-binding proteins,	acetylcholine release, AH5183 and Quinacrine effects, 45
244	benzodiazepine receptor carbohydrates, regional differences in (rat), 299
Adrenal medulla, chromaffin cells, catecholamine secretion, α_1 -adre-	membranes
noceptors and, 134	chloride flux, γ -aminobutyric acid after (mouse), 497
α-Adrenergic agonists, protein synthesis and, hepatocytes, 104	high affinity binding of nicotine (rat), 448
Adrenoceptors, see Receptors	receptors, see Receptors
AH5183, Quinacrine and, inhibition of acetylcholine release, 45 Albumin, bovine serum, surface potential of, inhalation anesthetics	Bromocriptine
and, 149	inhibition of calcium uptake, GH ₃ pituitary cells, 420
Alkylating agent, bioreductive, biochemistry of, 168	inhibition of protein synthesis, GH ₃ pituitary cells, 411
Allylnormetazocine, binding, acetylcholine receptors, Torpedo, 179	α -Bungarotoxin, binding, α -subunit acetylcholine receptor, 649
Amiloride, calcium and sodium fluxes, heart cells (chick), 363	Butyrophenone, antibodies, haloperidol binding and, 589
Amino acids, conjugates of 1,3-dipropylxanthine, congener approach	_
to, 126	\mathbf{c}
γ-Aminobutyric acid	Calcium
agonists and antagonists, after chloride flux, brain membranes	binding proteins, smooth muscle contraction, calmodulin effects, 264
(mouse), 497	cytosolic concentration, forskolin effects, tumor cells (rat), 461
B receptors, see Receptors	flux, amiloride and ouabain effects, heart cells (chick), 363
Aminopeptidases, enkephalin-inactivating, 281	immobilization, pertussis toxin effects, hepatocytes, 196
Aminopyrine, metabolism, suicide substrates and, 81	mobilization
AMP deaminase, activity, function of rate of cell proliferation, 383	receptor control of, muscle cells, 531
Amrinone, cGMP-inhibited phosphodiesterase, cardiac muscle, 506	receptor regulation, astrocytoma cells, 455
Anaerobic conditions, paraquate radicals, lung epithelial cells (rabbit),	mobilizing hormones, protein synthesis, regulation in hepatocytes,
484	104 second messenger role, redistribution of gonadotrope protein kinase
Anaphylaxis, slow rotating substance of, receptors, lung membranes (guinea pig), 235	C (rat), 570
Anatoxin, stereospecificity, potency and (frog), 250	uptake, inhibition by phenothiazines, GH ₃ cells, 420
Anesthesia, theory, 582	Calcium channels, voltage-dependent, blockade by secretory inhibitors,
Anesthetics	GH ₃ cells, 420
inhalation	Calcium ionophore A23187, smooth muscle contraction and, 264
protein surface potential and, 149	Calcium ions, mobilization, astrocytoma cells, 188
theory, 582	Calmodulin
local, grating process of neuronal sodium channels and (frog), 467	antagonists, naphthalenesulfonamides as, 577
Angiotensin-converting enzyme, characterization, [3H]captopril bind-	calcium binding to, smooth muscle contraction and, 264
ing, 142	residue 82-93 of, binding of phenothiazine derivatives to, 355
Angiotensin II, pertussis toxin and, hepatocytes, 196	Calorimetry, differential scanning, unfreezable water and anesthetics,
Anthracycline antibiotics, binding to DNA, 74	582
Anthraquinone, derivatives, biological effect and DNA binding of, 211	Cannabimimetic drugs, adenylate cyclic inhibition by, G protein and,
Antibiotics	307
anthracycline, binding to DNA, 74	Captopril, ³ H-labeled, angiotensin converting enzyme effects, 142
end-plate channels and (snake), 52	Carbocyclic adenosine analogs, metabolism, mode of action, 383

Carbohydrates

benzodiazepine receptor, brain, regional differences in (rat), 299

polyene macrolide antifungal, ionic permeability and, unilamellar

vesicles, 293

Carbohydrates—continued metabolism, NMR studies, Fasciola hepatica, 65 Cardiotonic agents inhibitor of cyclic AMP phosphodiesterase, 554 receptor for, 506 Catecholamines, secretion, adrenal medullary cells, α_2 -adrenoceptors and, 134 Cation, binding, cytosine guanine interactions, 378 Cell division cycle, receptor metabolism, synchronous and asynchronous S49 lymphoma cells, 7, 16 Chloramphenicol analogs, mechanism-based inactivators, liver cytochrome P-450 (rat), isomers, end-plate channels and (snake), 52 Chloride, flux, γ -aminobutyric acid agonists and antagonists after, brain membranes (mouse), 497 Chlorpromazine, inhibition of protein synthesis, GH₃ pituitary cells, Choline, transport, AH5183 and Quinacrine effects, 45 Cholinergic binding site, location, acetylcholine receptor containing, Choroid plexus, serotonin recognition site (pig), 120 Chromaffin granule membranes, meta-iodobenzylguanidine uptake in, Chromate, cytotoxicity, DNA alkylation by mitomycin C, 622 Chromatin, structure, N-hydroxyparacetamol effects, 478 Cisplatin, structure-activity relations, 378 Clonidine, catecholamine secretion and, adrenal medullary cells, 134 Conformational analysis μ -active, enkephalin analogs, 314 haloperidol binding, 589 Congeners, functionalized approach, adenosine receptor antagonists, Coral toxin, see Goniopora toxin Cyclic AMP activation of tyrosine hydroxylase, striatum (rat), 561 β-adrenergic receptor expression, synchronous and asynchronous S49 lymphoma cells, 7, 16 degradation, astrocytoma cells, 188 formation, neurotensin-mediated inhibition of, neuroblastoma N1E115 cells, 489 pertussis toxin and, hepatocytes, 196 phosphodiesterase cardiac muscle, 506 potent, selective inhibitor of, 554 regulation by muscarinic cholinergic receptors, astrocytoma cells, 455 Cyclic GMP formation, neurotensin-mediated inhibition of, neuroblastoma N1E115 cells, 489 inhibitor of, cardiotonic and antithrombotic properties, 554 Cycloheximide, adrenergic receptor regulation, BC3H-1 muscle cells, Cyclooxygenase, inhibition, blood platelets, 39 N⁶-Cyclopentyladenosine, NECA binding and, striatal membranes (rat), 331 8-Cyclopentyltheophylline, NECA binding and, striatal membranes (rat), 331 Cystathionase, Eubacterium limosum, 97 Cysteine conjugate β -lyase, Eubacterium limosum, 97 Cytochrome P-450 apoproteins, suicide substrate effects, 81 identification, human liver, 405 isozyme 3a, ethanol-inducible, hydroxylation of p-nitrophenol by (rabbit), 399 liver, chloramphenicol analogs and (rat), 391 Cytosine, guanine interactions, metal binding, 378

Cytotoxicity, DNA damage, mammalian cells, 606

D

Daunorubicin, binding, B and Z DNA, 74 Deoxyuridine triphosphate nucleotidohydrolases, see dUTPases Desensitization, epinephrine-induced platelet aggregation, α_2 -adrenergic receptor binding and (human), 1 Detergent, solubilization, receptors, lung membranes (guinea pig), 235

3,5-Diethoxycarbonyl-2,6-dimethyl-4-ethyl-1,4-dihydropyridine, xenobiotic metabolism, cytochrome P-450 apoproteins and, 81 Digitalis glycosides, inhibition of sodium-potassium-ATPase, 270

Digitalis glycosides, inhibition of sodium-potassium-A1 Fase, 270
Digitoxigenin, structure and activity, 16β-substitution effects, 270
Dihydrofolate reductase, 5-fluorouracil augmentation of, RNA, 643
Dimyristoylphosphatidylcholine, unfreezable water and anesthetics, 582

DNA

anthelmintic pyrvinium cation binding to, 427
B and Z, anthracycline antibiotic binding to, 74
drug interaction, potential antitumor agents, 211
lesions, induced by CaCrO₄, mammalian cells, 606
polymerase, inhibition by triphosphates of guanosine analogs, 614
protein crosslinks, alkylation by mitomycin C, 622
repair, mercury effects, Chinese hamster ovary cells, 173
structure and function, N-hydroxyparacetamol effects, 478
Dopamine

D-2 receptors, inhibition of adenylate cyclase, 113 nerve terminal autoreceptor, tyrosine hydroxylase, striatum (rat), 561

Doxorubicin, binding, B and Z DNA, 74 dUTPases, activity, mercury compound effects, 288

E

Eledoisin, binding sites, conformationally constrained tachykinin analogs, 34

Enkephalin

cyclic analogs, μ -active conformation of, 314 inactivation, aminopeptidases, 281

Epinephrine, platelet aggregation initiated by, desensitization, 1 Ergotamine

inhibition of calcium uptake, GH₃ pituitary cells, 420 inhibition of protein synthesis, GH₃ pituitary cells, 411 Ethanol, induction, p-nitrophenol hydroxylation (rabbit), 399 N-Ethylmaleimide, GTP-binding protein and, 244 Eubacterium limosum, cysteine conjugate β-lyase in, 97

F

Fasciola hepatica, carbohydrate metabolism, substrate cycling and, NMR studies, 65

Fenoximone, cGMP-inhibited phosphodiesterase, cardiac muscle, 506 Ferrochelatase, suicide substrates and, 81

Fluorimetric titrations, anthelmintic pyrvinium cation binding, DNA,

Fluoropyrimidines, RNA incorporation, 637

Fluorouracil

dihydrofolate reductase gene transcripts, RNA, 643 DNA damage, mammalian cells, 606

incorporation, RNA, 637

Forskolin

activation, tyrosine hydroxylase and, striatum (rat), 561 adenylate cyclase inhibition, platelets, 258 calcium-evoked prolactin relase and, tumor cells (rat), 461

acetaminophen, reactions to horseradish peroxidase oxidation, 155 paraquat, lung epithelial cell uptake of (rabbit), 484

G

Gene expression, metallothionein, regulation by gold compounds, mammalian cells, 204

666 Subject Index

Glutathione

conjugates, acetaminophen, horseradish peroxidase-catalyzed oxidation of, 155

sublobular conjugation, liver, 88

Glycosidase treatment, benzodiazepine receptor, brain (rat), 299

Glyoxal, formation, misonidazole reduction, 168

GnRH, see Gonadotropin-releasing hormone

Gold compounds, regulation of metallothionein gene expression, mammalian cells. 204

Gonadotropin, release of, calcium influx dependence (rat), 570

Gonadotropin-releasing hormone, protein kinase C, hormone-stimulated redistribution (rat), 570

Goniopora toxin, sodium channels and, neuroblastoma cells (mouse), 347

G proteins, cannabimimetic drugs and, adenylate cyclase inhibition, 307

GRF, see Growth hormone-releasing factor

Growth hormone-releasing factor, interaction with vasoactive intestinal peptide receptors, species specificity (human, rat), 23

GSH. see Glutathione

GTP, binding protein, N-ethylmaleimide effects, 244

Guanine nucleotides

 β -adrenergic response regulation by, synchronous and asynchronous S49 lymphoma cells, 16

binding protein, lung membranes (guinea pig), 235

regulatory proteins

astrocytoma cells, 188

calcium ion-mobilizing hormones, hepatocytes, 196

Guanosine analogs, triphosphates of, DNA polymerase inhibition by, 614

H

Haloperidol, binding, monoclonal antibodies, 589

Heart cells, calcium and sodium fluxes, amiloride and ouabain effects (chick), 363

Heart muscle, cGMP-inhibited phosphodiesterase, 506

Hepatic microsomes, p-nitrophenol, hydroxylation of (rabbit), 399 Hepatocytes

calcium ion-mobilizing hormones, pertussis toxin and, 196

protein synthesis in, regulation by calcium-mobilizing hormones, 104 Herpes simplex virus, DNA polymerases, inhibition by triphosphates

of guanosine analogs, 614

Histamine, receptors, see Receptors

Horseradish peroxidase, oxidation, acetaminophen, 155

HT-74, calcium-induced smooth muscle contraction and, 264

Hydrolysis, sublobular, organic sulfates (rat), 599

N-Hydroxyparacetamol, DNA structure and function and, 478

1

Indomethacin, high affinity binding sites, blood platelets, 39 Inotropic agents, cyclic AMP phosphodiesterase inhibitors, 554

Intestine, vasoactive peptide receptors, growth hormone-releasing factor interaction with, species specificity (human, rat), 23

meta-Iodobenzylguanidine, uptake, chromaffin granule membranes, 275

Isozyme P-450d, cytochrome, human homolog, 405

L

Leukotriene, receptors, see Receptors

Ligand

irreversible, peripheral benzodiazepine receptors, 540 receptor, see Receptors

Lipid membrane, unfreezable water and anesthetics, 582

Lipids, second messenger role, redistribution of gonadtrope protein kinase C (rat), 570

Liver

drug metabolism, suicide substrates and, 81

microsomal preparations, MPTP metabolism in, 163 organic sulfate, sublobular hydrolysis (rat), 599 periportal and pericentral regions, glutathione adduct formation in,

Lung, epithelial cells, paraquat uptake (rabbit), 484

Luteinizing hormone, release of, calcium influx dependence (rat), 570

 β -Lyase, cysteine conjugate, Eubacterium limosum, 97

Lymphoma cells, S49, synchronous and asynchronous, β -adrenergic receptor expression in, 7, 16

M

Mechanism-based inactivators, chloramphenicol as, liver cytochrome P-450 (rat), 391

Membrane phase transitions, temperature and, α_2 -receptors of platelets, 228

Mercury, DNA repair and, Chinese hamster ovary cells, 173

Mercury compounds, dUTPase activity and, 288

Metallothionein, gene expression, regulation by gold compounds, mammalian cells, 204

Methotrexate, -resistant KB cells, intron-containing dihydrofolate reductase RNA, 5-fluorouracil augmentation of, 643

3-Methylcholanthrene-inducible family, liver, identification of cytochrome P-450, 405

1-Methyl-4-phenyl-1,2,3,6-tetrahydropyridine, see MPTP

4-Methylumbelliferyl sulfate, sublobular hydrolysis with (rat), 599

Milrinone, cGMP-inhibited phosphodiesterase, cardiac muscle, 506

Misonidazole, reduction, NADPH-cytochrome c (P-450) reductase, 168

Mitomycin C, enzyme-activated, DNA alkylation by, 622

Molecular graphics, benzamide, inhibition of trypsin, 436

Monoamine, uptake, chromaffin granule membranes, 275

Monoclonal antibodies, transducin α -subunit, guanyl nucleotide-binding proteins, 515

Morphiceptin analogs, structure-activity studies, 546

Morphine, metabolism, suicide substrates and, 81

Motor end-plate, ion channel block, stereoselectivity (snake), 52

MPTP, metabolism, contribution of N-oxygenation to, 163

Muscarinic agonists, inhibition of protein synthesis, GH₃ pituitary cells, 411

Muscle, smooth, calcium-induced contraction, calmodulin function in, 264

Muscle cells

BC3H-1

adrenergic receptors, agonist-mediated regulation, 521 receptor control of intracellular calcium, 531

Mutagenic activity, nitrogen, electron affinity and, 629

Myosin light chain kinase, calcium binding to calmodulin and, smooth muscle contraction, 264

N

NADPH-cytochrome c reductase, kinetic action, nitroimidazoles, 168 Naphthalenesulfonamides

calcium binding to calmodulin and, smooth muscle, 264

calmodulin antagonists and protein kinase inhibitors, 577

NECA, A_2 adenosine receptor labeled by, striatal membranes (rat), 331 Neplanocin A, metabolism, mode of action, 383

Neuroblastoma cells

adenylate cyclase inhibition, cannabimimetic drugs, 307

N1E115, cyclic AMP formation in, neurotensin-mediated inhibition of, 489

sodium channels, action of polypeptide neurotoxin in (mouse), 347 Neuromuscular iunction

antibiotic interactions, end-plate channels (snake), 52 nicotinic receptor agonists (frog), 250

Neurotensin, inhibition, cyclic AMP formation, neuroblastoma N1E115 cells, 489

Nicotine

benzomorphan binding and, acetylcholine receptor, 179 receptors, see Receptors

Nifedipine Prazosin, binding, brain (rat), 321 inhibition of calcium uptake, GH₃ pituitary cells, 420 Prolactin inhibition of protein synthesis, GH₃ pituitary cells, 411 calcium-evoked release, forskolin effects, tumor cells (rat), 461 secretion, inhibitors of, mechanism of action, GH₃ pituitary cells, Nitrenium ion, mutagenicity, electron affinity and, 629 Nitroarenes, mutagenicity, electron affinity and, 629 p-Nitrophenol, hydroxylation of, ethanol-inducible cytochrome P-450 Promazine, binding, residues 82-93 of calmodulin, 355 isozyme 3a (rabbit), 399 Promethazine, binding, residues 82-93 of calmodulin, 355 Non-steroidal anti-inflammatory drugs, high affinity binding sites, Protein blood platelets, 39 guanine nucleotide-binding, structure and function, 515 N proteins, adenylate cyclase, inhibition by forskolin, platelets, 258 N, adenylate cyclase, inhibition by forskolin, platelets, 39 Nuclear magnetic resonance, unilamellar vesicles, ionic permeability phosphorylation, inhibition of, naphthalenesulfonamides and, 577 of, antibiotic effects, 293 surface potential, inhalation anesthetic effects, 149 Nucleotides, cyclic, cannabimimetic drug effects, 307 synthesis hepatocytes, regulation by calcium-mobilizing hormones, 104 inhibitors of, GH3 pituitary cells, 411 N-hydroxyparacetamol effects, 478 Opiates, benzomorphan, binding to acetylcholine receptor, Torpedo, potassium-stimulated, calcium dependence, GH₃ cells, 420 Protein kinase, inhibitors, naphthalenesulfonamides as, 577 Opioid peptides, µ-selective, structure-activity studies, 546 Protein kinase C, redistribution, GnRH (rat), 570 Ouabain, calcium and sodium fluxes, heart cells (chick), 363 Proton, transfer, histamine and a receptor model, 28 Ovary cells, Chinese hamster, DNA repair, mercury effects, 173 Puromycin, enkephalin release and, brain slices, 281 N-Oxygenation, MPTP, liver preparations, 163 Pyrvinium antibodies, binding, DNA, 427 Paraquat, uptake, lung epithelial cells (rabbit), 484 Quantum chemistry, histamine H2-receptor, activation mechanism of, Parasites, carbohydrate metabolism of, NMR studies, Fasciola hepatica, 65 Quinacrine, AH5183 and, inhibition of acetylcholine release, 45 **Peptides** analogs, conformationally constrained, 34 R vasoactive intestinal, receptors, growth hormone-releasing factor interaction with, species specificity (human, rat), 23 Radioiodinated probes, high affinity, α_2 -adrenergic receptor (rat), 219 Radioligand, binding, platelets, 228 Pertussis toxin adenylate cyclase inhibition by cannabimimetic drugs and, 307 Receptors calcium ion-mobilizing hormones and, hepatocytes, 196 acetylcholine cyclic AMP formation, neurotensin-mediated inhibition, neuroblasbinding of benzomorphan opiate to, Torpedo, 179 toma cells, 489 α -subunit of, polypeptide sequence within, 649 **Phenothiazines** adenosine, antagonists, xanthine conjugates as, 126 calcium binding to calmodulin and, smooth muscle, 264 adenosine A2, striatal membranes (rat), 331 derivatives, binding to residues of 82-93 of calmodulin, 355 adrenergic, agonist-mediated regulation, muscle cell line, 521 inhibition of calcium uptake, GH₃ pituitary cells, 420 α_1 -adrenergic Phenoxybenzamine, adrenergic receptor regulation, BC3H-1 muscle control of intracellular calcium, muscle cells, 531 subtypes, brain (rat), 321 Phentolamine, α_1 -adrenergic receptor subtypes, brain (rat), 321 α₂-adrenergic Phenylephrine, smooth muscle contraction and, 264 binding, platelet aggregation desensitization and (human), 1 2-(4-Phenylpiperidino)cyclohexanol, see AH5183 catecholamine secretion and, adrenal medullary cells, 134 Phosphodiesterase high affinity radioiodinated probes for (rat), 219 cyclic AMP, inhibitors of, 554 temperature and membrane phase transition effects, platelets, 228 cGMP-inhibited, cardiac muscle, 506 β -adrenergic, synchronous and asynchronous S49 lymphoma cells, 7, Phosphofructokinase, NMR studies, Fasciola, 65 Phosphoinositide, breakdown, receptor regulation, astrocytoma cells, Ah, B cells, TCDD effects, 372 455 γ -aminobutyric acid B, uncoupling from GTP-binding proteins by Pituitary cells N-ethylmaleimide, 244 GH₃ anatoxin, binding affinity (frog), 250 inhibitors of protein synthesis, 411 autoreceptors, regulation of tyrosine hydroxylase, striatum (rat), 561 voltage-dependent calcium channels, blockade, 420 benzodiazepine redistribution of gonadotrope pro-Pituitary gland, hormone release carbohydrates, brain, regional difference in (rat), 299 tein kinase C (rat), 570 peripheral type, irreversible ligand of. 540 **Platelets** brain, nicotine, high affinity sites (rat), 448 adenylate cyclase, inhibition by forskolin, 258 dopamine D₂ inhibition of adenylate cyclase, 113 aggregation, epinephrine-initiated, desensitization, 1 indomethacin, high affinity binding sites for, 39 tyrosine hydroxylase and, striatum (rat), 561 α_2 -receptors to, temperature and phase transition effects on ligand H₁, astrocytoma cells and, 188 binding, 228 H₂, activation mechanism of, 28 Polyene macrolide antifungal antibiotics, see Antibiotics H₁-histamine, control of intracellular calcium, muscle cells, 531 Polypeptide neurotoxin, mechanism of action, sodium channels, neuleukotriene D4, solubilization of, lung membranes (guinea pig), 235 roblastoma cells (mouse), 347 ligand, structure-activity relations, 436 Polypeptide sequence, α -subunit of acetylcholine receptors, 649 muscarinic cholinergic, phosphodiesterase regulated by, astrocytoma

cells, 455

Potentials, molecular electrostatic, μ -affinity and selectivity, 546

668 Subject Index

nicotine, binding, high affinity sites, brain membranes (rat), 448
Reserpine, meta-iodobenzylguanidine uptake, chromaffin granule membranes, 275

RNA

fluorouracil incorporation into, 637

intron-containing dihydrofolate reductase, flourouracil augmentation of, 643

processing, precursors, CaCrO₄ damage, mammalian cells, 606 structure and function, N-hydroxyparacetamol effects, 478

S

Salmonella typhimurium, nitroarene mutagenicity, electron affinity and 629

Scorpion α -toxin, grating process and, neuronal sodium channels (frog),

Serotonin

action, carbohydrate metabolism, NMR studies, Fasciola hepatica, 65 recognition site, choroid plexus (pig), 120

S49 lymphoma cells, synchronous and asynchronous, β -adrenergic receptor expression in, 7, 16

Sodium, flux, amiloride and ouabain effects, heart cells (chick), 363 Sodium channels

neuronal, grating process of, batrachotocin and veratridine effects (frog), 467

polypeptide neurotoxin action in, neuroblastoma cells (mouse), 347 Sodium-potassium-ATPase, binding interaction, digitoxigenin, 270 Spectrophotometry, micro-reflectance, sublobular GSH conjugation,

Stacking interaction, cytosine guanine, cation effects, 378 Stereoisomers, chloramphenicol, end-plate channels (snake), 52 Steroids, metabolism, suicide substrate effects, 81

adenosine A₂ receptor (rat), 331

D-2 dopamine receptors in, inhibition of adenylate cyclase, 113
Substance P, hexapeptide analogs, conformationally constrained, 34
Substrates

cycling, NMR studies, Fasciola hepatica, 65

suicide, xenobiotic metabolism and cytochrome P-450 apoproteins,

Sulfates, organic, sublobular hydrolysis of (rat), 599

Т

Tachykinin

analogs, conformationally constrained, 34 receptors, see Receptors

TCDD, immunotoxicity, suppression of B cell differentiation by, 372 Testosterone, metabolism, suicide substrates and, 81

Tetrabenazine, meta-iodobenzylguanidine uptake, chromaffin granule membranes, 275

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

9-Tetrahydrocannabinol, adenylate cyclase inhibition by, G protein and 307

Theophylline, analogs, adenosine receptor antagonists, 126

Thermodynamics, enzyme-inhibitor interactions, captopril binding, 142

Thiol, formation, cysteine conjugate β -lyase, 97

Thiorphan, enkephalin release and, brain slices, 281

Torpedo, acetylcholine receptor, α -subunit of, cholinergic binding site, 649

Transducin, α-subunit of, monoclonal antibodies to, guanyl nucleotide binding proteins, 515

Trifluoperazine, inhibition of protein synthesis, GH₃ pituitary cells,

Trifluopromazine, binding, residues 82-93 of calmodulin, 355

Trypsin, inhibition, benzamide, quantity structure-activity relations, 436

Tumor cells, 7315c, prolactin-secreting, forskolin effects (rat), 461 Tyrosine hydroxylase, dopamine autoreceptor regulation of, striatum (rat), 561

U

Ultraviolet, DNA repair induced by, mercury effects, Chinese hamster ovary cells, 173

Unilamellar vesicles, ionic permeability of, polyene macrolide antifungal antibiotic effects, 293

V

Vasoactive intestinal peptide, receptors, growth hormone-releasing factor interaction with, species specificity (human, rat), 23

Vasodilators, cyclic AMP phosphodiesterase inhibitors, 554 Vasopressin

hepatocytes, calcium-mobilizing hormones and, 104 pertussis toxin and, hepatocytes, 196

Verapamil

inhibition of calcium uptake, GH₃ pituitary cells, 420 inhibition of protein synthesis, GH₃ pituitary cells, 411

Veratridine, interaction with batrachotoxin, grating process of neuronal sodium channels (frog), 467

Voltage clamp, end-plate currents (snake), 52

w

Water, unfreezable, anesthetics and, 582 WB4101, binding, brain (rat), 321

X

Xanthines, conjugates, adenosine receptor antagonists, 126 Xenobiotics, metabolism, cysteine conjugate β-lyase, 97

X-ray, DNA repair induced by, mercury effects, Chinese hamster ovary cells, 173

Y

Yohimban diastereoisomers, radioiodinated α_1 -adrenergic receptor ligand and (rat), 219

An important resource for everyone involved in research on the metabolism of drugs and chemicals

DRUG METABOLISM AND DISPOSIT

The Biological Fate of Chemicals

Editor: Vincent G. Zannoni, PhD, University of Michigan, Ann Arbor, Michigan

DRUG METABOLISM AND DISPOSITION publishes in vitro and in vivo experimental results that bring readers significant and original information on xenobiotic metabolism and disposition, including metabolism of all pharmacologic agents or drugs and environmental chemicals, reactants, and preservatives. All papers are referred to ensure a high standard of publication. The areas covered are:

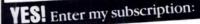
- pharmacokinetics
- pharmacodynamics
- genetic, nutritional, and hormonal factors affecting the biological fate of chemicals
- · toxicological consequences of xenobiotic metabolism

This journal should be a standard reference in all pharmacology and toxicology departments. It is also a valuable resource for all medicinal chemists involved in designing drugs and all biochemists involved with drug metabolism.

Bimonthly

the biological late of chemicals





Avoid future rate increases and ensure uninterrupted service—enter your multiyear subscription today!	Payment options: ☐ Check enclosed ☐ VISA	☐ Bill me ☐ MasterCard	☐ American Express
Drug Metabolism and Disposition (bimonthly) ☐ Individual: \$60/yr ☐ Institutions: \$95/yr (Please add \$10.00 outside the U.S.)	card #		
□ New Subscription □ Renewal □ 3 yrs □ 2 yrs □ 1 yr	signature/P.O.#		
	MD residents, please add 5% sales tax. Subscriptions from outside the US and		

name

Please allow 10 weeks for delivery of your first issue. Surface mail delivery to countries outside the US may take up to 16 weeks. Airmail rates available upon request. Residents, fellous, interns, and students, when requesting the in-training rate (to which you are entitled for 3 years), please specify training status and Rates subject to change without notice

Williams & Wilkins

city state zip

P.O. Box 1496

266 Fulham Road London SW10 9EL, England

Canada must be prepaid, in US dollars only. Rates valid for orders received before October 31, 1986.

DMDAD 93774



Broad coverage of pharmacology in a prestigious journal

THE JOURNAL OF PHARMACOLOGY AND

Editor: Eva King Killam, PhD, School of Medicine, University of California, Davis

JPET is respected the world over as one of the leading research journals in the field of pharmacology. Readers find broad coverage of all aspects of the interactions of chemicals with biological systems, including:

- autonomic pharmacology
- · analgesia
- behavioral pharmacology
- cardiovascular pharmacology
- · cellular pharmacology
- · chemotherapy
- clinical pharmacology
- developmental pharmacology

- · drug abuse
- drug metabolism & disposition
- gastrointestinal pharmacology
- immunopharmacology
- · neuropharmacology
- pulmonary pharmacology
- · renal pharmacology
- toxicology

JPET is valuable reading for academic, industrial and clinical pharmacologists as well as toxicologists. The Journal deserves a place in every pharmaceutical and toxicological research laboratory and pharmacology/toxicology department throughout the world.

Monthly





□ American Express

YES! Enter my subscription:

Avoid future rate increases and ensure uninterrupted service- your multiyear subscription today!	-enter
The Journal of Pharmacology and Experimental Thera (monthly)	apeutio

☐ Individual: \$140/yr ☐ Institutions: \$220/yr (Please add \$30.00 outside the U.S.)

☐ New Subscription ☐ Renewal ☐ 3 yrs ☐ 2 yrs ☐ 1 yr

name address

Williams & Wilkins

P.O. Box 1496 Baltimore, Maryland 21203

Canada must be prepaid, in US dollars only. Rates valid for orders received before October 31, 1986.

Please allow 10 weeks for delivery of your first issue. Surface mail delivery to countries outside the US may take up to 16 weeks. Airmail rates available upon request. Residents, fellows, interns, and students, when requesting the in-training rate (to which you are entitled for 3 years), please specify training status and institution.

MD residents, please add 5% sales tax. Subscriptions from outside the US and

☐ Bill me ☐ MasterCard

Rates subject to change without notice

Payment options:

signature/P.O.#

card #

☐ Check enclosed ☐ VISA

266 Fulham Road London SW10 9EL, England

PTAD 93775

INSTRUCTIONS TO AUTHORS

Molecular Pharmacology will publish the results of investigations that contribute significant new information on drug action or selective toxicity at the molecular level. The term "drug" is defined broadly to include chemicals that selectively modify biological function.

Suitable papers are those that describe applications of the methods of biochemistry, biophysics, genetics, and molecular biology to problems in pharmacology or toxicology. Also suitable are reports of fundamental investigations which, although not concerned directly with drugs, nevertheless provide an immediate basis for further study of the molecular mechanism of drug action. Observations of phenomena that shed no light upon underlying molecular interactions are not appropriate for publication. Comparative studies, such as those involving drug-receptor or drug-enzyme interactions that already have been well characterized in other types of cells or tissues, also are inappropriate for publication unless they contribute significant new insight into mechanisms.

Specific areas of interest include: stereochemical, electronic, and other parameters of drug architecture; conformational analysis of receptors and their function; drug-enzyme and other interactions between drugs and macromolecules; drug effects upon gene replication and transcription and on protein synthesis; mechanism of action of antibiotics and other growth-inhibitory drugs; induction by drugs of changes in macromolecular structure or allosteric transitions; drug-induced alterations in metabolic pathways; effects of hormones and other drugs on cellular regulatory mechanisms; chemical mutagenesis, carcinogenesis, and teratogenesis; pharmacogenetics, idiosyncrasies, and drug allergies; selective toxicity in a single organism or in different species; drug actions on properties and functions of membranes; mechanisms of drug metabolism; distribution and transport of drug molecules between biological compartments.

Page charges. Authors will be billed at the rate of \$30.00 per page after the paper has been published. It is expected that the page charge will be paid if funds are available for that purpose from the author's institution or from the sponsor of this research. Payment of the charge is not a condition for publication. In case of personal financial hardship, page charges will be waived. Neither the editors nor the reviewers will have knowledge as to who has paid the charge, and this payment always will be considered entirely voluntary.

Submission of manuscript. Manuscripts are published in English only and should be sent to Dr. William A. Catterall, Editor, Molecular Pharmacology, Department of Pharmacology, SJ-30, University of Washington, Seattle, Washington 98195, U. S. A.

The expenses associated with the review of manuscripts submitted to Molecular Pharmacology and other ASPET-sponsored journals that are devoted to publishing original research articles have escalated dramatically in recent years because of ever-increasing costs of postage, supplies, and other office expenses, and the growing number of manuscripts submitted for publication. Thus, it has become necessary for ASPET to follow the example of several other scientific societies which have instituted uniform manuscript handling fees. Therefore, all manuscripts must be accompanied either by a check for \$30 (in U. S. funds drawn on a U. S. bank payable to ASPET) or by a validated purchase order from the authors' institution. The review process for submitted manuscripts will be delayed until the manuscript handling fee or purchase order is received in the Editor's office. If submission of the manuscript handling fee entails a personal financial hardship to the author(s), the fee will be waived. In that event, the author(s) should submit a request for waiver of the fee when the manuscript is submitted.

Manuscripts should be typewritten double-spaced with ample margins on one side of the paper, $8\frac{1}{2} \times 11$ inches (ca. 215×280 mm). Submit four complete copies of the manuscript and four copies of each figure, plus one original drawing or photograph of each figure. Each half-tone figure requires four original drawings or photographs. All pages should be numbered consecutively beginning with the title page. Limit your reference listings to the minimal number required to document the manuscript adequately. In most instances 30 references or fewer should suffice.

Under usual circumstances reviewers will be instructed to return only their comments to the editorial office and to destroy manuscripts after a final decision on their acceptability has been made. Original drawings and single copies of manuscripts not accepted for publication will be returned to the authors upon request.

It is understood that the manuscripts and the results they contain will not have been published previously and are not being submitted elsewhere. Manuscripts are accepted for review with the understanding that all persons listed as authors have given their approval for the submission of the paper; further, that any person cited as a source of personal communications has approved such citation. Written authorization may be required at the Editor's discretion. Articles and any other material published in *Molecular Pharmacology* represent the opinions of the author(s) and should not be construed to reflect the opinions of the Editor(s) and the Publisher. If and when a manuscript is published, it will become the sole property of the Journal.

Authors submitting a manuscript do so on the understanding that if it is accepted for publication, copyright in the article, including the right to reproduce the article in all forms and media, shall be assigned exclusively to the Society for Pharmacology and Experimental Therapeutics. No reasonable request by the author for permission to reproduce any of his or her contributions to the journal will be refused:

Organization and style of manuscripts. The policy of the Journal is to allow authors maximum freedom in organizing and presenting their material, and in expressing their ideas, provided only that clarity and conciseness are achieved. For most manuscripts, the most suitable format is: (1) Summary, (2) Introduction, (3) Materials and Methods, (4) Results, and (5) Discussion.

Certain conventions must be observed. Chemical and mathematical formulas and abbreviations should follow the *Instructions to Authors of the Journal of Biological Chemistry* (Vol. 261, pp. 1-11, January 10, 1986). Drugs must be referred to by their generic or chemical names throughout the text, but may be identified by trade name in parentheses or a footnote. The systematic name and number given by the Commission on Enzymes of the International Union of Biochemistry should be included for each enzyme of importance in a paper, at the point in the Summary or Introduction where the enzyme is first mentioned. The use of abbreviations should be minimized and abbreviations avoided in the Summary. All essential abbreviations should be defined in a single footnote when first introduced. Abbreviations of journal names should conform to the style of *Biological Abstracts*. References to papers that

have been accepted for publication, but have not appeared, should be cited like other references with the abbreviated name of the journal followed by the words "in press." Copies of such papers should be sent whenever the findings described in them have a direct bearing on the paper being submitted for publication. "Personal Communications" and "Unpublished Observations" should be cited in footnotes to the text and should not be included in the reference list.

A manuscript should include the following, in the order listed: (1) Title. Numbered footnotes to the title should be avoided; acknowledgment of financial support should be given in an unnumbered footnote to the title. (2) Names of authors, their laboratory and institution. (3) A running title, not exceeding 60 characters and spaces. (4) Summary. (5) Text. Footnotes should be referred to by superscript numbers and references by numbers in parentheses. (6) References, numbered according to order of citation in the text, including title and complete pagination. Examples: 1. Goren, J. H., L. G. Bauce, and W. Vale. Forces and structural limitations of binding of thyrotropin-releasing receptor: the pyroglutamic acid moiety. Mol. Pharmacol. 13:606-614 (1977). 2. Chernow, B., and J. T. O'Brian. Overview of catecholamines in selected endocrine systems, in Norepinephrine (M. G. Ziegler and C. R. Lake, eds.). Williams and Wilkins, Baltimore, 439-449 (1984). 3. Snedecor, G. W., and W. G. Cochran. Statistical Methods. Iowa State University Press, Ames (1967). (7) Footnotes, numbered according to order of appearance in the text. (8) Tables. (9) Figures. (10) Legends to figures. (11) Name and address of person to receive galley proof.

Tables. These should be numbered with arabic numerals and designed to fit the single-column width of the full-page width. Every table should have an explanatory title and sufficient experimental detail in a paragraph following the title to be intelligible without references to the text (unless the procedure is given in the Methods section, or under another table or figure). Footnotes to tables should

appear beneath the tables themselves and should be designated by lower-case italic superscript letters, a, b, c, etc.

Figures. These should be numbered with arabic numerals. Each of the four manuscript copies should contain all of the figures. Only the original set need be of quality suitable for reproduction except in the case of half-tones, which require four sets of photographs or original drawings. These should be unmounted glossy photographs (or original India-ink drawings). Usually figures will be reduced to one column width (85 mm) and all numbers after such reduction should be at least 1.5 mm high. The figures must be ready, in all respects, for direct reproduction: no lettering or other art work will be done by the publisher. If symbols are not explained on the face of the figure, only standard characters, of which the printer has type, may be used $(\times, O, \bullet, \Box, \blacksquare, \triangle, \triangle, \bullet)$. The back of each photograph should bear its number, and the legend TOP at the appropriate edge. The list of legends for the figures should give captions and sufficient experimental detail, as required for tables.

Page proof. Authors will be billed for substantial changes in page proof. The Editors are very much interested in having accepted contributions appear in the earliest possible issue of the Journal, and therefore request that galley proof be returned within 24 hours after its receipt. In exceptional cases, a "Note added in proof" may be attached and will be published if the Editor approves.

Reprints and page charges. An order form for reprints as well as information on the estimation of page charges will be mailed with galley proof. Please direct questions on reprints, page charges, or other business matters to Kay Croker, Executive Officer, American Society for Pharmacology and Experimental Therapeutics, 9650 Rockville Pike, Bethesda, Md. 20814. Telephone (301)530-7060.