

JOHN W. DALY**LIST OF PUBLICATIONS**

1. Daly, J.W. and Christensen, B.E.: Purines. VI. The preparation of certain 6-substituted- and 6, 9-disubstituted purines. *J. Org. Chem.* **21**: 177-179, 1956.
2. Daly, J.W. and Christensen, B.E.: The preparation and properties of certain 2- and 4-chloro substituted pteridines. *J. Am. Chem. Soc.* **78**: 225-228, 1956.
3. Daly, J.W., Green, F.C. and Eastman, R.H.: Sabinene hydrate: A constituent of American peppermint oil. *J. Am. Chem. Soc.* **80**: 6330-6336, 1958.
4. Udenfriend, S., Creveling, C.R., Posner, H., Redfield, B.G., Daly, J. and Witkop, B.: On the inability of tryptamine to serve as precursor of serotonin. *Arch. Biochem. Biophys.* **83**: 501-507, 1959.
5. Udenfriend, S., Creveling, C.R., Ozaki, M., Daly, J.W., and Witkop, B.: Inhibitors of norepinephrine metabolism *in vivo*. *Arch. Biochem. Biophys.* **84**: 249-251, 1959.
6. Senoh, S., Daly, J., Axelrod, J. and Witkop, B.: Enzymatic p-0-methylation by catechol-0-methyl transferase. *J. Am. Chem. Soc.* **81**: 6240-6245, 1959.
7. Cohen, L.A., Daly, J.W., Kny, H. and Witkop, B.: Nuclear magnetic resonance spectra of indoles. *J. Am. Chem. Soc.* **82**: 2184-2187, 1960.
8. Daly, J.W., Axelrod, J. and Witkop, B.: Dynamic aspects of enzymatic 0-methylation and -demethylation of catechols *in vitro* and *in vivo*. *J. Biol. Chem.* **235**: 1155-1159, 1960.
9. Weissbach, H., Smith, T.E., Daly, J.W., Witkop, B. and Udenfriend, S.: A rapid spectrophotometric assay of monoamine oxidase based on the rate of disappearance of kynuramine. *J. Biol. Chem.* **235**: 1160-1163, 1960.
10. Daly, J., Durant, R.C., Friess, S.L., Holland, G.F., Kny, H. and Witkop, B.: Labilization of ester bonds in aminocyclitol derivatives. II. Polyacetates of deoxystreptamine. *J. Am. Chem. Soc.* **82**: 5928-5934, 1960.
11. Daly, J., Horner, L. and Witkop, B.: Chemical and enzymatic routes to methoxydopamines. *J. Am. Chem. Soc.* **83**: 4787-4792, 1961.
12. Daly, J., Axelrod, J. and Witkop, B.: Methylation and demethylation in relation to the *in vitro* metabolism of mescaline. *Ann. N.Y. Acad. Sci.* **96**: 37-43, 1962.
13. Cochin, J., and Daly, J.W.: Rapid identification of analgesic drugs in urine with thin-layer chromatography. *Experientia* **18**: 294-298, 1962.
14. Axelrod, J. and Daly, J.W.: The enzymic conversion of adenine to 3-methyl-adenine. *Biochim. Biophys. Acta* **61**: 855-856, 1962.

15. Creveling, C.R., Daly, J.W., Witkop, B. and Udenfriend, S.: Substrates and inhibitors of dopamine- β -oxidase. *Biochim. Biophys. Acta* **64**:125-134, 1962.
16. Daly, J.W. and Witkop, B.: The synthesis and properties of N,N-dialkyl-aminovinylindoles. *J. Org. Chem.* **27**: 4104-4106, 1962.
17. Cochin, J. and Daly, J.W.: The use of thin-layer chromatography for the analysis of drugs. Isolation and identification of barbiturates and other hypnotics from urine, blood and tissues. *J. Pharmacol. Exp. Therap.* **139**: 154-159, 1963.
18. Cochin, J. and Daly, J.W.: The use of thin-layer chromatography for the analysis of drugs. Identification and isolation of phenothiazine tranquilizers and antihistaminics in body fluids and tissues. *J. Pharmacol. Exp. Therap.* **139**: 160-165, 1963.
19. Heacock, R.A., Hutzinger, O., Scott, B.D., Daly, J.W. and Witkop, B.: Chemistry of catecholamines: Revised structures for the iodoaminochromes. *J. Am. Chem. Soc.* **85**: 1825-1831, 1963.
20. Daly, J.W. and Witkop, B.: Neuere Untersuchungen über zentral wirkende endogene Amine. *Angew. Chem.* **75**: 552-572, 1963.
21. Daly, J.W. and Witkop, B.: Recent studies on the centrally active endogenous amines. *Angew. Chem.* **75**: 421-440, 1963.
22. Daly, J.W., Witkop, B., Bommer, P., and Biemann, K.: Batrachotoxin. The active principle of the Colombian arrow poison frog, *Phylllobates bicolor*. *J. Am. Chem. Soc.* **87**: 124-126, 1965.
23. Daly, J.W., Inscoe, J.K. and Axelrod, J.: The formation of O-methylated catechols by microsomal hydroxylation of phenols and subsequent enzymatic catechol O-methylation. Substrate specificity. *J. Med. Chem.* **8**: 153-157, 1965.
24. Axelrod, J., Inscoe, J.K. and Daly, J.W.: Enzymatic formation of O-methylated dihydroxy derivatives from phenolic amines and indoles. *J. Pharmacol. Exp. Therap.* **149**: 16-22, 1965.
25. Inscoe, J.K., Daly, J.W. and Axelrod, J.: Factors affecting the enzymatic formation of O-methylated dihydroxy derivatives. *Biochem. Pharmacol.* **14**: 1257-1263, 1965.
26. Joshi, B.C., May, E.L., Fales, H.M., Daly, J.W. and Jacobson, A.E.: Constitution and analgetic activity of a new product in the benzomorphan synthesis. *J. Med. Chem.* **8**: 559-563, 1965.
27. Daly, J.W., Benigni, J., Minnis, R., Kanaoka, Y., and Witkop, B.: Synthesis and metabolism of 6-hydroxycatecholamines. *Biochemistry.* **4**: 2513-2525, 1965.
28. Axelrod, J. and Daly, J.W.: Pituitary gland: Enzymic formation of methanol from S-adenosylmethionine. *Science* **150**: 892-893, 1965.
29. Daly, J.W., Creveling, C.R., and Witkop, B.: The chemorelease of norepinephrine from mouse hearts. Structure-activity relationships. I. Sympathomimetic and related amines. *J. Med. Chem.* **9**: 273-280, 1966.

30. Daly, J.W., Creveling, C.R. and Witkop, B.: The chemorelease of norepinephrine in mouse hearts. Structure-activity relationships. II. Drugs affecting the sympathetic and central nervous systems. *J. Med. Chem.* **9**: 280-284, 1966.
31. Creveling, C.R., Daly, J.W. and Witkop, B.: The depletion of norepinephrine-³H from heart by a α -methyl-*m*-tyrosine. A novel and convenient method for assaying the inhibition of aromatic amino acid decarboxylase *in vivo*. *J. Med. Chem.* **9**: 284-286, 1966.
32. Zaltzman-Nirenberg, P., Daly, J.W., Guroff, G. and Udenfriend, S.: Separation of the enantiomers of the aminonaphthylalanines by paper chromatography. *Anal. Biochem.* **15**: 517-522, 1966.
33. Daly, J.W. and Heatwole, H.: The occurrence of carnosine in skin of certain leptodactylid frogs. *Experientia* **22**: 764-766, 1966.
34. Daly, J.W. and Witkop, B.: The venoms of amphibians. *Mem. Inst. Butantan Simp. Internac.* **33**: 425-431, 1966.
35. Guroff, G., Reifsnyder, C.A., and Daly, J.W.: Retention of deuterium in *p*-tyrosine formed enzymatically from *p*-deuterophenylalanine. *Biochem. Biophys. Res. Commun.* **24**: 720-724, 1966.
36. Guroff, G., Levitt, M., Daly, J.W. and Udenfriend, S.: The production of *meta*-tritiotyrosine from *p*-tritio-phenylalanine by phenylalanine hydroxylase. *Biochem. Biophys. Res. Commun.* **25**: 253-259, 1966.
37. Renson, J., Daly, J.W., Weissbach, H., Witkop, B. and Udenfriend, S.: Enzymatic conversion of 5-tritiotryptophan to 4-tritio-5-hydroxytryptophan. *Biochem. Biophys. Res. Commun.* **25**: 504-513, 1966.
38. Guroff, G., Kondo, K., and Daly, J.W.: The production of *meta*-chlorotyrosine from *para*-chlorophenylalanine by phenylalanine hydroxylase. *Biochem. Biophys. Res. Commun.* **25**: 622-628, 1966.
39. Daly, J.W.: Phenolic mediators of animal metabolism. In *Phenolic Compounds and Metabolic Regulation*, Finkle, B.J. and Runeckles, V.C. (Eds.) Appleton-Century-Crofts, New York, pp. 28-66, 1967.
40. Daly, J.W., Mauger, A.B., Yonemitsu, O., Antonov, V.K., Takase, K. and Witkop, B.: The synthesis and metabolism of 2,3-dihydro-L-tryptophan and 2,3-dihydro-5-hydroxy-DL-tryptophan. *Biochemistry* **6**: 648-654, 1967.
41. Levitt, M., Gibb, J.W., Daly, J.W., Lipton, M. and Udenfriend, S.: A new class of tyrosine hydroxylase inhibitors and a simple assay of inhibition *in vivo*. *Biochem. Pharmacol.* **16**: 1313-1321, 1967.
42. Daly, J.W. and Witkop, B.: Selective exchange of nuclear protons in hydroxyindoles. *J. Am. Chem. Soc.* **89**: 1032-1033, 1967.
43. Daly, J.W. and Myers, C.W.: Toxicity of Panamanian poison frogs (*Dendrobates*): Some biological and chemical aspects. *Science* **156**: 970-973, 1967.

44. Daly, J.W. and Manian, A.A.: The metabolism of hydroxychlorpromazines by liver microsomes. *Biochem. Pharmacol.* **16**: 2131-2136, 1967.
45. Udenfriend, S., Zaltzman-Nirenberg, P., Daly, J.W., Guroff, G., Chidsey, C. and Witkop, B.: Intramolecular migration of deuterium and tritium during enzymatic hydroxylation of *p*-deutero- and *p*-tritioacetanilide. *Arch. Biochem. Biophys.* **120**: 413-419, 1967.
46. Holmstedt, B., Daly, J.W., del Pozo, E.C., Horning, E.C., Isbell, H. and Szara, S.I.: Discussions on the psychoactive action of various tryptamine derivatives. In *Ethnopharmacologic Search for Psychoactive Drugs*, Efron, D.H., Holmstedt, B. and Kline, N.S. (Eds.). U.S. Government Printing Office, Washington, D.C., pp. 374-382, 1967.
47. Gannon, W.F., Benigni, J.D., Suzuki, J. and Daly, J.W.: The synthesis of dehydrobufotenine. *Tetrahedron Lett.* 1531-1533, 1967.
48. Creveling, C.R., Daly, J.W., and Witkop, B.: The depletion of cardiac norepinephrine by 3,5-dihydroxy-4-methoxyphenethylamine and related compounds. *J. Pharmacol. Exp. Therap.* **158**: 46-54, 1967.
49. Jerina, D., Daly, J.W., Landis, W., Witkop, B. and Udenfriend, S.: Intramolecular migration of tritium and deuterium during nonenzymatic aromatic hydroxylation. *J. Am. Chem. Soc.* **89**: 3347-3349, 1967.
50. Guroff, G., Daly, J.W., Jerina, D.M., Renson, J., Witkop, B. and Udenfriend, S.: Hydroxylation-induced migrations: The NIH Shift. *Science* **158**: 1524-1530, 1967.
51. Creveling, C.R., and Daly, J.W.: Identification of 3,4-dimethoxyphenethylamine from schizophrenic urine by mass spectrometry. *Nature* **216**: 190-191, 1967.
52. Daly, J.W., Guroff, G., Udenfriend, S. and Witkop, B.: Hydroxylation-induced migrations of tritium in several substrates of liver aryl hydroxylases. *Arch. Biochem. Biophys.* **122**: 218-223, 1967.
53. Guroff, G., and Daly, J.W.: Quantitative studies on the hydroxylation-induced migration of deuterium and tritium during phenylalanine hydroxylation. *Arch. Biochem. Biophys.* **122**: 212-217, 1967.
54. Jerina, D.M., Daly, J.W. and Witkop, B.: Deuterium migration during the acid catalyzed dehydration of 6-deuterio-5, 6-dihydroxy-3-chloro-1, 3-cyclohexadiene, a nonenzymatic model for the NIH Shift. *J. Am. Chem. Soc.* **89**: 5488-5489, 1967.
55. Creveling, C.R., Daly, J.W., Tokuyama, T. and Witkop, B.: The combined use of α -methyltyrosine and threo-dihydroxyphenylserine - Selective reduction of dopamine levels in the central nervous system. *Biochem. Pharmacol.* **17**: 65-70, 1968.
56. Daly, J.W. Poisons. In *McGraw-Hill Yearbook of Science and Technology*, pp. 311-313, 1968.
57. Daly, J.W., Guroff, G., Udenfriend, S. and Witkop, B.: Hydroxylation of alkyl and halogen-substituted anilines and acetanilides by microsomal hydroxylases. *Biochem. Pharmacol.* **17**: 31-36, 1968.

58. Creveling, C.R., Daly, J.W. and Witkop, B.: The chemorelease of norepinephrine from mouse hearts. III. 3,5-Dihydroxy-4-methoxyphenethyl-amines and related compounds. *J. Med. Chem.* **11**: 595-596, 1968.
59. Creveling, C.R., Daly, J.W., Parfitt, R.T. and Witkop, B.: The chemorelease of norepinephrine from mouse hearts. IV. Structure-activity relationships. Reserpines and yohimbines. *J. Med. Chem.* **11**: 596-598, 1968.
60. Creveling, C.R., Kondo, K. and Daly, J.W.: Use of dansyl derivatives and mass spectrometry for identification of biogenic amines. *Clin. Chem.* **14**: 302-309, 1968.
61. Daly, J.W. and Guroff, G.: Production of *m*-methyltyrosine and *p*-hydroxymethyl-phenylalanine from *p*-methylphenylalanine by phenylalanine hydroxylase. *Arch. Biochem. Biophys.* **125**: 136-141, 1968.
62. Jerina, D., Guroff, G. and Daly, J.W. Enzymic and nonenzymic hydroxylation and chlorination of *p*-deuteroanisole. *Arch. Biochem. Biophys.* **124**: 612-615, 1968.
63. Tokuyama, T., Daly, J.W., Witkop, B., Karle, I.L., and Karle, J.: The structure of batrachotoxinin A, a novel steroidal alkaloid from the Colombian arrow poison frog, *Phyllobates aurotaenia*. *J. Am. Chem. Soc.* **90**: 1917-1918, 1968.
64. Axelrod, J. and Daly, J.W.: Phenol-O-methyltransferase. *Biochim. Biophys. Acta* **159**: 472-478, 1968.
65. Daly, J.W., Levitt, M., Guroff, G. and Udenfriend, S.: Isotope studies on the mechanism of action of adrenal tyrosine hydroxylase. *Arch. Biochem. Biophys.* **126**: 593-598, 1968.
66. Spector, S., Tabei, R., Creveling, C.R., Daly, J.W., Witkop, B. and Sjoerdsma, A.: Reduction of tissue norepinephrine and blood pressure by 3,5-dihydroxy-4-methoxyphenylalanine. *Life Sci.* **7**: 943-949, 1968.
67. Jerina, D., Daly, J.W., Witkop, B., Zaltzman-Nirenberg, P., and Udenfriend, S.: Role of the arene oxide-oxepin system in the metabolism of aromatic substrates. I. *In vitro* conversion of benzene oxide to a premercapturic acid and a dihydrodiol. *Arch. Biochem. Biophys.* **128**: 176-183, 1968.
68. Daly, J.W., Guroff, G., Jerina, D., Udenfriend, S. and Witkop, B.: Intramolecular migrations during hydroxylation of aromatic compounds. The NIH Shift. In *Advances in Chemistry Series, American Chemical Society, Oxidation of Organic Compounds III* **77**: 279-289, 1968.
69. Jerina, D.M., Daly, J.W., and Witkop, B.: The role of arene oxide-oxepin systems in the metabolism of aromatic substrates. II. Synthesis of 3,4-toluene-4-²H oxide and subsequent "NIH Shift" to 4-hydroxytoluene-3-²H. *J. Am. Chem. Soc.* **90**: 6523-6525, 1968.
70. Jerina, D.M., Daly, J.W., and Witkop, B., Zaltzman-Nirenberg, P., and Udenfriend, S.: The role of arene oxide-oxepin systems in the metabolism of aromatic substrates. III. Formation of 1,2-naphthalene oxide from naphthalene by liver microsomes. *J. Am. Chem. Soc.* **90**: 6525-6527, 1968.

71. Daly, J.W., Jerina, D., and Witkop, B.: Migration of deuterium during hydroxylation of aromatic substrates by liver microsomes. I. Influence of ring substituents. *Arch. Biochem. Biophys.* **128**: 517-527, 1968.
72. Daly, J.W., Guroff, G., Jerina, D.M., Udenfriend, S. and Witkop, B.: Intramolecular migrations of aryl substituents during enzymatic hydroxylation. *Hoppe-Seyler's Zeitschrift Physiol. Chem.* **349**: 1600-1604, 1968.
73. Creveling, C.R., Daly, J.W., Tokuyama, T., and Witkop, B.: Labile lipophilic derivatives of norepinephrine capable of crossing the blood-brain barrier. *Experientia* **25**: 26-27, 1969.
74. Lee, F.G.H., Daly, J.W. and Manian, A.A.: The synthesis of 0-methyl-nordehydrobufotenine, a new psychoactive indole. *J. Med. Chem.* **12**: 321-322, 1969.
75. Daly, J.W. and Manian, A.A.: The action of catechol-0-methyltransferase on 7,8-dihydroxychlorpromazine - Formation of 7-hydroxy-8-methoxy-chlorpromazine and 8-hydroxy-7-methoxychlorpromazine. *Biochem. Pharmacol.* **18**: 1235-1238, 1969.
76. Daly, J.W., Jerina, D., Farnsworth, J. and Guroff, G.: The migration of deuterium during aryl hydroxylation. II. Effect of induction of microsomal hydroxylases with phenobarbital or polycyclic aromatic hydrocarbons. *Arch. Biochem. Biophys.* **131**: 238-244, 1969.
77. Ong, H.H., Creveling, C.R., and Daly, J.W.: The synthesis of 2,4,5-trihydroxyphenyl-alanine (6-hydroxydopa). A centrally active norepinephrine-depleting agent. *J. Med. Chem.* **12**: 458-461, 1969.
78. Karle, I.L., Daly, J.W. and Witkop, B.: 2,3-*cis*-3,4-*trans*-3,4-dihydroxy-L-proline: Mass spectrometry and x-ray analysis. *Science* **164**: 1401-1402, 1969.
79. Tokuyama, T., Daly, J.W., and Witkop, B.: The structure of batrachotoxin, a steroidal, alkaloid from the Colombian arrow poison frog *Phylllobates aurotaenia* and partial synthesis of batrachotoxin and its analogs and homologs. *J. Am. Chem. Soc.* **91**: 3931-3938, 1969.
80. Nikodijevic, B., Daly, J.W., and Creveling, C.R.: Catechol-0-methyltransferase. I. An enzymatic assay for cardiac norepinephrine. *Biochem. Pharmacol.* **18**: 1577-1584, 1969.
81. Udenfriend, S., Daly, J.W., Guroff, G., Jerina, D.M., Zaltzman-Nirenberg, P. and Witkop, B.: Significance of the NIH shift with respect to liver microsome hydroxylations. In *Microsomes and Drug Oxidation*. Gillette, J.R., Conney, A.H., Cosmides, G.J., Estabrook, R.W., Fouts, J.R. and Mannering, G.J. (Eds.). Academic Press, New York, pp. 225-238, 1969.
82. Daly, J.W.: The hydroxylation-induced migration of tritium: Theoretical aspects. In *Atomlight No. 68 (Adv. Tracer Methodology)*. New England Nuclear Corp., pp. 1-7, 1969.
83. Shimizu, H., Daly, J.W. and Creveling, C.R.: A radioisotopic method for measuring the formation of adenosine 3,5'-cyclic monophosphate in incubated slices of brain. *J. Neurochem.* **16**: 1609-1619, 1969.
84. Daly, J.W., Tokuyama, T., Habermehl, G., Karle, I.L. and Witkop, B.: Froschgifte. Die Isolierung and Struktur von Pumiliotoxin C. *Liebig's Ann. Chemie.* **729**: 198-204, 1969.

85. Daly, J.W. and Jerina, D.M.: Migration of deuterium during aryl hydroxylation. III. Effect of *ortho*- and *meta*-substituents. *Arch. Biochem. Biophys.* **134**: 266-268, 1969.
86. Jerina, D.M., Ziffer, H. and Daly, J.W.: The role of the arene oxide-oxepin system in the metabolism of aromatic substrates. IV. Stereochemical considerations of dihydrodiol formation and dehydrogenation. *J. Am. Chem. Soc.* **92**: 1056-1061, 1970.
87. Jerina, D.M., Daly, J.W., Witkop, B., Zaltzman-Nirenberg, P., and Udenfriend, S.: 1,2-Naphthalene oxide as an intermediate in the microsomal hydroxylation of naphthalene. *Biochemistry.* **9**: 147-156, 1970.
88. Shimizu, H., Creveling, C.R., and Daly, J.W.: The effect of histamines and other compounds on the formation of adenosine 3',5'-monophosphate in slices from cerebral cortex. *J. Neurochem.* **17**: 441-444, 1970.
89. Daly, J.W.: A simple radiometric assay for microsomal aryl hydroxylase activity. *Anal. Biochem.* **33**: 286-296, 1970.
90. Daly, J.W.: Metabolism of acetanilides and anisoles with rat liver microsomes. *Biochem. Pharmacol.* **19**: 2979-2993, 1970.
91. Usubillaga, A., Seelkopf, C., Karle, I.L., Daly, J.W. and Witkop, B.: The structure of solaphyllidine, a novel 4-ketosteroidal alkaloid. *J. Am. Chem. Soc.* **92**: 700-701, 1970.
92. Jerina, D.M., Boyd, D.R. and Daly, J.W.: Photolysis of pyridine-N-oxide: An oxygen atom transfer model for enzymatic oxygenation, arene oxide formation, and the NIH Shift. *Tetrahedron Lett.* No. **6**: 457-460, 1970.
93. Shimizu, H., Creveling, C.R., and Daly, J.W.: Cyclic adenosine, 3'5'-monophosphate formation in brain slices: Stimulation by batrachotoxin, ouabain, veratridine, and potassium ions. *Mol. Pharmacol.* **6**: 184-188, 1970.
94. Daly, J.W., Jerina, D.M., Ziffer, H., Witkop, B., Klarner, F.G. and Vogel, E.: Enzymatic hydration of 8,9-indan oxide: Homoallylic addition of water. *J. Am. Chem. Soc.* **92**: 702-703, 1970.
95. Nikodijovic, B., Senoh, S., Daly, J.W., and Creveling, C.R.: Catechol-O-methyltransferase II. A new class of inhibitors of catechol-O-methyl-transferase; 3'5'-dihydroxy-4-methoxybenzoic acid and related compounds. *J. Pharmacol. Exp. Therap.* **174**: 83-93, 1970.
96. Stabenau, J.R., Creveling, C.R. and Daly, J.W.: The "Pink Spot", 3,4-dimethoxyphenylethylamine, common tea and schizophrenia. *Am. J. Psychiatry* **127**: 611-616, 1970.
97. Shimizu, H., Creveling, C.R., and Daly, J.W.: Stimulated formation of adenosine 3',5'-cyclic phosphate in cerebral cortex: Synergism between electrical activity and biogenic amines. *Proc. Natl. Acad. Sci. USA* **65**: 1033-1040, 1970.
98. Boyd, D.R., Jerina, D.M., and Daly, J.W.: Optically active 1,2-naphthalene oxide. *J. Org. Chem.* **35**: 3170-3172, 1970.
99. Daly, J.W. and Jerina, D.M.: Aerobic aromatic hydroxylation catalyzed by horseradish peroxidase: Absence of NIH Shift. *Biochim. Biophys. Acta* **208**: 340-342, 1970.

100. Shimizu, H., Creveling, C.R. and Daly, J.W.: Effect of membrane depolarization and biogenic amines on the formation of cyclic AMP in incubated brain slices. In *Advances in Biochemical Psychopharmacology: Role in Cyclic AMP in Cell Function*. Gillette, J.R., Conney, A.H., Cosmides, G.J., Estabrook, R.W., Fouts, J.R. and Mannering, G.J. (Eds.). Raven Press, New York, Vol. **3**, pp. 135-154, 1970.
101. Daly, J.W. and Witkop, B.: Batrachotoxin, a novel steroidal alkaloid with selective effects on biomembrane permeability. *Aldrichimica Acta* **3**: 3-6, 1970.
102. Creveling, C.R., Dalgard, N., Shimizu, H. and Daly, J.W.: Catechol-0-methyltransferase. III. *m*- and *p*-0-Methylation of catecholamines and their metabolites. *Mol. Pharmacol.* **6**: 691-696, 1970.
103. Shimizu, H. and Daly, J.W. Formation of cyclic adenosine 3',5'-monophosphate from adenosine in brain slices. *Biochim. Biophys. Acta* **222**: 465-473, 1970.
104. Creveling, C.R. and Daly, J.W.: The use of dansyl derivatives for the identification and quantitation of amines. In *Methods in Enzymology*. Tabor, H. and Tabor, C.W. (Eds.). Academic Press, New York, Vol. **17**, Part B, pp. 846-850, 1971.
105. Daly, J.W. and Witkop, B.: The chemistry and pharmacology of frog venoms. In *Venomous Animals and their Venoms, Venomous Vertebrates*. Bucherl, W. and Buckley, E.E. (Eds.). Academic Press, New York, Vol. **2**, pp. 497-519, 1971.
106. Creveling, C.R. and Daly, J.W.: Assay of enzymes of catecholamine biosynthesis and metabolism. In *Methods of Biochemical Analysis*. Glick, D. (Ed.). John Wiley & Sons, New York, Vol. **19**, pp. 153-181, 1971.
107. Creveling, C.R. and Daly, J.W.: The application of biochemical techniques in the search for drugs affecting biogenic amines. In *Biogenic Amines and Physiological Membranes in Modern Drug Therapy*. Biel, J. and Abood, L.G. (Eds.). Marcel Dekker, Inc., New York, Vol. **5**, Part B, pp. 355-411, 1971.
108. Jerina, D.M., Daly, J.W. and Witkop, B.: The "NIH Shift" and a mechanism of enzymatic oxygenation. In *Biogenic Amines and Physiological Membranes in Modern Drug Therapy*. Biel, J. and Abood, L.G. (Eds.). Marcel Dekker, Inc., New York, Vol. **5**, pp. 413-476, 1971.
109. Daly, J.W.: Enzymatic oxidation at carbon. In *Handbook of Experimental Pharmacology*. Brodie, B.B. and Gillette, J.R. (Eds.). Springer-Verlag, Berlin, Germany, Vol. **28**, Part 2, pp. 284-311, 1971.
110. Jerina, D.M., Daly, J.W. and Witkop, B.: Migration of substituents during hydroxylation of aromatic substrates (NIH Shift). Oxidations with peroxytrifluoroacetic acids. *Biochemistry* **10**: 366-372, 1971.
111. Oesch, F., Jerina, D.M., and Daly, J.W.: A radiometric assay for hepatic epoxide hydrase activity with styrene [7^3 -H]styrene oxide. *Biochim. Biophys. Acta* **227**: 685-691, 1971.
112. Oesch, F. and Daly, J.W.: Solubilization, purification, and properties of a hepatic epoxide hydrase. *Biochim. Biophys. Acta* **227**: 692-697, 1971.

113. Jerina, D.M., Daly, J.W., Jeffrey, A.M. and Gibson, D.T.: Cis-1,2-dihydroxy-1,2-dihydronaphthalene: A bacterial metabolite from naphthalene. *Arch. Biochem. Biophys.* **142**: 394-396, 1971.
114. Huang, M., Shimizu, H., and Daly, J.W.: Regulation of adenosine cyclic 3',5'-phosphate formation in cerebral cortical slices: Interaction among norepinephrine, histamine, and serotonin. *Mol. Pharmacol.* **7**: 155-162, 1971.
115. Johnson, D.F. and Daly, J.W.: Biosynthesis of cholesterol and cholesterol acetate in dendrobatid arrow poison frogs. *Biochem. Pharmacol.* **20**: 2555-2559, 1971.
116. Daly, J.W. and Witkop, B.: Batrachotoxin, an extremely active cardio- and neurotoxin from the Colombian arrow poison frog, *Phyllobates aurotaenia*. *Clinical Toxicol.* **4**: 331-342, 1971.
117. Albuquerque, E.X., Daly, J.W., and Witkop, B.: Batrachotoxin: Chemistry and pharmacology. *Science* **172**: 995-1002, 1971.
118. Oesch, F., Jerina, D.M. and Daly, J.W.: Substrate specificity of hepatic epoxide hydase in microsomes and in a purified preparation: Evidence for homologous enzymes. *Arch. Biochem. Biophys.* **144**: 253-261, 1971.
119. Lovenberg, W., Bensinger, R.E., Jackson, R.L. and Daly, J.W.: Rapid analysis of tryptophan hydroxylase in rat tissue using 5-³H-tryptophan. *Anal. Biochem.* **43**: 269-274, 1971.
120. Daly, J.W., Karle, I., Myers, C.W., Tokuyama, T., Waters, J.A., and Witkop, B.: Histrionicotoxins: Roentgen-ray analysis of the novel allenic and acetylenic spiroalkaloids isolated from a Colombian frog, *Dendrobates histrionicus*. *Proc. Natl. Acad. Sci. USA* **68**: 1870-1875, 1971.
121. Jerina, D.M., Kaubisch, N. and Daly, J.W.: Arene oxides as intermediates in the metabolism of aromatic substrates: Alkyl and oxygen migrations during isomerization of alkylated arene oxides. *Proc. Natl. Acad. Sci. USA* **68**: 2545-2548, 1971.
122. Auret, B.J., Boyd, D.R., Robinson, P.M., Watson, C.G., Daly, J.W. and Jerina, D.M.: The NIH Shift during the hydroxylation of aromatic substrates by fungi. *Chem. Commun.* 1585-1587, 1971.
123. Albuquerque, E.X., Sasa, M., Avner, B.P. and Daly, J.W.: Possible site of action of batrachotoxin. *Nature New Biology* **234**: 93-95, 1971.
124. Oesch, F., Kaubisch, N., Jerina, D.M. and Daly, J.W.: Hepatic epoxide hydase. Structure-activity relationships for substrates and inhibitors. *Biochemistry* **10**: 4858-4866, 1971.
125. Myers, C.W. and Daly, J.W.: Comment on the proposed designation of a new type-species of *Dendrobates* Wagler, 1830. *Bull. Zool. Nomenclature* **28**: 141, 1971.
126. Daly, J.W., Huang, M. and Shimizu, H.: Regulation of cyclic AMP levels in brain tissue. In *Advances in Cyclic Nucleotides Research*. Greengard, P., Robinson, G.A. and Paoletti, R. (Eds.). Raven Press, New York, Vol. **1**, pp. 375-387, 1972.

127. Jonsson, G., Fuxe, K., and Daly, J.W.: Intracerebral injections of 5,6-dihydroxytryptamine (5,6-HT). Evidence for selective degeneration of central 5-hydroxytryptamine (5-HT) neurons. *Acta Pharmacol. Toxicol.* **31**_Suppl. 1: 24, 1972.
128. Kaubisch, N., Daly, J.W. and Jerina, D.M.: Arene oxides as intermediates in the oxidative metabolism of aromatic compounds. Isomerization of methyl-substituted arene oxides. *Biochemistry* **11**: 3080-3088, 1972.
129. Shimizu, H. and Daly, J.W.: Effect of depolarizing agents on accumulation of cyclic adenosine 3',5'-monophosphate in cerebral cortical slices. *Eur. J. Pharmacol.* **17**: 240-252, 1972.
130. Nebert, D.W., Benedict, W.F., Gielen, J.E., Oesch, F. and Daly, J.W.: Aryl hydrocarbon hydroxylase, epoxide hydrase, and 7,12-dimethylbenz[a]anthracene-produced skin tumorigenesis in the mouse. *Mol. Pharmacol.* **8**: 374-379, 1972.
131. Lutz, W.B., Creveling, C.R., Daly, J.W. and Witkop, B.: Sulfur analogs of dopamine and norepinephrine. Inhibition of catechol-O-methyltransferase. *J. Med. Chem.* **15**: 795-802, 1972.
132. Huang, M. and Daly, J.W.: Accumulation of cyclic adenosine monophosphate in incubated slices of brain tissue. 1. Structure-activity relationships of agonists and antagonists of biogenic amines and of tricyclic tranquilizers and antidepressants. *J. Med. Chem.* **15**: 458-462, 1972.
133. Huang, M., Shimizu, H. and Daly, J.W.: Accumulation of cyclic adenosine monophosphate in incubated slices of brain tissue. 2. Effects of depolarizing agents, membrane stabilizers, phosphodiesterase inhibitors, and adenosine analogs. *J. Med. Chem.* **15**: 462-466, 1972.
134. Oesch, F. and Daly, J.W.: Conversion of naphthalene to trans-naphthalene dihydrodiol: Evidence for the presence of a coupled aryl monooxygenase epoxide hydrase system in hepatic microsomes. *Biochem. Biophys. Res. Commun.* **46**: 1713-1720, 1972.
135. Oesch, F., Waters, J.A., Daly, J.W., and Witkop, B.: Fluorescent derivatives of strophanthidin. Interaction with sodium- and potassium-activated adenosine triphosphatase. *J. Med. Chem.* **15**: 757-759, 1972.
136. Schultz, J., Hamprecht, B. and Daly, J.W.: Accumulation of adenosine 3':5'-cyclic monophosphate in clonal glial cells: Labeling of intracellular adenosine nucleotides with radioactive adenine. *Proc. Natl. Acad. Sci. USA* **69**: 1266-1270, 1972.
137. Boyd, D.R., Daly, J.W., and Jerina, D.M. Rearrangement of [1-²H]- and [2-²H]-naphthalene 1,2-oxides to 1-naphthol. Mechanism of the NIH Shift. *Biochemistry.* **11**: 1961-1966, 1972.
138. Shimizu, H. and Daly, J.W.: Methods for the measurement of cyclic AMP in brain. In *Methods in Neurochemistry*. Fried, R. (Ed.). Marcel Dekker, Inc., New York, Vol. **2**, pp. 147-168, 1972.
139. Daly, J.W.: Accumulation of cyclic AMP in tissue slices and intact cells: Prelabeling of intracellular pools of ATP. In *Methods in Molecular Biology*. Chasin, M. (Ed.). Marcel Dekker Inc., New York, Vol. **3**, pp. 255-299, 1972.
140. Oesch, F., Jerina, D.M., Daly, J.W., Lu, A.Y.H., Kuntzman, R. and Conney, A.H.: A reconstituted microsomal enzyme system that converts naphthalene to trans-1,2-dihydroxy-1,2-

- dihydronaphthalene via naphthalene-1,2-oxide: Presence of epoxide hydrase in cytochrome P-450 and P-448 fractions. *Arch. Biochem. Biophys.* **153**: 62-67, 1972.
141. Daly, J.W., Albuquerque, E.X., Kauffman, F.C. and Oesch, F.: Effects of batrachotoxin on electroplax $\text{Na}^+\text{-K}^+\text{-ATPase}$ and levels of ATP in rat muscle. *J. Neurochem.* **19**: 2829-2833, 1972.
 142. Creveling, C.R., Morris, N., Shimizu, H., Ong, H.H. and Daly, J.W.: Catechol-0-methyltransferase. IV. Factors affecting *m*- and *p*-methylation of substituted catechols. *Mol. Pharmacol.* **8**: 398-409, 1972.
 143. Costa, E., LeFevre, H., Meek, J., Revuelta, A., Spano, F., Strada, S. and Daly, J.W. Serotonin and catecholamine concentrations in brain of rats injected intracerebrally with 5,6-dihydroxytryptamine. *Brain Res.* **44**: 304-308, 1972.
 144. Daly, J.W., Fuxe, K., and Jonsson, G.: 5,6-Dihydroxytryptamine: A new tool in the mapping out of central 5-HT neurons. *Histochem. Cytochem.* **4**: 487-488, 1972.
 145. Daly, J.W., Jerina, D.M. and Witkop, B.: Arene oxides and the NIH Shift: The metabolism, toxicity and carcinogenicity of aromatic compounds. *Experientia* **28**: 1129-1149, 1972.
 146. Shimizu, H., Takenoshita, M., Huang, M. and Daly, J.W.: Accumulation of adenosine 3',5'-monophosphate in brain slices: Interaction of local anesthetics and depolarizing agents. *J. Neurochem.* **20**: 91-95, 1973.
 147. Daly, J.W., Fuxe, K., and Jonsson, G.: Effects of intracerebral injections of 5,6-dihydroxytryptamine on central monoamine neurons: Evidence for selective degeneration of central 5-hydroxytryptamine neurons. *Brain Res.* **49**: 476-482, 1973.
 148. Albuquerque, E.X., Warnick, J.E., Sansone, F.M. and Daly, J.W.: The pharmacology of batrachotoxin. V. A comparative study of membrane properties and the effect of batrachotoxin on sartorius muscles of the frogs *Phyllobates aurotaenia* and *Rana pipiens*. *J. Pharmacol. Exp. Therap.* **184**: 315-329, 1973.
 149. Schultz, J. and Daly, J.W.: Cyclic adenosine 3', 5'-monophosphate in guinea pig cerebral cortical slices. I. Formation of cyclic adenosine 3',5'-monophosphate from endogenous adenosine triphosphate and from radioactive adenosine triphosphate formed during a prior incubation with radioactive adenine. *J. Biol. Chem.* **248**: 843-852, 1973.
 150. Schultz, J. and Daly, J.W.: Cyclic adenosine 3',5'-monophosphate in guinea pig cerebral cortical slices. II. The role of phosphodiesterase activity in the regulation of levels of cyclic adenosine 3',5'-monophosphate. *J. Biol. Chem.* **248**: 853-859, 1973.
 151. Schultz, J. and Daly, J.W.: Cyclic adenosine 3',5'-monophosphate in guinea pig cerebral cortical slices. III. Formation, degradation, and reformation of cyclic adenosine 3,5-monophosphate during sequential stimulations by biogenic amines and adenosine. *J. Biol. Chem.* **248**: 860-866, 1973.
 152. Reed, D.J., Vimmerstedt, J., Jerina, D.M. and Daly, J.W.: Formation of phenols from aromatic substrates by plant and animal mono-oxygenases: The effect of adjacent deuteriums on the magnitude on the NIH Shift of tritium. *Arch. Biochem. Biophys.* **154**: 642-647, 1973.

153. Albuquerque, E.X., Barnard, E.A., Chiu, T.M., Lapa, A.J., Dolly, J.O., Jansson, S.-E., Daly, J.W. and Witkop, B.: Acetylcholine receptor and ion conductance modulator sites at the murine neuromuscular junction: Evidence from specific toxin reactions. *Proc. Natl. Acad. Sci. USA* **70**: 949-953, 1973.
154. Oesch, F., Jerina, D.M., Daly, J.W. and Rice, J.M.: Induction, activation and inhibition of epoxide hydrase: An anomalous prevention of chlorobenzene-induced hepatotoxicity by an inhibitor of epoxide hydrase. *Chem. -Biol. Interactions* **6**: 189-202, 1973.
155. Ferris, J.P., Fasco, M.J., Stylianopoulou, F.L., Jerina, D.M., Daly, J.W. and Jeffrey, A.M.: Monooxygenase activity in *Cunninghamella bainieria*: Evidence for a fungal system similar to liver microsomes. *Arch. Biochem. Biophys.* **156**: 97-103, 1973.
156. Skolnick, P., Huang, M., Daly, J.W. and Hoffer, B.: Accumulation of adenosine 3',5'-monophosphate in incubated slices from discrete regions of squirrel monkey cerebral cortex: Effect of norepinephrine, serotonin and adenosine. *J. Neurochem.* **21**: 237-240, 1973.
157. Lundstrom, J., Ong, H., Daly, J.W. and Creveling, C.R.: Isomers of 2,4,5-trihydroxyphenethylamine (6-hydroxydopamine): Long-term effects on the accumulation of [³H]-norepinephrine in mouse heart *in vivo*. *Mol. Pharmacol.* **9**: 505-513, 1973.
158. Jerina, D.M. and Daly, J.W.: Mechanisms for the oxidative metabolism of the aromatic nucleus. In 'Oxidases and Related Redox Systems'. Proceedings of the Second International Symposium. King, T.E., Mason, H.S. and Morrison, M. (Eds.). University Park Press, Baltimore, pp. 143-161, 1973.
159. Schultz, J. and Daly, J.W.: Adenosine 3',5'-monophosphate in guinea pig cerebral cortical slices: Effects of α - and β -adrenergic agents, histamine, serotonin and adenosine. *J. Neurochem.* **21**: 573-579, 1973.
160. Schultz, J. and Daly, J.W.: Accumulation of cyclic adenosine 3',5'-monophosphate in cerebral cortical slices from rat and mouse: Stimulatory effect of α - and β -adrenergic agents and adenosine. *J. Neurochem.* **21**: 1319-1326, 1973.
161. Huang, M., Ho, A.K.S., and Daly, J.W.: Accumulation of adenosine cyclic 3',5'-monophosphate in rat cerebral cortical slices. Stimulatory effect of *alpha* and *beta* adrenergic agents after treatment with 6-hydroxy-dopamine, 2,3,5-trihydroxy-phenethylamine, and dihydroxytryptamines. *Mol. Pharmacol.* **9**: 711-717, 1973.
162. Oesch, F., Morris, N., Daly, J.W., Gielen, J.E. and Nebert, D.W.: Genetic expression of the induction of epoxide hydrase and aryl hydrocarbon hydroxylase activities in the mouse by phenobarbital or 3-methylcholanthrene. *Mol. Pharmacol.* **9**: 692-696, 1973.
163. Jerina, D.M., Yagi, H. and Daly, J.W.: Arene oxides-oxepins. *Heterocycles* **1**: 267-326, 1973.
164. Daly, J.W., Fuxe, K. and Jonsson, G.: 5,7-Dihydroxytryptamine as a tool for the morphological and functional analysis of central 5-hydroxytryptamine neurons. *Res. Commun. Chem. Path. Pharmacol.* **7**: 175-187, 1974.
165. Huang, M. and Daly, J.W.: Adenosine-elicited accumulation of cyclic AMP in brain slices: Potentiation by agents which inhibit uptake of adenosine. *Life Sci.* **14**: 489-503, 1974.

166. Huang, M., Gruenstein, E., and Daly, J.W.: Depolarization-evoked accumulation of cyclic AMP in brain slices: Inhibition by exogenous adenosine deaminase. *Biochim. Biophys. Acta* **329**: 147-151, 1973.
167. Skolnick, P. and Daly, J.W.: Norepinephrine-sensitive adenylate cyclases in rat brain: Relation to behavior and tyrosine hydroxylase. *Science* **184**: 175-177, 1974.
168. Jansson, S.-E., Albuquerque, E.X. and Daly, J.W.: The pharmacology of batrachotoxin. VI. Effects on the mammalian motor nerve terminal. *J. Pharmacol. Exp. Therap.* **189**: 525-537, 1974.
169. Kuba, K., Albuquerque, E.X., Daly, J.W. and Barnard, E.A.: A study of the irreversible cholinesterase inhibitor, diisopropylfluorophosphate, on time course of end-plate currents in frog sartorius muscle. *J. Pharmacol. Exp. Therap.* **189**: 499-512, 1974.
170. Albuquerque, E.X., Kuba, K. and Daly, J.W.: Effect of histrionicotoxin on the ionic conductance modulator of the cholinergic receptor: A quantitative analysis of the end-plate current. *J. Pharmacol. Exp. Therap.* **189**: 513-524, 1974.
171. Daly, J.W.: Regulation of cyclic AMP levels in brain. In 'Frontiers in Catecholamine Research,' Usdin, E. and Snyder, S.H. (Eds.). Pergamon Press, New York, pp. 301-306, 1973.
172. Skolnick, P. and Daly, J.W.: The accumulation of adenosine 3',5'-monophosphate in cerebral cortical slices of the quaking mouse, a neurologic mutant. *Brain Res.* **73**: 513-525, 1974.
173. Daly, J.W., Lundstrom, J. and Creveling, C.R.: Structure-activity correlations in trihydroxyphenethylamines and dihydroxytryptamines: Relationship to cytotoxicity in adrenergic and serotonergic neurons. In 'Dynamics of Degeneration and Growth in Neurons', Fuxe, K., Olson, L. and Zotterman, Y. (Eds.). Pergamon Press, Oxford, pp. 29-42, 1974.
174. Huang, M. and Daly, J.W.: Enhanced accumulation of cyclic AMP in brain slices elicited by norepinephrine after intraventricular pretreatment of rats with 6-hydroxydopamine. In 'Dynamics of Degeneration and Growth in Neurons', Fuxe, K., Olson, L. and Zotterman, Y. (Eds.). Pergamon Press, Oxford, pp. 593-596, 1974.
175. Lapa, A.J., Albuquerque, E.X. and Daly, J.W.: An electrophysiological study of the effects of d-tubocurarine, atropine, and α -bungarotoxin on the cholinergic receptor in innervated and chronically denervated mammalian skeletal muscles. *Exp. Neurol.* **43**: 375-398, 1974.
176. Tomaszewski, J.E., Jerina, D.M., and Daly, J.W.: Cytochrome P-450 monooxygenases and drug metabolism. In 'Annual Reports in Medicinal Chemistry', Heinzelman, R.V. (Ed.). Academic Press, New York, Vol. **9**, pp. 290-299, 1974.
177. Jerina, D.M. and Daly, J.W.: Arene oxides: A new aspect of drug metabolism. Metabolic formation of arene oxides explains many toxic and carcinogenic properties of aromatic hydrocarbons. *Science* **185**: 573-582, 1974.
178. Selander, H.C., Jerina, D.M. and Daly, J.W.: Metabolism of acetanilide with hepatic microsomes and reconstituted cytochrome monooxygenase systems. *Arch. Biochem. Biophys.* **164**: 241-246, 1974.

179. Dansette, P.M., Yagi, H., Jerina, D.M., Daly, J.W., Levin, W., Lu, A.Y.H., Kuntzman, R. and Conney, A.H.: Assay and partial purification of epoxide hydrase from rat liver microsomes. *Arch. Biochem. Biophys.* **164**: 511-517, 1974.
180. Dismukes, K. and Daly, J.W.: Norepinephrine-sensitive systems generating adenosine 3',5'-monophosphate: Increased responses in cerebral cortical slices from reserpine-treated rats. *Mol. Pharmacol.* **10**: 933-940, 1974.
181. Daly, J.W.: Cyclic adenosine 3',5'-monophosphate role in the physiology and pharmacology of the central nervous system. *Biochem. Pharmacol.* **24**: 159-164, 1975.
182. Rotman, A., Lundstrom, J., McNeal, E., Daly, J.W. and Creveling, C.R.: Norepinephrine uptake sites in cardiac tissue. Lack of affinity of 6-hydroxynorepinephrine and related compounds. *J. Med. Chem.* **18**: 138-142, 1975.
183. Albuquerque, E.X., Kuba, K., Lapa, A.J., Daly, J.W. and Witkop, B.: Acetylcholine receptor and ionic conductance modulator of innervated and denervated muscle membranes. Effect of histrionicotoxins. *Excerpta Medica*, no. 333, pp. 585-597, 1973.
184. Skolnick, P. and Daly, J.W. Functional compartments of adenine nucleotides serving as precursors of adenosine 3',5'-monophosphate in mouse cerebral cortex. *J. Neurochem.* **24**: 451-456, 1975.
185. Tokuyama, T., Uenoyama, K., Brown, G., Daly, J.W. and Witkop, B.: Allenic and acetylenic spiropiperidine alkaloids from the neotropical frog, *Dendrobates histrionicus*. *Helv. Chim. Acta* **57**: 2597-2604, 1974.
186. Zirnis, A., Suzuki, J.K., Daly, J.W. and Manian, A.A.: 7,8-Dioxochlorpromazine, synthesis and properties. *J. Heterocyclic Chem.* **12**: 239-242, 1975.
187. Creveling, C.R., Lundstrom, J., McNeal, E.T., Tice, L. and Daly, J.W.: Dihydroxytryptamines: Effects on noradrenergic function in mouse heart *in vivo*. *Mol. Pharmacol.* **11**: 211-222, 1975.
188. Tomaszewski, J.E., Jerina, D.M. and Daly, J.W.: Deuterium isotope effects during formation of phenols by hepatic monooxygenases. Evidence for an alternative to the arene oxide pathway. *Biochemistry* **14**: 2024, 1975.
189. Warnick, J.E., Albuquerque, E.X., Onur, R., Jansson, S.-E., Daly, J.W., Tokuyama, T. and Witkop, B.: The pharmacology of batrachotoxin. VII. Structure-activity relationships and the effects of pH. *J. Pharmacol. Exp. Therap.* **193**: 232-245, 1975.
190. Skolnick, P., Schultz, J. and Daly, J.W.: Repetitive stimulation of cyclic adenosine 3',5'-monophosphate formation by adrenergic agonists in incubated slices from rat cerebral cortex. *J. Neurochem.* **24**: 1263-1265, 1975.
191. Selander, H.G., Jerina, D.M. and Daly, J.W.: Metabolism of chlorobenzene with hepatic microsomes and solubilized cytochrome P-450 systems. *Arch. Biochem. Biophys.* **168**: 309-321, 1975.
192. Skolnick, P., and Daly, J.W.: Stimulation of adenosine 3',5'-monophosphate formation in rat cerebral cortical slices by methoxamine: Interaction with an alpha adrenergic receptor. *J. Pharmacol. Exp. Therap.* **193**: 549-558, 1975.

193. Dismukes, K. and Daly, J.W.: Accumulation of adenosine 3',5'-monophosphate in rat brain slices: Effects of prostaglandins. *Life Sci.* **17**: 199-209, 1975.
194. Mah, H.D. and Daly, J.W.: Intracellular formation of analogs of cyclic AMP: Studies with brain slices labeled with radioactive derivatives of adenine and adenosine. *Biochim. Biophys. Acta* **404**: 49-56, 1975.
195. Rogers, M., Dismukes, K., and Daly, J.W.: Histamine-elicited accumulations of cyclic adenosine 3',5'-monophosphate in guinea-pig brain slices: Effect of H₁- and H₂-antagonists. *J. Neurochem.* **25**: 531-534, 1975.
196. Skolnick P. and Daly, J.W.: Stimulation of adenosine 3,5-monophosphate formation by *alpha* and *beta* adrenergic agonists in rat cerebral cortical slices: Effects of clonidine. *Mol. Pharmacol.* **11**: 545-551, 1975.
197. Daly, J.W.: Role of cyclic nucleotides in the nervous system. *Handbook of Psychopharmacology*, **5**: 47-130, 1975.
198. Rotman, A., Daly, J.W. and Creveling, C.R.: General methods for the preparation of deuterium and tritium-labelled phenethylamines and phenethanolamines: Synthesis of radioactive 6-hydroxydopamine. *J. Labelled Compounds* **11**: 445-452, 1975.
199. Lu, A.Y.H., Ryan, D., Jerina, D.M., Daly, J.W. and Levin, W.: Liver microsomal epoxide hydrase. Solubilization, purification and characterization. *J. Biol. Chem.* **250**: 8283-8288, 1975.
200. Dismukes, R.K. and Daly, J.W.: Altered responsiveness of adenosine 3',5'-monophosphate generating systems in brain slices from adult rats after neonatal treatment with 6-hydroxydopamine. *Exp. Neurol.* **49**: 150-160, 1975.
201. Lapa, A.J., Albuquerque, E.X., Sarvey, J.M., Daly, J.W. and Witkop, B.: Effects of histrionicotoxin on the chemosensitive and electrical properties of skeletal muscle. *Exp. Neurol.* **47**: 558-580, 1975.
202. Dismukes, R.K., Ghosh, P., Creveling, C.R. and Daly, J.W.: Altered responsiveness of adenosine 3',5'-monophosphate-generating systems in rat cortical slices after lesions of the medial forebrain bundle. *Exp. Neurol.* **49**: 725-735, 1975.
203. Creveling, C.R., Rotman, A. and Daly, J.W.: Interactions of 6-hydroxydopamine and related compounds with proteins: A model for the mechanism of cytotoxicity. In 'Chemical Tools in Catecholamine Research', Jonsson, G., Malmfors, T. and Sachs, C. (Eds.). North-Holland Publishing Co., Amsterdam, Vol. **1**, pp. 23-32, 1975.
204. Weissman, B.A., Daly, J.W. and Skolnick, P.: Diethylstilbestrol-elicited accumulation of cyclic AMP in incubated rat hypothalamus. *Endocrinology* **97**: 1559-1566, 1975.
205. Rotman, A., Daly, J.W., Creveling, C.R. and Breakfield, X.O.: Uptake and binding of dopamine and 6-hydroxydopamine in murine neuroblastoma and fibroblast cells. *Biochem. Pharmacol.* **25**: 383-388, 1975.

206. Warnick, J., Albuquerque, E., Lapa, A., Daly, J.W. and Witkop, B.: Actions of neurotoxins on the acetylcholine receptor-ionic conductance modulator unit and on sodium channels. In 'Proc. Sixth Intl. Congress Pharmacol.', Tuomisto, J., and Paasonen, M.K. (Eds.). Vol. 1, pp. 67-76, 1975.
207. Habermehl, G., Andres, H., Miyahara, K., Witkop, B. and Daly, J.W.: Synthese von Pumiliotoxin C. *Liebigs Ann. Chem.* 1577-1583, 1976.
208. Mah, H. and Daly, J.W.: Adenosine-dependent formation of cyclic AMP in brain slices. *Pharmacol. Res. Commun.* **8**: 65-79, 1976.
209. Dismukes, K., Rogers, M. and Daly, J.W.: Cyclic adenosine 3',5'-monophosphate formation in guinea-pig brain slices: Effect of H₁- and H₂-histaminergic agonists. *J. Neurochem.* **26**: 785-790, 1976.
210. Shotzberger, G.S., Albuquerque, E.X. and Daly, J.W.: The effects of batrachotoxin on cat papillary muscle. *J. Pharmacol. Exp. Therap.* **196**: 433-444, 1976.
211. Skolnick, P., Daly, J.W., Freedman, R. and Hoffer, B.J.: Interrelationship between catecholamine-stimulated formation of adenosine 3',5'-monophosphate in cerebellar slices and inhibitory effects on cerebellar Purkinje cells: Antagonism by neuroleptic compounds. *J. Pharmacol. Exp. Therap.* **197**: 280-292, 1976.
212. Daly, J.W.: The nature of receptors regulating the formation of cyclic AMP in brain tissue. *Life Sci.* **18**: 1349-1358, 1976.
213. Hoffer, B.J., Freedman, R., Woodward, D.J., Daly, J.W. and Skolnick, P.: β -Adrenergic-control of cyclic AMP-generating systems in cerebellum: Pharmacological heterogeneity confirmed by destruction of interneurons. *Exp. Neurol.* **51**: 653-667, 1976.
214. Dismukes, R.K. and Daly, J.W.: Altered brain cyclic AMP-response in rats reared in enriched or impoverished environments. *Experientia* **32**: 730-731, 1976.
215. Skolnick, P. and Daly, J.W.: Antagonism of α - and β -adrenergic mediated accumulations of cyclic AMP in rat cerebral cortical slices by the β -antagonist (-)alprenolol. *Life Sci.* **19**: 497-504, 1976.
216. Myers, C.W. and Daly, J.W.: Preliminary evaluation of skin toxins and vocalizations in taxonomic and evolutionary studies of poison-dart frogs (Dendrobatidae). *Bull. Am. Mus. Nat. Hist.* **157**: 173-262, 1976.
217. Dismukes, R.K. and Daly, J.W.: Adaptive responses of brain cyclic AMP-generating systems to alterations in synaptic input. *J. Cyclic Nucleotide Res.* **2**: 321-336, 1976.
218. Dismukes, R.K., Ghosh, P., Creveling, C.R. and Daly, J.W.: Norepinephrine depletion and responsiveness of norepinephrine-sensitive cyclic AMP generating systems in guinea pig brain. *Exp. Neurol.* **52**: 206-215, 1976.
219. Schwabe, U., Miyake, M., Ohga, Y., and Daly, J.W.: 4-(3-Cyclopentyloxy-4-methoxy)-2-pyrrolidone (ZK 62711): A potent inhibitor of adenosine cyclic 3',5'-monophosphate phosphodiesterases in homogenates and tissues slices from rat brain. *Mol. Pharmacol.* **12**: 900-910, 1976.

220. Skolnick, P. and Daly, J.W.: Interaction of clonidine with pre- and post-synaptic adrenergic receptors of rat brain: Effects on cyclic AMP-generating system. *Eur. J. Pharmacol.* **39**: 11-21, 1976.
221. Jerina, D.M. and Daly, J.W.: Oxidation at carbon. In 'Drug Metabolism -From Microbe to Man'. Parke, D.V. and Smith, R.L. (Eds.). Taylor & Francis Ltd. London, pp. 13-32, 1976.
222. Rotman, A., Daly, J.W. and Creveling, C.R.: Oxygen-dependent reaction of 6-hydroxydopamine, 5,6-dihydroxytryptamine, and related compounds with proteins *in vitro*: A model for cytotoxicity. *Mol. Pharmacol.* **12**: 887-899, 1976.
223. Myers, C.W. and Daly, J.W.: A new species of poison frog (*Dendrobates*) from Andean Ecuador, including an analysis of its skin toxins. *Occ. Papers Mus. Nat. Hist., University of Kansas, No. 59*: 1-12, 1976.
224. Albuquerque, E.X. and Daly, J.W.: Batrachotoxin, a selective probe for channels modulating sodium conductances in electrogenic membranes. In 'The Specificity and Action of Animal, Bacterial and Plant Toxins'. Cuatrecasas, P. (Ed.). Chapman and Hall, London, Vol. 1, pp. 296-338, 1976.
225. Daly, J.W.: Cyclic Nucleotides in the Nervous System, Plenum Press, New York, pp. 1-401, 1977. (BOOK).
226. Stalvey, L., Daly, J.W. and Dismukes, R.K.: Behavioral activity and accumulation of cyclic AMP in brain slices of strains of mice. *Life Sci.* **19**: 1845-1850, 1976.
227. Skolnick, P. and Daly, J.W.: Strain differences in responsiveness of norepinephrine-sensitive adenosine 3',5'-monophosphate-generating systems in rat brain slices after intraventricular administration of 6-hydroxydopamine. *Eur. J. Pharmacol.* **41**: 145-152, 1977.
228. Boyd, D.R., Campbell, R.M., Craig, H.C., Watson, C.G., Daly, J.W. and Jerina, D.M.: Mechanism of aromatic hydroxylation in fungi. Evidence for the formation of arene oxides. *J. Chem. Soc. Perkin Trans 1*: 2438-2443, 1976.
229. Bartels-Bernal, E., Rosenberry, T.L., and Daly, J.W.: Effect of batrachotoxin on the electroplax of electric eel: Evidence for voltage-dependent interaction with sodium channels. *Proc. Natl. Acad. Sci. USA* **74**: 951-955, 1977.
230. Daly, J.W., Witkop, B., Tokuyama, T., Nishikawa, T. and Karle, I.L.: Gephyrotoxins, histrionicotoxins and pumiliotoxins from the neotropical frog *Dendrobates histrionicus*. *Helv. Chim. Acta.* **60**: 1128-1140, 1977.
231. Eldefrawi, A.T., Eldefrawi, M.E., Albuquerque, E.X. Oliveira, A.C., Mansour, N., Adler, M., Daly, J.W., Brown, G.B., Burgermeister, W. and Witkop, B.: Perhydrohistrionicotoxin: A potential ligand for the ion conductance modulator of the acetylcholine receptor. *Proc. Natl. Acad. Sci. USA* **74**: 2172-2176, 1977.
232. Ohga, Y. and Daly, J.W.: The accumulation of cyclic AMP and cyclic GMP in guinea pig brain slices. *Biochim. Biophys. Acta* **498**: 46-60, 1977.

233. Ohga, Y. and Daly, J.W.: Calcium ion-elicited accumulations of cyclic GMP in guinea pig cerebellar slices. *Biochim. Biophys. Acta* **498**: 61-75, 1977.
234. Miyake, M., Daly, J.W. and Creveling, C.R.: Purification of calcium-dependent phosphodiesterases from rat cerebrum by affinity chromatography on activator protein-sepharose. *Arch. Biochem. Biophys.* **181**: 39-45, 1977.
235. Skolnick, P. and Daly, J.W. Regulation of cAMP formation in brain tissue by putative neurotransmitters. In *Cyclic Nucleotides: Mechanisms of Action*, Cramer H. and Schultz, J. (Eds.). John Wiley & Sons, New York, pp. 289-315, 1977.
236. Schwabe, U. and Daly, J.W.: The role of calcium ions in accumulations of cyclic adenosine monophosphate elicited by α and β adrenergic agonists in rat brain slices. *J. Pharmacol. Exp. Ther.* **202**: 134-143, 1977.
237. Skolnick, P., Stalvey, L.P., Daly, J.W., Stone, T.W. and Taylor, D.: Blockade of central β -adrenergic receptors by tazolol (1-isopropylamino-3-(2-thiazoloxo)-2-propanol). *Life Sci.* **21**: 1655-1664, 1977.
238. Skolnick, P., Stalvey, L.P., Daly, J.W., Hoyler, E. and Davis, J.N.: Binding of α - and β -adrenergic ligands to cerebral cortical membranes: Effect of 6-hydroxydopamine treatment and relationship to the responsiveness of cyclic AMP-generating systems in two rat strains. *Eur. J. Pharmacol.* **47**: 201-210, 1978.
239. Daly, J.W.: The formation, degradation, and function of cyclic nucleotides in the nervous system. *Intl. Rev. Neurobiol.* **20**: 105-168, 1977.
240. Skolnick, P., Daly, J.W. and Segal, D.S.: Neurochemical and behavioral effects of clonidine and related imidazolines: Interaction with α -adrenoceptors. *Eur. J. Pharmacol.* **47**: 451-455, 1978.
241. Daly, J.W., Brown, G.B., Mensah-Dwumah, M. and Myers, C.W.: Classification of skin alkaloids from neotropical poison-dart frogs (Dendrobatidae). *Toxicon* **16**: 163-188, 1978.
242. Mensah-Dwumah, M. and Daly, J.W.: Pharmacological activity of alkaloids from poison-dart frogs (Dendrobatidae). *Toxicon* **16**: 189-194, 1978.
243. Schwabe, U., Ohga, Y. and Daly, J.W.: The role of calcium in the regulation of cyclic nucleotide levels in brain slices of rat and guinea pig. *Naunyn-Schmiedeberg's Arch. Pharmacol.* **302**: 141-151, 1978.
244. Garrison, D.L., Albuquerque, E.X., Warnick, J.E., Daly, J.W. and Witkop, B.: Antagonism of carbamylcholine-induced depolarization by batrachotoxin and veratridine. *Mol. Pharmacol.* **14**: 111-121, 1978.
245. Skolnick, P., Nimitkitpaisan, Y., Stalvey, L. and Daly, J.W.: Inhibition of brain adenosine deaminase by 2'-deoxycoformycin and erythro-9-(2-hydroxy-3-nonyl)-adenosine. *J. Neurochem.* **30**: 1579-1582, 1978.
246. Myers, C.W., Daly, J.W. and Malkin, B.: A dangerously toxic new frog (*Phyllobates*) used by Embera Indians of western Colombia, with discussion of blowgun fabrication and dart poisoning. *Bull. Am. Mus. Nat. Hist.* **161**: 307-365, 1978.

247. Davis, J.N., Arnett, C.D., Hoyler, E., Stalvey, L.P., Daly, J.W. and Skolnick, P.: Brain α -adrenergic receptors: Comparison of [3 H]WB 4101 binding with norepinephrine-stimulated cyclic AMP accumulation in rat cerebral cortex. *Brain Res.* **159**: 125-135, 1978.
248. Davis, C.W. and Daly, J.W.: Calcium-dependent 3',5'-cyclic nucleotide phosphodiesterase: Inhibition of basal activity of physiological levels of potassium ions. *J. Biol. Chem.* **253**: 8683-8686, 1978.
249. Kanamori, T., Creveling, C.R. and Daly, J.W.: Calcium-dependent cyclic nucleotide phosphodiesterase: Inhibition of basal activity by heat-stable factors from rat cerebrum. *Biochim. Biophys. Acta* **582**: 434-447, 1979.
250. Eldefrawi, M.E., Eldefrawi, A.T., Mansour, N.A., Daly, J.W., Witkop, B., and Albuquerque, E.X.: Acetylcholine receptor and ionic channel of *Torpedo* electroplax: Binding of perhydrohistrionicotoxin to membrane and solubilized preparations. *Biochemistry* **17**: 5474-5484, 1978.
251. Davis, C.W. and Daly, J.W.: A simple direct assay of 3',5'-cyclic nucleotide phosphodiesterase activity based on the use of polyacrylamide-boronate affinity gel chromatography. *J. Cyclic Nucleotide Res.* **5**: 65-74, 1979.
252. Myers, C.W. and Daly, J.W.: A name for the poison frog of Cordillera Azul, Eastern Peru, with notes on its biology and skin toxins (Dendrobatidae). *Am. Mus. Novitates* No. **2674**: 1-24, 1979.
253. Daly, J.W., McNeal, E.T. and Creveling, C.R.: Accumulation of cyclic AMP in brain tissue: Role of H₁- and H₂-histamine receptors. In *Histamine Receptors.*, T.O. Yellin (Ed.). S.P. Medical & Scientific Books, New York, pp. 299-323, 1979.
254. Smellie, F.W., Davis, C.W., Daly, J.W. and Wells, J.N.: Alkylxanthines: Inhibition of adenosine-elicited accumulation of cyclic AMP in brain slices and of brain phosphodiesterase activity. *Life Sci.* **24**: 2475-2482, 1979.
255. Daly, J.W.: Adenosine and cyclic adenosine monophosphate-generating systems in brain tissue. In 'Physiological and Regulatory Functions of Adenosine and Adenine Nucleotides'. H.P. Baer and G.I. Drummond (eds.). Raven Press, New York, 1979, pp. 229-241.
256. Daly, J.W. and Partington, C.R.: Adrenergic receptors and adenylate cyclase in membrane preparations from the central nervous system. In 'Catecholamines: Basic and Clinical Frontiers', Usdin, E., Kopin, I.J. and Barchas, J. (Eds.). Pergamon Press, New York, Vol. **1**, pp. 520-522, 1979.
257. Partington, C.R. and Daly, J.W.: Effect of gangliosides on adenylate cyclase activity in rat cerebral cortical membranes. *Mol. Pharmacol.* **15**: 484-491, 1979.
258. Smellie, F.W., Daly, J.W., Dunwiddie, T.V. and Hoffer, B.J.: The dextro and levorotatory isomers of N-phenylisopropyladenosine: Stereospecific effects on cyclic AMP-formation and evoked synaptic responses in brain slices. *Life Sci.* **25**: 1739-1748, 1979.
259. Partington, C.R. and Daly, J.W.: Effect of proteases and protease inhibitors on adenylate cyclase activity in rat cerebral cortical membranes. *Arch. Biochem. Biophys.* **198**: 255-262, 1979.

260. Smellie, F.W., Daly, J.W. and Wells, J.N.: 1-Isoamyl-3-isobutylxanthine: A remarkably potent agent for the potentiation of norepinephrine, histamine, and adenosine-elicited accumulation of cyclic AMP in brain slices. *Life Sci.* **25**: 1917-1924, 1979.
261. Partington, C.R., Edwards, M.W. and Daly, J.W.: Calcium-dependent desensitization of adenylate cyclase in rat cerebral cortical slices. *J. Neurochem.* **34**: 76-82, 1980.
262. Neuwirth, M., Daly, J.W., Myers, C.W. and Tice, L.W.: Morphology of the granular secretory glands in skin of poison-dart frogs (Dendrobatidae). *Tissue Cell* **11**: 755-771, 1979.
263. Kirk, K.L., Cantacuzene, D., Nimitkitpaisan, Y., McCulloh, D., Padgett, W.L., Daly, J.W., and Creveling, C.R.: Synthesis and biological properties of 2-, 5-, and 6-fluoronorepinephrines. *J. Med. Chem.* **22**: 1493-1497, 1979.
264. Myers, C.W. and Daly, J.W.: Taxonomy and ecology of *Dendrobates bombetes*, a new Andean poison frog with new skin toxins. *Am. Mus. Novitates* No. 2692: 1-23, 1980.
265. Daly, J.W., Tokuyama, T., Fujiwara, T., Hight, R.J. and Karle, I.L.: A new class of indolizidine alkaloids from the poison frog, *Dendrobates tricolor*. X-ray analysis of 8-hydroxy-8-methyl-6-(2'-methylhexylidene)-1-azabicyclo[4.3.0]nonane. *J. Am. Chem. Soc.* **102**: 830-836, 1980.
266. Daly, J.W., Padgett, W., Nimitkitpaisan, Y., Creveling, C.R., Cantacuzene, D., and Kirk, K.L.: Fluoronorepinephrines: Specific agonists for the activation of *alpha* and *beta* adrenergic-sensitive cyclic AMP-generating systems in brain slices. *J. Pharmacol. Exp. Therap.* **212**: 382-389, 1980.
267. Pons, F., Bruns, R.F. and Daly, J.W.: Depolarization-evoked accumulation of cyclic AMP in brain slices: The requisite intermediate adenosine is not derived from hydrolysis of released ATP. *J. Neurochem.* **34**: 1319-1323, 1980.
268. Davis, C.W. and Daly, J.W.: Activation of rat cerebral cortical 3',5'-cyclic nucleotide phosphodiesterase activity by gangliosides. *Mol. Pharmacol.* **17**: 206-211, 1980.
269. Flier, J., Edwards, M.W., Daly, J.W. and Myers, C.W.: Widespread occurrence in frogs and toads of skin compounds interacting with the ouabain site of Na⁺, K⁺-ATPase. *Science* **208**: 503-505, 1980.
270. Bruns, R.F., Pons, F., and Daly, J.W.: Glutamate- and veratridine-elicited accumulations of cyclic AMP in brain slices: A role for factors which potentiate adenosine-responsive systems. *Brain Res.* **189**: 550-555, 1980.
271. Partington, C.R., Edwards, M.W. and Daly, J.W.: Regulation of cyclic AMP formation in brain tissue by α -adrenergic receptors: Requisite intermediacy of prostaglandins of the E series. *Proc. Natl. Acad. Sci. USA* **77**: 3024-3028, 1980.
272. Daly, J.W., Myers, C.W., Warnick, J.E. and Albuquerque, E.X.: Levels of batrachotoxin and lack of sensitivity of its action in poison-dart frogs (*Phyllobates*). *Science* **208**: 1383-1385, 1980.
273. Brossi, A., Rice, K.C., Mak, C.-P., Reden, J., Jacobson, A.E., Nimitkitpaisan, Y., Skolnick, P. and Daly, J.W.: Mammalian alkaloids. 8. Synthesis and biological effects of tetrahydropapaveroline related 1-benzyltetrahydroisoquinolines. *J. Med. Chem.* **23**: 648-652, 1980.

274. Daly, J.W., McNeal, E., Partington, C., Neuwirth, M., and Creveling, C.R.: Accumulations of cyclic AMP in adenine-labeled cell-free preparations from guinea pig cerebral cortex: Role of α -adrenergic and H₁-histaminergic receptors. *J. Neurochem.* **35**: 326-337, 1980.
275. McNeal, E.T., Creveling, C.R. and Daly, J.W.: Cyclic AMP-generating systems in cell-free preparations from guinea pig cerebral cortex: Loss of adenosine and amine responsiveness due to low levels of endogenous adenosine. *J. Neurochem.* **35**: 338-342, 1980.
276. Creveling, C.R., McNeal, E.T., McCulloh, D.H. and Daly, J.W. : Membrane potentials in cell-free preparations from guinea pig cerebral cortex: Effect of depolarizing agents and cyclic nucleotides. *J. Neurochem.* **35**: 922-932, 1980.
277. Daly, J.W.: Chemistry, biology and pharmacology of new alkaloids from tropical poison-dart frogs. In 'Proc. 4th Asian Symposium on Medicinal Plants and Spices', Aksorn Charoen - Tat Publishing House, Bangkok, pp. 49-58, 1980.
278. Nimit, Y., Cantacuzene, D., Kirk, K.L., Creveling, C.R. and Daly, J.W.: The binding of fluorocatecholamines to adrenergic and dopaminergic receptors in rat brain membranes. *Life Sci.* **27**: 1577-1585, 1980.
279. Daly, J.W., Hoffer, B.J. and Dismukes, R.K.: Mechanisms of regulation of neuronal sensitivity. *Neurosciences Res. Prog. Bull.* **18**: 325-456, 1980.
280. Bruns, R.F., Daly, J.W., and Snyder, S.H.: Adenosine receptors in brain membranes: Binding of N⁶-cyclohexyl-[³H]-adenosine and 1,3-diethyl-8-[³H-phenyl]xanthine. *Proc. Natl. Acad. Sci. USA* **77**: 5547-5551, 1980.
281. Oertel, W.H., Schmechel, D.E., Daly, J.W., Tappaz, M.L. and Kopin, I.J.: Localization of glutamate decarboxylase on line-immunoelectrophoresis and two-dimensional electrophoresis by use of the radioactive suicide substrate [2-³H]- γ -acetylenic GABA. *Life Sci.* **27**: 2133-2141, 1980.
282. Snyder, S.H., Bruns, R.F., Daly, J.W. and Innis, R.B.: Multiple neurotransmitter receptors in the brain: Amines, adenosine, and cholecystokinin. *Fed. Proc.* **40**: 142-146, 1981.
283. Daly, J.W., Padgett, W., Creveling, C.R., Cantacuzene, D. and Kirk, K.L.: Cyclic AMP-generating systems: Regional differences in activation by adrenergic receptors in rat brain. *J. Neurosci.* **1**: 49-59, 1981.
284. Nimit, Y., Skolnick, P. and Daly, J.W.: Adenosine and cyclic AMP in rat cerebral cortical slices: Effects of adenosine uptake inhibitors and adenosine deaminase inhibitors. *J. Neurochem.* **36**: 908-912, 1981.
285. Daly, J.W., Bruns, R.F., and Snyder, S.H.: Adenosine receptors in the central nervous system: Relationship to the central actions of methylxanthines. *Life Sci.* **28**: 2083-2097, 1981.
286. Aronstam, R.S., Eldefrawi, A.T., Pessah, I.N., Daly, J.W., Albuquerque, E.X., and Eldefrawi, M.E.: Regulation of [³H]perhydrohistrionicotoxin binding to *Torpedo ocellata* electroplax by effectors of the acetylcholine receptor. *J. Biol. Chem.* **256**: 2843-2850, 1981.

287. Albuquerque, E.X., Warnick, J.E., Maleque, M.A., Kauffman, F.C., Tamburini, F., Nimit, Y., and Daly, J.W.: The pharmacology of pumiliotoxin-B. 1. Interaction with calcium sites in the sarcoplasmic reticulum of skeletal muscle. *Mol. Pharmacol.* **19**: 411-424, 1981.
288. Aguayo, L.G., Pazhenchevsky, B., Daly, J.W. and Albuquerque, E.X.: The ionic channel of the acetylcholine receptor: Regulation by sites outside and inside the cell membrane which are sensitive to quaternary ligands. *J. Neurochem.* **20**: 345-355, 1981.
289. Brown, G.B., Tieszen, S.C., Daly, J.W., Warnick, J.E., and Albuquerque, E.X.: Batrachotoxinin-A 20- α -benzoate: A new radioactive ligand for voltage sensitive sodium channels. *Cell. Mol. Neurobiol.* **1**: 19-40, 1981.
290. Snyder, S.H., Katims, J.J., Annau, Z., Bruns, R.F., and Daly, J.W.: Adenosine receptors and behavioral actions of methylxanthines. *Proc. Nat. Acad. Sci. USA* **78**: 3260-3264, 1981.
291. Tamburini, R., Albuquerque, E.X., Daly, J.W. and Kauffman, F.C.: Inhibition of calcium-dependent ATPase from sarcoplasmic reticulum by a new class of indolizidine alkaloids, pumiliotoxins A, B, and **251D**. *J. Neurochem.* **37**: 775-780, 1981.
292. Seamon, K.B., Padgett, W.L., and Daly, J.W.: Forskolin: Unique diterpene activator of adenylate cyclase in membranes and in intact cells. *Proc. Natl. Acad. Sci. USA* **78**: 3363-3367, 1981.
293. Seamon, K.B. and Daly, J.W. Activation of adenylate cyclase by the diterpene forskolin does not require the guanine nucleotide regulatory protein. *J. Biol. Chem.* **256**: 9799-9801, 1981.
294. Catterall, W.A., Morrow, C.S., Daly, J.W., and Brown, G.B.: Binding of batrachotoxinin-A 20- α -benzoate to a receptor site associated with sodium channels in synaptic nerve ending particles. *J. Biol. Chem.* **256**: 8922-8927, 1981.
295. Daly, J.W.: The effect of gangliosides on the activity of adenylate cyclase and phosphodiesterase from rat cerebral cortex. In 'Gangliosides in Neurological and Neuromuscular Function, Development, and Repair', Rapport, M.M., and Gorio, A.(Eds.). Raven Press, New York, pp. 56-66, 1981.
296. Snyder, S.H., Bruns, R.F., Daly, J.W. and Peroutka, S.J.: Neurotransmitter receptors in the brain: Focus on adenosine and serotonin receptors. In 'Chemisms in the Brain', Rodnight, R., Bachelard, H.S., and Stahl, W.L. (Eds.). Churchill Livingstone, London, pp. 119-129, 1981.
297. Albuquerque, E.X., Warnick, J.E., Tamburini, R., Kauffman, F.C. and Daly, J.W.: Interaction of pumiliotoxin-B with calcium sites in the sarcoplasmic reticulum and nerve terminal of normal and dystrophic muscle. In 'Disorders of the Motor Unit,' Schotland, D.L. (Ed.). John Wiley & Sons, Inc., New York, pp. 611-626, 1982.
298. Daly, J.W., Padgett, W.L. and Seamon, K.B.: Activation of cyclic AMP-generating systems in brain membranes and slices by the diterpene forskolin: Augmentation of receptor-mediated responses. *J. Neurochem.* **38**: 532-544, 1982.
299. Spande, T.F., Daly, J.W., Hart, D.J., Tsai, Y.-M. and Macdonald, T.L.: The structure of gephyrotoxin (GTX) **223AB**. *Experientia* **37**: 1242-1245, 1981.

300. Seamon, K.B., and Daly, J.W.: Forskolin: A unique diterpene activator of cyclic AMP-generating systems. *J. Cyclic Nucleotide Res.* **7**: 201-224, 1982.
301. Daly, J.W.: Adenosine receptors: Targets for future drugs. *J. Med. Chem.* **25**: 197-207, 1982.
302. Seamon, K.B. and Daly, J.W.: Calmodulin stimulation of adenylate cyclase in rat brain membranes does not require GTP. *Life Sci.* **30**: 1457-1464, 1982.
303. Brown, G.B. and Daly, J.W.: Interaction of batrachotoxinin-A benzoate with voltage-sensitive sodium channels: The effects of pH. *Cell. Mol. Neurobiol.* **1**: 361-371, 1981.
304. Siegl, A.M., Daly, J.W. and Smith, J.B.: Inhibition of aggregation and stimulation of cyclic AMP generation in intact human platelets by the diterpene forskolin. *Mol. Pharmacol.* **21**: 680-697, 1982.
305. Daly, J.W.: Alkaloids of neotropical poison frogs (Dendrobatidae). In 'Progress in the Chemistry of Organic Natural Products', Herz, W., Grisebach, H. and Kirby, G.W. (Eds.). Springer-Verlag, Vienna, Vol. **41**, pp. 205-340, 1982.
306. Spivak, C.E., Maleque, M.A., Oliveira, A.C., Masukawa, L.M., Tokuyama, T., Daly, J.W. and Albuquerque, E.X.: Actions of the histrionicotoxins at the ion channel of the nicotinic acetylcholine receptor and at the voltage-sensitive ion channels of muscle membranes. *Mol. Pharmacol.* **21**: 351-361, 1982.
307. Tokuyama, T., Shimada, K., Uemura, M. and Daly, J.W.: The structure of the side chain of the frog alkaloid pumiliotoxin B. *Tetrahedron Lett.* **23**: 2121-2124, 1982.
308. Seamon, K.B. and Daly, J.W.: Guanine nucleotide dependence of calcium-calmodulin stimulation of adenylate cyclase in rat cerebral cortex and striatum. 'In Calmodulin and Intracellular Ca⁺⁺ Receptors', Kakiuchi, S., Hadaka, H. and Means, A.R. (Eds.). Plenum Publishing Corp., New York, pp. 93-109, 1982.
309. Seamon, K.B. and Daly, J.W.: Guanosine 5'-(β,γ -imido)triphosphate inhibition of forskolin-activated adenylate cyclase is mediated by the putative inhibitory guanine nucleotide regulatory protein. *J. Biol. Chem.* **257**: 11591-11596, 1982.
310. Uemura, M., Shimada, K., Tokuyama, T. and Daly, J.W.: The absolute configuration of the side chain diol moiety of the poison-frog alkaloid pumiliotoxin B. *Tetrahedron Lett.* **23**: 4369-4370, 1982.
311. Ebstein, R.P., Seamon, K., Creveling, C.R. and Daly, J.W.: Release of norepinephrine from brain vesicular preparations: Effects of an adenylate cyclase activator, forskolin, and a phosphodiesterase inhibitor. *Cell. Mol. Neurobiol.* **2**: 179-192, 1982.
312. Ebstein, R.P. and Daly, J.W. Release of norepinephrine and dopamine from brain vesicular preparations: Effects of adenosine analogues. *Cell. Mol. Neurobiol.* **2**: 193-204, 1982.
313. Ebstein, R.P. and Daly, J.W.: Release of norepinephrine and dopamine from brain vesicular preparations: Effects of calcium antagonists. *Cell. Mol. Neurobiol.* **2**: 205-213, 1982.

314. Daly, J.W.: Adenosine receptors: Characterization with radioactive ligands. In 'Physiology and Pharmacology of Adenosine Derivatives', Daly, J.W., Kuroda, Y., Phillis, J.W., Shimizu, H., and Ui, M.(Eds.). Raven Press, New York, pp. 59-69, 1983.
315. Daly, J.W.: Role of ATP and adenosine receptors in physiologic processes: Summary and prospectus. In 'Physiology and Pharmacology of Adenosine Derivatives', Daly, J.W., Kuroda, Y., Phillis, J.W., Shimizu, H., and Ui, M. (Eds.). Raven Press, New York, pp. 275-290, 1983.
316. Myers, C.W. and Daly, J.W.: Dart-poison frogs. *Scientific American* **248**: 120-133, 1983.
317. Cohen, R.M., Ebstein, R.P., Daly, J.W. and Murphy, D.L.: Chronic effects of a monoamine oxidase-inhibiting antidepressant: Decreases in functional α -adrenergic autoreceptors precede the decrease in norepinephrine-stimulated cyclic adenosine 3':5'-monophosphate systems in rat brain. *J. Neurosci.* **2**: 1588-1595, 1982.
318. Tokuyama, T. and Daly, J.W.: Steroidal alkaloids (batrachotoxins and 4 β -hydroxybatrachotoxins), "indole alkaloids" (calycanthine and chimonanthine) and a piperidinyldipyridine alkaloid (noranabasamine) in skin extracts from the Colombian poison-dart frog *Phyllobates terribilis* (Dendrobatidae). *Tetrahedron* **39**: 41-47, 1983.
319. Tokuyama, T., Yamamoto, J., Daly, J.W. and Highet, R.J.: Histrionicotoxins: Carbon-13 magnetic resonance spectral assignments and structural definition of further alkaloids from poison frogs (Dendrobatidae). *Tetrahedron* **39**: 49-53, 1983.
320. Daly, J.W.: Biological active alkaloids from poison frogs (Dendrobatidae). *J. Toxicol.-Toxin Rev.* **1**: 33-86, 1982.
321. Nimit, Y., Law, J. and Daly, J.W.: Binding of 2',5'-dideoxyadenosine to brain membranes: Comparison to P-site inhibition of adenylate cyclase. *Biochem. Pharmacol.* **31**: 3279-3287, 1982.
322. Warnick, J.E., Jessup, P.J., Overman, L.E., Eldefrawi, M.E., Nimit, Y., Daly, J.W. and Albuquerque, E.X.: Pumiliotoxin-C and synthetic analogues: A new class of nicotinic antagonists. *Mol. Pharmacol.* **22**: 565-573, 1982.
323. Seamon, K.B., Daly, J.W., Metzger, H., de Souza, N.J., and Reden, J.: Structure-activity relationships for activation of adenylate cyclase by the diterpene forskolin and its derivatives. *J. Med. Chem.* **26**: 436-439, 1983.
324. Albuquerque, E.X., Warnick, J.E., Kauffman, F.C. and Daly, J.W.: Pumiliotoxins: New tools to investigate calcium-dependent events in nerve and muscle. In 'Membranes and Transport,' Martonosi, A. (Ed.). Plenum Publishing Corp., New York, Vol. **2** pp. 335-365, 1982.
325. Creveling, C.R., McNeal, E.T., Daly, J.W., and Brown, G.B.: Batrachotoxin-induced depolarization and [³H]batrachotoxinin-A 20- α -benzoate binding in a vesicular preparation from guinea pig cerebral cortex: Inhibition by local anesthetics. *Mol. Pharmacol.* **23**: 350-358, 1983.
326. Seamon, K.B. and Daly, J.W.: Forskolin, cyclic AMP and cellular physiology. *Trends Pharmacol. Sci.* **4**: 120-123, 1983.

327. Daly, J.W.: Binding of radioactive ligands to adenosine receptors in the central nervous system. In 'Regulatory Function of Adenosine', Berne, R.M., Rall, T.W. and Rubio, R. (Eds.). Martinus Nijhoff Publishers, Boston, pp. 97-113, 1983.
328. Bruns, R.F., Daly, J.W. and Snyder, S.H.: Adenosine receptor binding: Structure-activity analysis generates extremely potent antagonists. *Proc. Natl. Acad. Sci. USA* **80**: 2077-2080, 1983.
329. Karnushina, I., Suzuki, R., Padgett, W. and Daly, J.W.: Degeneration of CA1 neurons in hippocampus after ischemia in Mongolian gerbils: Cyclic AMP-systems. *Brain Res.* **268**: 87-94, 1983.
330. Sugio, K. and Daly, J.W.: Effect of forskolin on alterations of vascular permeability induced with bradykinin, prostaglandin E₁, adenosine, histamine and carrageenin in rats. *Life Sci.* **33**: 65-73, 1983.
331. Daly, J.W., Butts-Lamb, P. and Padgett, W.: Subclasses of adenosine receptors in the central nervous system: Interaction with caffeine and related methylxanthines. *Cell. Mol. Neurobiol.* **3**: 69-80, 1983.
332. Jerina, D.M. and Daly, J.W.: "Citation Classic" - Arene oxides: A new aspect of drug metabolism. *Current Contents* **26**: 19, 1983.
333. Sugio, K. and Daly, J.W.: Effects of forskolin analogs, phosphodiesterase inhibitors and 8-bromo cyclic AMP on plasma exudations induced with bradykinin and prostaglandin E₁ in rat skin. *Life Sci.* **34**: 123-132, 1984.
334. Bartels-Bernal, E., Diaz, E., Cadena, R., Ramos, J. and Daly, J.W.: Effect of histrionicotoxin on ion channels in synaptic and conducting membranes of electroplax of *Electrophorus electricus*. *Cell. Mol. Neurobiol.* **3**: 203-212, 1983.
335. Daly, J.W.: Receptor-mediated control of cyclic nucleotide formation in the central nervous system. In 'Mechanism of Drug Action', Singer, T.P., Mansour, T.E. and Ondarza, R.N. (Eds.). Academic Press, New York, pp. 351-362, 1983.
336. Myers, C.W., Daly, J.W. and Martinez, V.: An arboreal poison frog (*Dendrobates*) from western Panama. *Am. Mus. Novitates*, No. 2783: 1-20, 1984.
337. Tokuyama, T., Daly, J.W. and Highet, R.J.: Pumiliotoxins: Magnetic resonance spectral assignments and structural definition of pumiliotoxins A and B and related allopumiliotoxins. *Tetrahedron* **40**: 1183-1190, 1984.
338. Bruns, R.F., Katims, J.J., Annau, Z., Snyder, S.H. and Daly, J.W.: Adenosine receptor interactions and anxiolytics. *Neuropharmacology* **22**: 1523-1529, 1983.
339. Daly, J.W.: Forskolin, adenylate cyclase, and cell physiology: An overview. In *Advances in Cyclic Nucleotide and Protein Phosphorylation Research*. Greengard, P., Robison, G.A., Paoletti, R. and Nicosia, S. (Eds.). Raven Press, New York, Vol. **17**, pp. 81-89, 1984.
340. Weir, R.L., Padgett, W., Daly, J.W. and Anderson, S.M.: Interaction of anticonvulsant drugs with adenosine receptors in the central nervous system. *Epilepsia* **25**: 492-498, 1984.

341. Sugio, K. and Daly, J.W.: Adenosine analogs: Potentiation of bradykinin-induced plasma exudation in rat skin and prevention by caffeine and theophylline. *Life Sci.* **35**: 1575-1583, 1984.
342. Seamon, K.B., Vaillancourt, R., Edwards, M. and Daly, J.W.: Binding of [³H]forskolin to rat brain membranes. *Proc. Natl. Acad. Sci. USA* **81**: 5081-5085, 1984.
343. Souccar, C., Varanda, W.A., Daly, J.W. and Albuquerque, E.X.: Interactions of gephyrotoxin with the acetylcholine receptor-ionic channel complex. I. Blockade of the ionic channel. *Mol. Pharmacol.* **25**: 384-394, 1984.
344. Souccar, C., Varanda, W.A., Aronstam, R.S., Daly, J.W. and Albuquerque, E.X.: Interactions of gephyrotoxin with the acetylcholine receptor-ionic channel complex. II. Enhancement of desensitization. *Mol. Pharmacol.* **25**: 395-400, 1984.
345. Ikeda, S.R., Aronstam, R.S., Daly, J.W., Aracava, Y. and Albuquerque, E.X.: Interactions of bupivacaine with ionic channels of the nicotinic receptor. Electrophysiological and biochemical studies. *Mol. Pharmacol.* **26**: 293-303, 1984.
346. Aracava, Y., Ikeda, S.R., Daly, J.W., Brookes, N. and Albuquerque, E.X.: Interactions of bupivacaine with ionic channels of the nicotinic receptor. Analysis of single-channel currents. *Mol. Pharmacol.* **26**: 304-313, 1984.
347. Glennon, R.A., Tejani-Butt, S.M., Padgett, W. and Daly, J.W.: Mesoionic xanthine analogues: Antagonists of adenosine receptors. *J. Med. Chem.* **27**: 1364-1367, 1984.
348. Daly, J.W., Hight, R.J. and Myers, C.W.: Occurrence of skin alkaloids in non-dendrobatid frogs from Brazil (Bufonidae), Australia (Myobatrachidae) and Madagascar (Mantellinae). *Toxicon* **22**: 905-919, 1984.
349. Seamon, K.B. and Daly, J.W.: Forskolin, a unique diterpene for the investigation of cyclic AMP-dependent physiological responses. In 'Proceedings International Symposium on Research on Cardiovascular Active Drugs', Reden, J., de Souza, N.J. and Borges, A.A. (Eds.). Hoechst Pharmaceuticals Ltd., Bombay, pp. 47-61, 1982.
350. McNeal, E.T., Lewandowski, G.A., Daly, J.W., and Creveling, C.R.: [³H]Batrachotoxinin-A 20- α -benzoate binding to voltage-sensitive sodium channels: A rapid and quantitative assay for local anesthetic activity in a variety of drugs. *J. Med. Chem.* **28**: 381-388, 1985.
351. Creveling, C.R., McNeal, E.T., Lewandowski, G.A., Rafferty, M., Harrison, E.H., Jacobson, A.E., Rice, K.C. and Daly, J.W.: Local anesthetic properties of opioids and phencyclidines: Interaction with the voltage-dependent, batrachotoxin binding site in sodium channels. *Neuropeptides* **5**: 353-356, 1985.
352. Daly, J.W.: Adenosine receptors. *Adv. Cyclic Nucleotide Protein Phos. Res.* **19**: 29-46, 1985.
353. Daly, J.W., McNeal, E.T., Overman, L.E., and Ellison, D.H.: A new class of cardiotonic agents: Structure-activity correlations for natural and synthetic analogues of the alkaloid pumiliotoxin B (8-hydroxy-8-methyl-6-alkylidene-1-azabicyclo[4.3.0]nonanes). *J. Med. Chem.* **28**: 482-486, 1985.

354. Daly, J.W., Padgett, W., Shamim, M.T., Butts-Lamb, P. and Waters, J.: 1,3-Dialkyl-8-(p-sulfophenyl)xanthines: Potent water soluble antagonists for A₁- and A₂-adenosine receptors. *J. Med. Chem.* **28**: 487-492, 1985.
355. Jacobson, K.A., Kirk, K.L., Padgett, W. and Daly, J.W.: Probing the adenosine receptor with adenosine and xanthine biotin conjugates. *FEBS Lett.* **184**: 30-35, 1985.
356. Seamon, K.B. and Daly, J.W.: High-affinity binding of forskolin to rat brain membranes. *Adv. Cyclic Nucleotide Protein Phos. Res.* **19**: 125-135, 1985.
357. Hollingsworth, E.B., Sears, E.B. and Daly, J.W.: An activator of protein kinase C (phorbol-12-myristate-13-acetate) augments 2-chloroadenosine-elicited accumulation of cyclic AMP in guinea pig cerebral cortical particulate preparations. *FEBS Lett.* **184**: 339-342, 1985.
358. Siegl, A.M. and Daly, J.W.: Receptor (norepinephrine), P-site (2',5'-dideoxyadenosine), and calcium-mediated inhibition of prostaglandin and forskolin-activated cyclic AMP generating systems in human platelets. *J. Cyclic Nucleotide Protein. Phos. Res.* **10**: 229-246, 1985.
359. Daly, J.W.: Adenosine receptors in the central nervous system: Structure-activity relationships for agonists and antagonists. In *Purines: Pharmacology and Physiological Roles*. Stone, T.W. (Ed.). Macmillan Press Ltd., London, pp. 5-15, 1985.
360. Aronstam, R.S., King, C.T., Jr., Albuquerque, E.X., Daly, J.W., and Feigl, D.M. Binding of [³H]perhydrohistrionicotoxin and [³H]phencyclidine to the nicotinic receptor-ion channel complex of *Torpedo* electroplax. Inhibition by histrionicotoxins and derivatives. *Biochem. Pharmacol.* **34**: 3037-3047, 1985.
361. Hollingsworth, E.B., McNeal, E.T., Burton, J.L., Williams, R.J., Daly, J.W. and Creveling, C.R.: Biochemical characterization of a filtered synaptoneurosome preparation from guinea pig cerebral cortex: Cyclic adenosine 3':5'-monophosphate-generating systems, receptors, and enzymes. *J. Neuroscience* **5**: 2240-2253, 1985.
362. Jacobson, K.A., Kirk, K.L., Padgett, W.L., and Daly, J.W.: Functionalized congeners of 1,3-dialkylxanthines: Preparation of analogues with high affinity for adenosine receptors. *J. Med. Chem.* **28**: 1334-1340, 1985.
363. Jacobson, K.A., Kirk, K.L., Padgett, W.L. and Daly, J.W.: Functionalized congeners of adenosine: Preparation of analogues with high affinity for adenosine receptors. *J. Med. Chem.* **28**: 1341-1346, 1985.
364. Jacobson, K.A., Kirk, K.L., Daly, J.W., Jonzon, B., Li, Y.-O. and Fredholm, B.B.: A novel 8-phenyl-substituted xanthine derivative is a selective antagonist at adenosine A₁-receptors *in vivo*. *Acta Physiol. Scand.* **125**: 341-342, 1985.
365. Daly, J.W.: Adenosine receptors: Structure activity relationships. In *Adenosine: Receptors and Modulation of Cell Function*, Stefanovich, V., Rudolphi, K. and Schubert, P. (Eds.). IRL Press, Oxford, pp. 31-46, 1985.
366. Hollingsworth, E.B. and Daly, J.W.: Accumulation of inositol phosphates and cyclic AMP in guinea pig cerebral cortical preparations. Effects of norepinephrine, histamine, carbamylcholine and 2-chloroadenosine. *Biochim. Biophys. Acta* **847**: 207-216, 1985.

367. Shaw, K.-P., Aracava, Y., Akaike, A., Daly, J.W., Rickett, D.L. and Albuquerque, E.X.: The reversible cholinesterase inhibitor physostigmine has channel-blocking and agonist effects on the acetylcholine receptor-ion channel complex. *Mol. Pharmacol.* **28**: 527-538, 1985.
368. Daly, J.W.: Effects of alkaloids on ion transport. In 'Proceedings of the NAITO Symposium on Natural Products and Biological Activity', University of Tokyo Press, Tokyo, pp. 121-133, 1985.
369. Seamon, K.B., Vaillancourt, R., and Daly, J.W.: Modulation of forskolin binding to rat brain membranes. *J. Cyclic Nucleotide Protein. Phos. Res.* **10**: 535-549, 1985.
370. Ukena, D., Daly, J.W., Kirk, K.L., and Jacobson, K.A.: Functionalized congeners of 1,3-dipropyl-8-phenylxanthine: Potent antagonists for adenosine receptors that modulate membrane adenylate cyclase in pheochromocytoma cells, platelets and fat cells. *Life Sci.* **38**: 797-807, 1986.
371. Hollingsworth, E.B., Ukena, D. and Daly, J.W.: The protein kinase C activator phorbol-12-myristate-13-acetate enhances cyclic AMP accumulation in pheochromocytoma cells. *FEBS Lett.* **196**: 131-134, 1986.
372. Gusovsky, F. and Daly, J.W.: Scorpion venom (*Leirurus quinquestriatus*) elicits accumulations of inositol phosphates and cyclic AMP in guinea pig cortical synaptoneuroosomes. *FEBS Lett.* **199**: 1:107-112, 1986.
373. Hollingsworth, E.B., De La Cruz, R.C. and Daly, J.W.: Accumulations of inositol phosphates and cyclic AMP in brain slices: Synergistic interactions of histamine and 2-chloroadenosine. *Eur. J. Pharmacol.* **122**: 45-50, 1986.
374. 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. *Mol. Pharmacol.* **29**:126-133, 1985.
375. Daly, J.W., Spande, T.F.: "Amphibian Alkaloids: Chemistry, Pharmacology and Biology": In 'Alkaloids: Chemical and Biological Perspectives', Pelletier, S.W. (Ed.). John Wiley and Sons, New York, Vol. **4**, pp. 1-274, 1986.
376. Jacobson, K.A., Yamada, N., Kirk, K.L., Daly, J.W. and Olsson, R.A.: N⁶-Functionalized congeners of adenosine with high potency at A₂-adenosine receptors: Potential ligands for affinity chromatography. *Biochem. Biophys. Res. Comm.* **136**:1097-1102, 1986.
377. Ukena, D., Jacobson, K.A., Kirk, K.L. and Daly, J.W.: A [³H]amine congener of 1,3-dipropyl-8-phenylxanthine: A new radioligand for A₂ adenosine receptors of human platelets. *FEBS Lett.* **199**:269-274, 1986.
378. Sugio, K., Tsurufuji, S. and Daly, J.W.: Effects of forskolin and prostaglandin E₁ on leukotriene c- and d-induced plasma exudation in the rat skin. *Life Sci.* **39**:229-233, 1986.
379. Jacobson, K.A., Ukena, D., Kirk, K.L., and Daly, J.W.: [³H]Xanthine amine congener of 1,3-dipropyl-8-phenylxanthine: An antagonist radioligand for adenosine receptors. *Proc. Natl. Acad. Sci. USA* **83**:4089-4093, 1986.

380. Jacobson, K.A., Ukena, D., Daly, J.W. and Kirk, K.L.: Synthesis of tritiated functionalized congeners of 1,3-dipropylxanthine having high affinity at adenosine receptors. *J. Labelled Comp. Radiopharmaceut* **23**:519-526, 1985.
381. Gusovsky, F., Hollingsworth, E.B. and Daly, J.W.: Regulation of phosphatidylinositol turnover in brain synaptoneuroosomes: Stimulatory effects of agents that enhance influx of sodium ions. *Proc. Natl. Acad. Sci. USA* **83**: 3003-3007, 1986.
382. Daly, J.W., Padgett, W.L. and Shamim, M.T.: Analogues of caffeine and theophylline: Effect of structural alterations of affinity at adenosine receptors. *J. Med. Chem.* **29**: 1305-1308, 1986.
383. Tokuyama, T., Nishimori, N., Karle, I.L., Edwards, M.W. and Daly, J.W.: Alkaloids from dendrobatid poison frogs: Trans-decahydroquinolines and indolizidines. *Tetrahedron* **42**:3453-3460, 1986.
384. Ukena, D., Shamim, M.T., Padgett, W. and Daly, J.W.: Analogs of caffeine: Antagonists with selectivity for A₂ adenosine receptors. *Life Sci.* **39**:743-750, 1986.
385. Daly, J.W., Whittaker, N., Spande, T.F., Highet, R.J., Feigl, D., Nishimori, N., Tokuyama, T. and Myers, C.W.: Alkaloids from dendrobatid frogs: Structures of two ω-hydroxy congeners of 3-butyl-5-propylindolizidines and occurrence of 2,5-disubstituted pyrrolidines and a 2,6-disubstituted piperidine. *J. Nat. Prod.* **49**:265-280, 1986.
386. Paul, S.M., Schwartz, R.D., Creveling, C.R., Hollingsworth, E.B., Daly, J.W. and Skolnick, P.: GABA receptor-mediated chloride transport in a "cell free" membrane preparation from brain. *Science* **233**:228-229, 1986.
387. Daly, J.W., Padgett, W.L., Thompson, R.D., Kusachi, S., Bugni, W.J. and Olsson, R.A.: Structure-activity relationships for N⁶-substituted adenosines at a brain A₁-adenosine receptor with a comparison to an A₂-adenosine receptor regulating coronary blood flow. *Biochem. Pharmacol.* **35**: 2467-2481, 1986.
388. Hollingsworth, E.B., Sears, E.B., de la Cruz, R.A., Gusovsky, F. and Daly, J.W.: Accumulations of cyclic AMP and inositol phosphates in guinea pig cerebral cortical synaptoneuroosomes: Enhancement by agents acting at sodium channels. *Biochim. Biophys. Acta* **883**:15-25, 1986.
389. Albuquerque, E.X., Deshpande, S.S., Aracava, Y., Alkondon, M. and Daly, J.W.: A possible involvement of cyclic AMP in the expression of desensitization of the nicotinic acetylcholine receptor. *FEBS Lett.* **199**, 1:133-120, 1986.
390. Aronstam, R.S., Daly, J.W., Spande, T.F., Narayanan, T.K. and Albuquerque, E.X. Interaction of gephyrotoxin and indolizidine alkaloids with the nicotinic acetylcholine receptor-ion channel complex of *Torpedo* electroplax. *Neurochem. Res.* **11**, 8:1227-1240, 1986.
391. Waters, J.A., Hollingsworth, E.B., Daly, J.W., Lewandowski, G. and Creveling, C.R.: Anticonvulsant activity of piperidinol and (dialkylamino)alkanol esters. *J. Med. Chem.* **29**:1512-1516, 1986.
392. Daly, J.W., Padgett, W.L. and Shamim, M.T.: Analogs of 1,3-dipropyl-8-phenylxanthine: Enhancement of selectivity at A₁-adenosine receptors by aryl substituents. *J. Med. Chem.* **28**:1520-1524, 1986.

393. Sokolove, P.M., Albuquerque, E.X., Kauffman, F.C., Spande, T.F. and Daly, J.W. Phenolic antioxidants: Potent inhibitors of the $(Ca^{2+} + Mg^{2+})$ -ATPase of sarcoplasmic reticulum. *FEBS Lett.* **203**:121-126, 1986.
394. Lovenberg, T. and Daly, J.W. Histronicotoxins: Effects on binding of radioligands for sodium, potassium and calcium channels in brain membranes. *Neurochem. Res.* **11**:1609-1621, 1986.
395. Olsson, R.A., Kusachi, S., Thompson, R.D., Ukena, D., Padgett, W. and Daly, J.W. N⁶-substituted N-alkyladenosine-5'-uronamides: Bifunctional ligands having recognition groups for A1 and A2 adenosine receptors. *J. Med. Chem.* **29**:1683-1689, 1986.
396. McNeal, E.T. and Daly, J.W. The sodium channel in membranes of electroplax. Binding of batrachotoxinin-A [³H]benzoate to particulate preparations from electric eel (*Electrophorus*). *Neurochem. Int.* **9**:487-492, 1986.
397. Kirk, K.L., Olubajo, O., Buchold, K., Lewandowski, G.A., Gusovsky, F., McCulloh, D., Daly, J.W. and Creveling, C.R. Synthesis and adrenergic activity of ring-fluorinated phenylephrines. *J. Med. Chem.* **29**:1982-1988, 1986.
398. Ukena, D., Jacobson, K.A., Padgett, W.L., Ayala, C., Shamim, M.T., Kirk, K.L., Olsson, R.O. and Daly, J.W. Species differences in structure-activity relationships of adenosine agonists and xanthine antagonists at brain A1 adenosine receptors. *FEBS Lett.* **209**:122-128, 1986.
399. Jacobson, K.A., Ukena, D., Padgett, W., Daly, J.W. and Kirk, K.L. Xanthine functionalized congeners as potent ligands at A₂-adenosine receptors. *J. Med. Chem.* **30**:211-214, 1987.
400. Seamon, K.B. and Daly, J.W. Forskolin: Its biological and chemical properties. *Adv. Cyclic Nucleotide Protein Phos. Res.* **20**: 1-150, 1986.
401. Daly, J.W., Jacobson, K.A. and Ukena, D. Adenosine Receptors: Development of selective agonists and antagonists. In 'Cardiac Electrophysiology and Pharmacology of Adenosine and ATP: Basic and Clinical Aspects', Pelleg, A., Michelson, E.L. and Dreifus, L.S. (Eds.). Alan R. Liss, New York, pp. 41-63, 1987.
402. Tokuyama, T., Nishimori, N., Shimada, A., Edwards, M.W. and Daly, J.W. New classes of amidine, indolizidine and quinolizidine alkaloids from a poison-frog, *Dendrobates pumilio* (Dendrobatidae). *Tetrahedron* **43**:643-652, 1987.
403. Daly, J.W., Ukena, D. and Jacobson, K.A. Adenosine receptors: Structure activity relationship for agonists and xanthine antagonists. In 'Trends in Medicinal Chemistry: Proceedings Ninth International Symposium on Medicinal Chemistry', Mutschler, E. and Winterfeldt, E. (Eds.). VCH Verlagsgesellschaft mbH, Weinheim, West Germany, pp. 353-368, 1987.
404. Fredholm, B.B., Jacobson, K.A., Jonzon, B., Kirk, K.L., Li, Y.O. and Daly, J.W. Evidence that a novel 8-phenyl-substituted xanthine derivative is a cardioselective adenosine receptor antagonist *in vivo*. *J. Cardiovascular Pharmacol.* **9**:396-400, 1987.
405. Bolger, G.T., Marcus, K.A., Daly, J.W. and Skolnick, P. Local anesthetics differentiate dihydropyridine calcium antagonist binding sites in rat brain and cardiac membranes. *J. Pharmacol. Exper. Therap.* **240**:922-930, 1987.

406. Jacobson, K.A., Ukena, D., Padgett, W., Kirk, K.L. and Daly, J.W. Molecular probes for extracellular adenosine receptors. *Biochem. Pharmacol.* **36**:1697-1707, 1987.
407. Ukena, D., Padgett, W.L., Hong, O., Daly, J.W., Daly, D.T. and Olsson, R.A. N⁶-substituted 9-methyladenines: A new class of adenosine receptor antagonists. *FEBS Lett.* **215**: 203-208, 1987.
408. Gusovsky, F., McNeal, E.T., Olubajo, O., Kirk, K.L., Creveling, C.R. and Daly, J.W.: Effects of ring fluorination on the adrenergic properties of phenylephrine. *Eur. J. Pharmacol.* **136**: 317-324, 1987.
409. Ukena, D., Olsson, R.A. and Daly, J.W.: Definition of subclasses of adenosine receptors associated with adenylate cyclase: Interaction of adenosine analogs with inhibitory A₁ receptors and stimulatory A₂ receptors. *Can. J. Physiol. Pharmacol.* **65**: 365-376, 1987.
410. Jacobson, K.A., Lipkowski, A.W., Moody, T.W., Padgett, W., Pijl, E., Kirk, K.L. and Daly, J.W. Binary drugs: Conjugates of purines and a peptide that bind to both adenosine and substance P receptors. *J. Med. Chem.* **30**:1529-1532, 1987.
411. Daly, J.W., McNeal, E.T. and Gusovsky, F. Cardiotoxic activities of pumiliotoxin B, pyrethroids and a phorbol ester and their relationships with phosphatidylinositol turnover. *Biochim. Biophys. Acta* **930**:470-474, 1987.
412. Hollingsworth, E.B. and Daly, J.W. Inhibition of receptor-mediated stimulation of cyclic AMP accumulation in neuroblastoma-hybrid NCB-20 cells by a phorbol ester. *Biochim. Biophys. Acta* **930**:272-278, 1987.
413. Evoniuk, G., Jacobson, K.A., Shamim, M.T., Daly, J.W. and Wurtman, R.J. A₁- and A₂-selective adenosine antagonists: In vivo characterization of cardiovascular effects. *J. Pharmacol. Exper. Therap.* **242**: 882-887, 1987.
414. Rao, K.S., Warnick, J.E., Daly, J.W., and Albuquerque, E.X. Pharmacology of the alkaloid pumiliotoxin-B. II. Possible involvement of calcium and sodium-dependent processes in nerve and skeletal muscle. *J. Pharmacol. Exper. Therap.* **243**: 775-783, 1987.
415. Gusovsky, F., McNeal, E.T. and Daly, J.W. Stimulation of phosphoinositide breakdown in brain synaptoneuroosomes by agents that activate sodium influx: Antagonism by tetrodotoxin, saxitoxin and cadmium. *Mol. Pharmacol.* **32**:479-487, 1987.
416. Gusovsky, F. and Daly, J.W. Formation of inositol phosphates in synaptoneuroosomes of guinea pig brain: Stimulatory effects of receptor agonists, sodium channel agents and sodium and calcium ionophores. *Neuropharmacology.* **27**:95-105, 1988.
417. Jacobson, K.A., Zimmet, J., Schulick, R., Barone, S., Daly, J.W. and Kirk, K.L. Adenosine analogs with covalently attached lipids have enhanced potency at A₁-adenosine receptors. *FEBS Lett.* **225**:97-102, 1987.
418. Gusovsky, F., Yasumoto, T. and Daly, J.W. Maitotoxin stimulates phosphoinositide breakdown in neuroblastoma hybrid NCB-20 cells. *Cell. Mol. Neurobiol.* **7**: 317-322, 1987.

419. Daly, J.W., Myers, C.W. and Whittaker, N. Further classification of skin alkaloids from neotropical poison frogs (Dendrobatidae), with a general survey of toxic/noxious substances in the Amphibia. *Toxicon* **25**:1023-1095, 1987.
420. Daly, J.W., Hong, O., Padgett, W.L., Shamim, M.T., Jacobson, K.A. and Ukena, D. Non-xanthine heterocycles: Activity as antagonists of A₁- and A₂-adenosine receptors. *Biochem. Pharmacol.* **37**:655-664, 1988.
421. Daly, J.W., McNeal, E., Gusovksy, F., Ito, F. and Overman, L.E. Pumiliotoxin alkaloids: Relationship of cardiotoxic activity to sodium channel activity and phosphatidylinositol turnover. *J. Med. Chem.* **31**: 477-480, 1988.
422. Gusovsky, F., Rossignol, D.P., McNeal, E.T. and Daly, J.W. Pumiliotoxin B binds to a site on the voltage-dependent sodium channel that is allosterically coupled to other binding sites. *Proc. Natl. Acad. USA.* **85**: 1272-1276, 1988.
423. Albuquerque, E.X., Daly, J.W. and Warnick, J.E. Macromolecular sites for specific neurotoxins and drugs on chemosensitive synapses and electrical excitation in biological membranes. In *Ion Channels*. Narahashi, T. (Ed.). Plenum Publishing Corp., New York, pp. 95-162, 1988.
424. Jacobson, K.A., Kirk, K.L. and Daly, J.W. A functionalized congener approach to agonists and antagonists for adenosine receptors. In 'Adenosine and Adenine Nucleotides: Physiology and Pharmacology'. Paton, D.M. (Ed.). Taylor and Francis Ltd., London, pp. 27-38, 1988.
425. Shamim, M.T., Ukena, D., Padgett, W.L., Hong, O. and Daly, J.W. 8-Aryl- and 8-Cycloalkyl-1,3-dipropylxanthines: Further potent and selective antagonists for A₁-adenosine receptors. *J. Med. Chem.* **31**:613-617, 1988.
426. Spande, T.F., Edwards, M.W., Pannell, L.K. and Daly, J.W. Pseudophrynamine A: An unusual prenyl pyrrolo[2,3-b]indole ester from an Australian frog, *Pseudophryne coriacea* (Myobatrachidae). *J. Org. Chem.* **53**: 1222-1226, 1988.
427. Aronstam, R.S., Edwards, M.W., Daly, J.W. and Albuquerque, E.X. Interactions of piperidine derivatives with the nicotinic cholinergic receptor complex from *Torpedo* electric organ. *Neurochem. Res.* **13**:171-176, 1988.
428. Gusovsky, F., Daly, J.W., Yasumoto, T. and Rojas, E. Differential effects of maitotoxin on ATP secretion and on phosphoinositide breakdown in rat pheochromocytoma cells. *FEBS Lett.* **233**: 139-142, 1988.
429. Choi, O.H., Shamim, M.T., Padgett, W.L. and Daly, J.W. Caffeine and theophylline analogues: Correlation of behavioral effects with activity as adenosine receptor antagonists and as phosphodiesterase inhibitors. *Life Sci.* **43**: 387-398, 1988.
430. Gusovsky, F. and Daly, J.W. Formation of second messengers in response to activation of ion channels in excitable cells. *Cell. Mol. Neurobiol.* **8**:157-169, 1988.
431. Jacobson, K.A., De La Cruz, R., Schulick, R., Kiriasis, L., Padgett, W., Pfliegerer, W., Kirk, K.L., Neumeyer, J.L. and Daly, J.W. 8-Substituted xanthines as antagonists at A₁- and A₂-adenosine receptors. *Biochem. Pharmacol.* **37**:3653-3661, 1988.

432. Daly, J.W., Padgett, W.L. and Eger, K. 7-Deaza-9-phenyladenines a new class of adenosine receptor antagonists. *Biochem. Pharmacol.* **37**:3749-3753, 1988.
433. Adejare, A., Gusovsky, F., Padgett, W., Creveling, C.R., Daly, J.W. and Kirk, K.L. Syntheses and adrenergic activities of ring-fluorinated epinephrines. *J. Med. Chem.* **31**:1972-1977, 1988.
434. Peet, N.P., Dickerson, G.A., Abdallah, A.H., Daly, J.W. and Ukena, D. Benzo[1,2-c:5,4-c']dipyrazoles: Non-xanthine adenosine antagonists. *J. Med. Chem.* **31**:2034-2039, 1988.
435. Seale, T.W., Abla, K.A., Shamim, M.T., Carney, J.M. and Daly, J.W. 3,7-Dimethyl-1-propargylxanthine: A potent and selective in vivo antagonist of adenosine analogs. *Life Sci.* **43**:1671-1684, 1988.
436. Nishizawa, Y., Gusovsky, F. and Daly, J.W. Local anesthetics: Comparison of effects on batrachotoxin-elicited sodium flux and phosphoinositide breakdown in guinea pig cerebral cortical synaptoneuroosomes. *Mol. Pharmacol.* **34**:707-713, 1988.
437. Garraffo, H.M., Edwards, M.W., Spande, T.F. and Daly, J.W. A naturally occurring erythro diastereomer of pumiliotoxin B. *Tetrahedron* **44**:6795-6800, 1988.
438. Creveling, C.R., Gusovsky, F. and Daly, J.W. Effects of ring-fluorination on the adrenergic properties of catecholamines and related compounds. In 'Progress in Catecholamine Research, Part A: Basic Aspects and Peripheral Mechanisms', Dahlstrom, A., Belmaker, R.H. and Sandler, M. (Eds.), pp. 383-386, 1988.
439. Gusovsky, F., Yasumoto, T. and Daly, J.W. Maitotoxin, a potent, general activator of phosphoinositide breakdown. *FEBS Lett.* **243**: 307-312, 1989.
440. Edwards, M.W., Daly, J.W. and Myers, C.W. Alkaloids from a Panamanian poison frog, *Dendrobates speciosus*: Identification of pumiliotoxin-A and allopumiliotoxin class alkaloids, 3,5-disubstituted indolizidines, 5-substituted 8-methylindolizidines, and a 2-methyl-6-nonyl-4-hydroxy-piperidine. *J. Nat. Prod.* **51**:1188-1197, 1988.
441. Deckert, J., Morgan, P.F., Bisserbe, J.C., Jacobson, K.A., Kirk, K.L., Daly, J.W. and Marangos, P.J. Autoradiographic localization of mouse brain adenosine receptors with an antagonist ($[^3\text{H}]$ xanthine amine congener) ligand probe. *Neurosci. Lett.* **86**:121-126, 1988.
442. Shamim, M.T., Ukena, D., Padgett, W.L. and Daly, J.W. Effects of 8-phenyl and 8-cycloalkyl substituents on the activity of mono- di-, and trisubstituted alkylxanthines with substitution at the 1-, 3- and 7-positions. *J. Med. Chem.* **32**:1231-1237, 1989.
443. Gusovsky, F., Secunda, S.I. and Daly, J.W. Pyrethroids: Involvement of sodium channels in effects on inositol phosphate formation in guinea pig synaptoneuroosomes. *Brain Res.* **492**:72-78, 1989.
444. Jacobson, K.A., Kiriasis, L., Barone, S., Bradbury, B.J., Kammula, U., Campagne, J.M., Secunda, S., Daly, J.W., Neumeyer, J.L. and Pfleiderer, W. Sulfur-containing 1,3-dialkylxanthine derivatives as selective antagonists at A₁-adenosine receptors. *J. Med. Chem.* **32**:1873-1879, 1989.

445. Morgan, P.F., Deckert, J., Jacobson, K.A., Marangos, P.J. and Daly, J.W. Potent convulsant actions of the adenosine receptor antagonist, xanthine amine congener (XAC). *Life Sci.* **45**:719-728, 1989.
446. Gusovsky, F., Yasumoto, and Daly, J.W. Calcium-dependent effects of maitotoxin on phosphoinositide breakdown and on cyclic AMP accumulation in PC12 and NCB-20 cells. *Mol. Pharmacol.* **36**:44-53, 1989.
447. Daly, J.W. and Jacobson, K.A. Molecular probes for adenosine receptors. In 'Adenosine Receptors in the Nervous System', Ribeiro, J.A. (Ed.). Taylor and Francis, New York, pp. 41-52, 1989.
448. Daly, J.W. Structure activity relationships for alkaloid modulators of ion channels. In: 'New Aspects of Organic Chemistry', Yoshida, Z., Shiba, T. and Ohshire, Y (Eds.). VCH, New York, pp. 385-412, 1989.
449. Nikodijevic, O., Daly, J.W. and Jacobson, K.A. Characterization of the locomotor depression produced by an A₂-selective adenosine agonist. *FEBS Lett.* **261**: 67-70, 1990.
450. Daly, J.W. Adenosine agonists and antagonists. In 'Purines in Cellular Signaling: Targets for New Drugs', Jacobson, K.A., Daly, J.W. and Manganiello, V. (Eds.). Springer-Verlag, New York, pp. 3-12, 1990.
451. Choi, O.H., Padgett, W.L., Nishizawa, Y., Gusovsky, F., Yasumoto, T. and Daly, J.W. Maitotoxin: Effects on calcium channels, phosphoinositide breakdown, and arachidonate release in pheochromocytoma PC12 cells. *Mol. Pharmacol.* **37**:222-230, 1990.
452. Gusovsky, F., Bitran, J.A., Yasumoto, T. and Daly, J.W. Mechanism of maitotoxin-stimulated phosphoinositide breakdown in HL-60 cells. *J. Pharmacol. Exp. Therap.* **252**:467-473, 1990.
453. Schulick, A., Gusovsky, F., Yasumoto, T. and Daly, J.W. Effects of maitotoxin on atrial natriuretic factor-mediated accumulation of cyclic GMP in PC12 cells. *Life Sci.* **46**:671-678, 1990.
454. Gusovsky, F. and Daly, J.W. Maitotoxin: A unique pharmacological tool for research on calcium-dependent mechanisms. *Biochem. Pharmacol.* **39**:1633-1639, 1990.
455. Brackett, L.E., Shamim, M.T. and Daly, J.W. Activities of caffeine, theophylline, and enprofylline analogs as tracheal relaxants. *Biochem. Pharmacol.* **39**:1897-1904, 1990.
456. Creveling, C.R., Bell, M.E., Burke, T.R., Jr., Chang, E., Lewandowski-Lovenberg, G.A., Kim, C.H., Rice, K.C. and Daly, J.W. Procaine isothiocyanate: An irreversible inhibitor of the specific binding of [³H]batrachotoxinin-A benzoate to sodium channels. *Neurochem. Res.* **15**:441-448, 1990.
457. Daly, J.W., Garraffo, H.M., Pannell, L.K. and Spande, T.F. Alkaloids from Australian frogs (Myobatrachidae): Pseudophrynamines and pumiliotoxins. *J. Nat. Prod.* **53**:407-421, 1990.
458. Daly, J.W., Gusovsky, F., McNeal, E.T., Secunda, S., Bell, M., Creveling, C.R., Nishizawa, Y., Overman, L.E., Sharp, M.J. and Rossignol, D.P. Pumiliotoxin alkaloids: A new class of sodium channel agents. *Biochem. Pharmacol.* **40**:315-326, 1990.

459. Gusovsky, F., Nishizawa, Y., Padgett, W., McNeal, E.T., Rice, K., Kim, C-H, Creveling, C.R., and Daly, J.W. Voltage-dependent sodium channels in synaptoneurosomes: Studies with $^{22}\text{Na}^+$ influx and [^3H]saxitoxin and [^3H]batrachotoxinin-A 20- α -benzoate binding. Effects of proparacaine isothiocyanate. *Brain Res.* **518**:101-106, 1990.
460. Nishizawa, Y., Gusovsky, F. and Daly, J.W. Local anesthetics: Stimulation of incorporation of inositol into phosphoinositides in guinea pig cerebral cortical synaptoneurosomes. *Biochim. Biophys. Acta* **1054**:213-218, 1990.
461. Nishizawa, Y., Seamon, K.B., Daly, J.W. and Aronstam, R.S. Effect of forskolin and analogues on nicotinic receptor-mediated sodium flux, voltage-dependent calcium flux, and voltage-dependent rubidium efflux in pheochromocytoma PC12 cells. *Cell. Mol. Neurobiol.* **10**:351-368, 1990.
462. Müller, C.E., Hide, I., Daly, J.W., Rothenhausler, K. and Eger, K. 7-Deaza-2-phenyladenines: Structure-activity relationships of potent A_1 selective adenosine receptor antagonists. *J. Med. Chem.* **33**:2822-2828, 1990.
463. Daly, J.W., Hide, I. and Bridson, P.K. Imidazodiazepinediones: A new class of adenosine receptor antagonists. *J. Med. Chem.* **33**:2818-2821, 1990.
464. Weir, R.L., Anderson, S.M. and Daly, J.W. Inhibition of N^6 -[^3H]cyclohexyl-adenosine binding by carbamazepine. *Epilepsia* **31**:503-512, 1990.
465. Deckert, J., Morgan, P.F., Jacobson, K.A., Daly, J.W. and Marangos, P.J. Convulsant properties of methylxanthines, potential cognitive enhancers in dementia syndromes. In 'Alzheimer's Disease. Epidemiology, Neuropathology, Neurochemistry, and Clinics'. Maurer, K., Riederer, P. and Beckmann, H. (Eds.). Springer-Verlag, New York, pp. 301-304, 1990.
466. Soergel, D.G., Gusovsky, F., Yasumoto, T. and Daly, J.W. Stimulatory effects of maitotoxin on insulin release in insulinoma HIT cells: Role of calcium uptake and phosphoinositide breakdown. *J. Pharmacol. Exper. Therap.* **255**: 1360-1365, 1990.
467. Adejare, A., Nie, Jun-ying, Hebel, D., Brackett, L.E., Choi, O., Gusovsky, F., Padgett, W.L., Daly, J.W., Creveling, C.R. and Kirk, K.L. Effect of fluorine substitution on the adrenergic properties of 3-(tert-butylamino)-1-(3,4-dihydroxyphenoxy)-2-propanol. *J. Med. Chem.* **34**:1063-1068, 1991.
468. Myers, C.W., Paolillo, A. and Daly, J.W. Discovery of a defensively malodorous and nocturnal frog in the family Dendrobatidae: Phylogenetic significance of a new genus and species from the Venezuelan Andes. *Am. Mus. Novitates*, No. 3002, 1-33, 1991.
469. Karlsten, R., Post, C., Hide, I., and Daly, J.W. The antinociceptive effect of intrathecally administered adenosine analogs in mice correlates with the affinity for the A_1 -adenosine receptor. *Neurosci. Lett.* **121**: 267-270, 1991.
470. Brackett, L.E. and Daly, J.W. Relaxant effects of adenosine analogs on guinea pig trachea in vitro: Xanthine-sensitive and xanthine-insensitive mechanisms. *J. Pharmacol. Exper. Therap.* **257**: 205-213, 1991.
471. Gusovsky, F., Soergel, D.G. and Daly, J.W. Effects of mastoparan and related peptides on phosphoinositide breakdown in HL-60 cells and cell-free preparations. *Eur. J. Pharmacol.* **206**:309-314, 1991.

472. Daly, J.W., Nishizawa, Y., Edwards, M.W., Waters, J.A., Aronstam, R.S. Nicotinic receptor-elicited sodium flux in rat pheochromocytoma PC12 cells: Effects of agonists, antagonists, and noncompetitive blockers. *Neurochem. Res.* **16**:489-500, 1991.
473. Jacobson, K.A. and Daly, J.W. Purine functionalized congeners as molecular probes for adenosine receptors. *Nucleosides Nucleotides* **10**:1029-1039, 1991.
474. Jacobson, K.A., Nikodijevic, O., de la Cruz, D. and Daly, J.W. APEC, an A₂-selective adenosine agonist, is a more potent locomotor depressant than N⁶-cyclohexyladenosine. *Nucleosides Nucleotides* **10**:1211-1212, 1991.
475. Holbrook, P.G., Pannell, L.K. and Daly, J.W. Phospholipase D-catalyzed hydrolysis of phosphatidylcholine occurs with P-0 bond cleavage. *Biochim. Biophys. Acta* **1084**: 155-158, 1991.
476. Tokuyama, T., Tsujita, T., Garraffo, H.M., Spande, T.F. and Daly, J.W. Alkaloids from dendrobatid poison frogs: Further pumiliotoxins and allopumiliotoxins and a reassignment of the keto function in pumiliotoxin **307F**. *Tetrahedron* **47**:5415-5424, 1991.
477. Tokuyama, T., Tsujita, T., Shimada, A., Garraffo, H.M., Spande, T.F. and Daly, J.W. Alkaloids from dendrobatid poison frogs: Further cis-decahydro-quinolines and 8-methylindolizidines. *Tetrahedron* **47**:5401-5414, 1991.
478. Daly, J.W. Analogs of caffeine and theophylline: Activity as antagonists at adenosine receptors. In 'Role of Adenosine and Adenine Nucleotides in the Biological System'. Imai, S. and Nakazawa, M. (Eds.). Elsevier Science Publishers, Amsterdam, pp. 119-129, 1991.
479. Daly, J.W., Hide, I., Müller, C.E. and Shamim, M. Caffeine analogs: structure-activity relationships at adenosine receptors. *Pharmacology.* **42**:309-321, 1991.
480. Ali, H., Müller, C.E., Daly, J.W. and Beaven, M.A. Methylxanthines block antigen-induced responses in RBL-2H3 cells independently of adenosine receptors or cyclic AMP: Evidence for inhibition of antigen binding to IgE. *J. Pharmacol. Exper. Therap.* **258**:954-962, 1991.
481. Murata, M., Gusovsky, F., Sasaki, M., Yokoyama, A., Yasumoto, T. and Daly, J.W. Effect of maitotoxin analogues on calcium influx and phosphoinositide breakdown in cultured cells. *Toxicon* **29**:1085-1096, 1991.
482. Ueeda, M., Thompson, R.D., Padgett, W.L., Secunda, S., Daly, J.W. and Olsson, R.A. Cardiovascular actions of adenosines, but not adenosine receptors, differ in rat and guinea pig. *Life Sci.* **49**:1351-1358, 1991.
483. Daly, J.W., Nishizawa, Y., Padgett, W.L., Tokuyama, T., Smith, A.L., Holmes, A.B., Kibayashi, C. and Aronstam, R.S. 5,8-Disubstituted Indolizidines: A new class of noncompetitive blockers for nicotinic receptor-channels. *Neurochem. Res.* **16**:1213-1218, 1991.
484. Daly, J.W., Nishizawa, Y., Padgett, W.L., Tokuyama, T., McCloskey, P.J., Waykole, L., Schultz, A.G. and Aronstam, R.S. Decahydroquinoline Alkaloids: Noncompetitive blockers for nicotinic acetylcholine receptor-channels in pheochromocytoma cells and *Torpedo* electroplax. *Neurochem. Res.* **16**:1207-1212, 1991.

485. Nikodijevic, O., Sarges, R., Daly, J.W. and Jacobson, K.A. Behavioral effects of A₁ and A₂-selective adenosine agonists and antagonists: Evidence for synergism and antagonism. *J. Pharmacol. Exper. Therap.* **259**:286-294, 1991.
486. Thompson, R.D., Secunda, S., Daly, J.W. and Olsson, R.A. N⁶,9-Disubstituted adenines: Potent, selective antagonists at the A₁ adenosine receptor. *J. Med. Chem.* **34**:2877-2882, 1991.
487. Thompson, R.D., Secunda, S., Daly, J.W. and Olsson, R.A. Activity of N⁶-substituted 2-chloroadenosines at A₁ and A₂ adenosine receptors. *J. Med. Chem.* **34**:3388-3390, 1991.
488. Choi, O.H., Padgett, W.L. and Daly, J.W. Effects of the amphiphilic peptides melittin and mastoparan on calcium influx, phosphoinositide breakdown and arachidonic acid release in rat pheochromocytoma PC12 cells. *J. Pharmacol. Exper. Therap.* **260**:369-375, 1992.
489. Hide, I., Padgett, W.L., Jacobson, K.A. and Daly, J.W. A_{2A} adenosine receptors from rat striatum and rat pheochromocytoma PC12 cells: Characterization with radioligand binding and by activation of adenylate cyclase. *Mol. Pharmacol.* **41**:352-359, 1992.
490. Daly, J.W. and Padgett, W.L. Agonist activity of 2- and 5'-substituted adenosine analogs and their N⁶-cycloalkyl derivatives at A₁- and A₂-adenosine receptors coupled to adenylate cyclase. *Biochem. Pharmacol.* **43**:1089-1093, 1992.
491. Soergel, D.G., Yasumoto, T., Daly, J.W. and Gusovsky, F. Maitotoxin effects are blocked by SK&F 96365, an inhibitor of receptor-mediated calcium entry. *Mol. Pharmacol.* **4**:487-493, 1992.
492. Spande, T.F., Garraffo, H.M., Daly, J.W., Tokuyama, T. and Shimada, A. Identification of histrionicotoxins by GC-MS and GC-FTIR: Photo- and chemical- artefacts and revised ¹³C NMR assignments. *Tetrahedron* **48**:1823-1836, 1992.
493. Creveling, C.R. and Daly, J.W. Batrachotoxinin A [³H]benzoate binding to sodium channels. In *Methods in Neurosciences*. Conn, P.M. (Ed.): Vol. **8**, pp. 25-37, 1992.
494. Spande, T.F., Garraffo, H.M., Edwards, M.W., Yeh, H.J.C., Pannell, L. and Daly, J.W. Epibatidine: A novel (chloropyridyl)azabicycloheptane with potent analgesic activity from an ecuadoran poison frog. *J. Am. Chem. Soc.* **114**:3475-3478, 1992.
495. Holbrook, P.G., Pannell, L.K., Murata, Y. and Daly, J.W. Bis(mono-acylglycero)phosphate from PC12 cells, a phospholipid that can comigrate with phosphatidic acid: Molecular species analysis by fast atom bombardment mass spectrometry. *Biochim. Biophys. Acta* **1125**:330-334, 1992.
496. Tokuyama, T., Daly, J.W., Garraffo, H.M. and Spande, T.F. Pyrrolizidine oximes: A novel new class of dendrobatid alkaloids. *Tetrahedron* **48**:4247-4258, 1992.
497. Spande, T.F., Garraffo, H.M., Yeh, H.J.C., Pu, Q.-L., Pannell, L.K. and Daly, J.W. A new class of alkaloids from a dendrobatid poison frog: A structure for alkaloid **251F**. *J. Nat. Prod.* **55**:707-722, 1992.
498. Daly, J.W., Secunda, S.I., Garraffo, H.M., Spande, T.F., Wisnieski, A., Nishihira, C. and Cover, J.F., Jr. Variability in alkaloid profiles in neotropical poison frogs (Dendrobatidae): Genetic versus environmental determinants. *Toxicon* **30**:887-898, 1992.

499. Holbrook, P.G., Pannell, L.K., Murata, Y. and Daly, J.W. Molecular species analysis of a product of phospholipase D activation. Phosphatidylethanol is formed from phosphatidylcholine in phorbol ester- and bradykinin-stimulated PC12 cells. *J. Biol. Chem.* **267**:16834-16840, 1992.
500. Murata, M., Gusovsky, F., Yasumoto, T. and Daly, J.W. Selective stimulation of Ca²⁺ flux in cells by maitotoxin. *Eur. J. Pharmacol.* **227**: 43-49, 1992.
501. Murata, M., Sasaki, M., Yokoyama, A., Iwashita, T., Gusovsky, F., Daly, J.W. and Yasumoto, T. Partial structures and binding studies of maitotoxin, the most potent marine toxin. *Bull. Soc. Path. Exot.* **85**:470-473, 1992.
502. Jacobson, K.A., Nikodijevic, O., Ji, X-d., Berkich, D.A., Eveleth, D., Dean, R.L., Hiramatsu, K-I., Kassell, N.F., van Galen, P.J.M., Lee, K.S., Bartus, R.T., Daly, J.W., LaNoue, K.F. and Maillard, M. Synthesis and biological activity of N⁶-(p-sulfophenyl)alkyl and N⁶-sulfoalkyl derivatives of adenosine: Water-soluble and peripherally selective adenosine agonists. *J. Med. Chem.* **35**:4143-4149, 1992.
503. Daly, J.W., Caceres, J., Moni, R.W., Gusovsky, F., Moos, M., Jr., Seamon, K.B., Milton, K. and Myers, C.W. Frog secretions and hunting magic in the upper Amazon: Identification of a peptide that interacts with an adenosine receptor. *Proc. Natl. Acad. Sci. USA* **89**:10960-10963, 1992.
504. Dumbacher, J.P., Beehler, B.M., Spande, T.F., Garraffo, H.M. and Daly, J.W. Homobatrachotoxin in the genus *Pitohui*: Chemical defense in birds? *Science* **258**: 799-801, 1992.
505. Daly, J.W. Mechanism of action of caffeine. In 'Caffeine, Coffee and Health', Garattini, S. (Ed.). Raven Press Ltd. New York, pp 97-150, 1993.
506. Chen, B-H., Padgett, W.L., Gusovsky, F., Creveling, C.R., Daly, J.W. and Kirk, K.L. Synthesis and adrenergic activities of ring-fluorinated analogues of 3-(tert-butylamino)-2-(3,4-dihydroxyphenyl)-1-propanol. *Med. Chem. Res.* **2**:342-353, 1992.
507. Nikodijevic, O., Jacobson, K.A. and Daly, J.W. Locomotor activity in mice during chronic treatment with caffeine and withdrawal. *Pharmacol. Biochem. Behav.* **44**:199-216, 1993.
508. Gusovsky, F., Padgett, W.L., Creveling, C.R. and Daly, J.W. Interaction of pumiliotoxin B with an "alkaloid-binding domain" on the voltage-dependent sodium channel. *Mol. Pharmacol.* **42**:1104-1108, 1992.
509. Calderon, S.N., Gusovsky, F., Garraffo, H.M., Creveling, C.R., Daly, J.W., Nie, J-Y, Furlano, D.C. and Kirk, K.L. Synthesis and adrenergic activity of a semi-rigid analogue of 6-fluoronorepinephrine. *Med. Chem. Res.* **2**:419-433, 1992.
- 509A Chen, B-H., Shi, D., Lueders, J., Padgett, W.L., Creveling, C.R., Daly, J.W. and Kirk, K.L. Synthesis and adrenergic activities of ring-fluorinated analogues of 2-(3,4-Dihydroxyphenyl)morpholine. *Med. Chem. Res.* **3**:438-450, 1993.
510. Daly, J.W., Padgett, W.L., Secunda, S.I., Thompson, R.D. and Olsson, R.A. Structure-activity relationships for 2-substituted adenosines at A₁ and A₂ adenosine receptors. *Pharmacology* **46**:91-100, 1993.

511. Daly, J.W., Garraffo, H.M. and Spande, T.F. Amphibian Alkaloids. In 'The Alkaloids', Cordell, G.A. (Ed.). Academic Press, San Diego, Vol. **43**, pp. 185-288, 1993.
512. Garraffo, H.M., Spande, T.F., Daly, J.W., Baldessari, A. and Gros, E.G. Alkaloids from bufonid toads (*Melanophryniscus*): Decahydroquinolines, pumiliotoxins and homopumiliotoxins, indolizidines, pyrrolizidines, and quinolizidines. *J. Nat. Prod.* **56**:357-373, 1993.
513. Thompson, R.D., Manning, M. Jr., Daly, J.W. and Olsson, R.A. N⁶, 9-Disubstituted adenines: Effect on affinity for adenosine receptors of a chiral center in the 9-substituent. *Med. Chem. Res.* **2**:474-481, 1992.
514. Jacobson, K.A., Nikodijevic, O., Padgett, W.L., Gallo-Rodriguez, C., Maillard, M. and Daly, J.W. 8-(3-Chlorostyryl)caffeine (CSC) is a selective A₂-adenosine antagonist in vitro and in vivo. *FEBS Lett.* **323**:141-144, 1993.
515. Garraffo, H.M., Caceres, J., Daly, J.W., Spande, T.F., Andriamaharavo, N.R. and Andriantsiferana, M. Alkaloids in Madagascan Frogs (*Mantella*): Pumiliotoxins, indolizidines, quinolizidines, and pyrrolizidines. *J. Nat. Prod.* **56**:1016-1038, 1993.
516. Jacobson, K.A., Shi, D., Gallo-Rodriguez, C., Manning, M. Jr., Møller, C., Daly, J.W., Neumeyer, J.L., Kiriasis, L. and Pfeleiderer, W. Effect of trifluoromethyl and other substituents on activity of xanthines at adenosine receptors. *J. Med. Chem.* **36**:2639-2644, 1993.
517. Shi, D., Nikodijevic, O., Jacobson, K.A. and Daly, J.W. Chronic caffeine alters the density of adenosine, adrenergic, cholinergic, GABA, and serotonin receptors and calcium channels in mouse brain. *Cell. Mol. Neurobiol.* **13**:247-261, 1993.
518. Møller, C.E., Shi, D., Manning, M. and Daly, J.W. Synthesis of paraxanthine analogs (1,7-disubstituted xanthines) and other xanthines unsubstituted at the 3-position: Structure-activity relationships at adenosine receptors. *J. Med. Chem.* **36**:3341-3349, 1993.
519. Myers, C.W. and Daly, J.W. Tropical poison frogs. *Science.* **262**:1193, 1993.
520. Nikodijevic, O., Jacobson, K.A. and Daly, J.W. Effects of combinations of methylxanthines and adenosine analogs on locomotor activity in control and chronic caffeine-treated mice. *Drug Devel. Res.* **30**:104-110, 1993.
521. Møller, C.E. and Daly, J.W. Stimulation of calcium release by caffeine analogs in pheochromocytoma cells. *Biochem. Pharmacol.* **46**:1825-1829, 1993.
522. Nikodijevic, O., Jacobson, K.A. and Daly, J.W. Acute treatment of mice with high doses of caffeine: An animal model for choreiform movement. *Drug Develop. Res.* **30**:121-128, 1993.
523. Brackett, L.E. and Daly, J.W. Functional characterization of the A_{2b} adenosine receptor in NIH 3T3 fibroblasts. *Biochem. Pharmacol.* **47**:801-814, 1994.
524. Daly, J.W., Gusovsky, F., Myers, C.W., Yotsu-Yamashita, M. and Yasumoto, T. First occurrence of tetrodotoxin in a dendrobatid frog (*Colostethus inguinalis*), with further reports for the bufonid genus *Atelopus*. *Toxicon* **32**:279-285, 1994.

525. Jacobson, K.A., Nikodijevic, O., Shi, D., Gallo-Rodriguez, C., Olah, M.E., Stiles, G.L. and Daly, J.W. A role for central A₃-adenosine receptors Mediation of behavioral depressant effects. *FEBS Lett.* **336**:57-60, 1993.
526. Badio, B. and Daly, J.W. Epibatidine, a potent analgetic and nicotinic agonist. *Mol. Pharmacol.* **45**:563-569, 1994.
527. Daly, J.W., Garraffo, H.M., Spande, T.F., Jaramillo, C. and Rand, A.S. Dietary source for skin alkaloids of poison frogs (Dendrobatidae)? *J. Chem. Ecol.* **20**:943-955, 1994.
528. Chen, B.H., Daly, J.W. and Kirk, K.L. Investigation of the relationship between phenol ionization and affinity of norepinephrine for adrenergic receptors using ring-fluorinated analogues. *Med. Chem. Res.* **3**:589-597, 1993.
529. Daly, J.W., Secunda, S.I., Garraffo, H.M., Spande, T.F., Wisnieski, A. and Cover, J.F. An uptake system for dietary alkaloids in poison frogs (Dendrobatidae). *Toxicon* **32**:657-663, 1994.
530. Nikodijevic, B., Sei, Y., Shin, Y. and Daly, J.W. Effects of ATP and UTP in pheochromocytoma PC12 cells: Evidence for the presence of three P₂ receptors, only one of which subserves stimulation of norepinephrine release. *Cell. Mol. Neurobiol.* **14**: 27-47, 1994.
531. Hutchinson, K.D., Silverton, J.V. and Daly, J.W. Synthesis of pyrrolizidine oximes **222** and **236**: Novel alkaloids of a dendrobatid poison frog. *Tetrahedron* **50**:6129-6136, 1994.
532. Fredholm, B.B., Abbracchio, M.P., Burnstock, G., Daly, J.W., Harden, T.K., Jacobson, K.A., Leff, P. and Williams, M. Nomenclature and classification of purinoceptors. *Pharmacol. Rev.* **46**:143-156, 1994.
533. Cristalli, G., Vittori, S., Thompson, R.D., Padgett, W.L., Shi, D., Daly, J.W. and Olsson, R.A. Inhibition of platelet aggregation by adenosine receptor agonists. *Naunyn-Schmiedeberg's Arch Pharmacol* **349**:644-650, 1994.
534. Daly, J.W., Shi, D., Wong, V. and Nikodijevic, O. Chronic effects of ethanol on central adenosine function of mice. *Brain Res* **650**:153-156, 1994.
535. Daly, J.W., Hutchinson, K.D., Secunda, S.I., Shi, D., Padgett, W.L. and Shamin, M.T. 1-Methyl-4-substituted-1H-pyrazolo[3,4-b]pyridine-5-carboxylic acid derivatives: Effect of structural alterations on activity at A₁ and A₂ adenosine receptors. *Med. Chem. Res.* **4**:293-306, 1994.
536. Shin, Y., Moni, R.W., Lueders, J.E. and Daly, J.W. Effects of the amphiphilic peptides mastoparan and adenoregulin on receptor binding, G proteins, phosphoinositide breakdown, cyclic AMP generation, and calcium influx. *Cell. Mol. Neurobiol.* **14**:133-157, 1994.
537. Garraffo, H.M., Simon, L.D., Daly, J.W., Spande, T.F. and Jones, T.H. Cis- and trans-configurations of α,α' -disubstituted piperidines and pyrrolidines by GC-FTIR; Application to decahydroquinoline stereochemistry. *Tetrahedron* **50**:11329-11338, 1994.
538. Badio, B., Garraffo, H.M., Spande, T.F. and Daly, J.W. Epibatidine: Discovery and definition as a potent analgesic and nicotinic agonist. *Med. Chem. Res.* **4**:440-448, 1994.

539. Edwards, M.W., Garraffo, H.M. and Daly, J.W. Facile synthesis of 4-piperidones by condensation of an α,β -unsaturated ketone, an aldehyde and ammonia: Synthesis of the dendrobatid frog alkaloid **241D**. *Synthesis*, No. 11,1167-1170, 1994.
540. Chen, G.T., King, M., Gusovsky, F., Creveling, C.R., Daly, J.W., Chen, B-H., Nie, J. and Kirk, K.L. Syntheses of 2,5- and 2,6-difluoronorepinephrine, 2,5-difluoroepinephrine, and 2,6-difluorophenylephrine: Effect of disubstitution with fluorine on adrenergic activity. *J. Med. Chem.* **36**:3947-3955, 1993.
541. Daly, J.W. The chemistry of poisons in amphibian skin. *Proc. Natl. Acad. Sci. U.S.A.* **92**:9-13, 1995.
542. Shi, D., Nikodijevic, O., Jacobson, K.A. and Daly, J.W. Effects of chronic caffeine on adenosine, dopamine and acetylcholine systems in mice. *Arch. Int. Pharmacodyn. Therap.* **328**:261-287, 1994.
543. Daly, J.W. and Jacobson, K.A. Adenosine receptors: Selective agonists and antagonists. In 'Adenosine and Adenine Nucleotides': From 'Molecular Biology to Integrative Physiology', Belardinelli, L. and Pelleg, A. (Eds.). Kluwer Academic Publishers, Boston, pp. 157-166, 1995.
544. Jain, P., Garraffo, H.M., Spande, T.F., Yeh, H.J.C. and Daly, J.W. A new subclass of alkaloids from a dendrobatid poison frog: A structure for deoxypumiliotoxin **251H**. *J. Nat. Prod.* **58**:100-104, 1995.
545. Daly, J.W., Shi, D., Nikodijevic, O. and Jacobson, K.A. The role of adenosine receptors in the central action of caffeine. *Pharmacopsychocologia* **7**:201-213, 1994.
546. Badio, B., Shi, D., Garraffo, H.M. and Daly, J.W. Antinociceptive effects of the alkaloid epibatidine: Further studies on involvement of nicotinic receptors. *Drug Develop. Res.* **36**:46-59, 1995.
547. Myers, C.W., Daly, J.W., Garraffo, H.M., Wisnieski, A. and Cover, J.F., Jr. Discovery of the Costa Rican poison frog *Dendrobates granuliferus* in sympatry with *Dendrobates pumilio*, and comments on taxonomic use of skin alkaloids. *Am. Mus. Novitates*. No. 3144, 1-21, 1995.
548. Moni, R.W., Romero, F.S. and Daly, J.W. The amphiphilic peptide adenoregulin enhances agonist binding to A_1 -adenosine receptors and [35 S]GTP γ S to brain membranes. *Cell. Mol. Neurobiol.* **15**:465-493, 1995.
549. Von Lubitz, D.K.J.E., Kim, J., Beenhakker, M., Carter, M.F., Lin, R.C.-S., Meshulam, Y., Daly, J.W., Shi, D., Zhou, L-M. and Jacobson, K.A. Chronic NMDA receptor stimulation: Therapeutic implications of its effect on adenosine A_1 receptors. *Eur. J. Pharmacol.* **283**:185-192, 1995.
550. Daly, J.W., Lueders, J., Padgett, W.L., Shin, Y. and Gusovsky, F. Maitotoxin-elicited calcium influx in cultured cells. Effect of calcium-channel blockers. *Biochem. Pharmacol.* **50**:1187-1197, 1995.
551. Daly, J.W. Alkaloids from frog skins: Selective probes for ion channels and nicotinic receptors. *Brazilian J. Med. Biol. Res.* **28**:1033-1042, 1995.

552. Daly, J.W. The chemistry of poisons in amphibian skin. In *Chemical Ecology. The Chemistry of Biotic Interaction*, Eisner, T. and Meinwald, J., (Eds.). National Academy Press. Washington, D.C., pp. 17-28, 1995.
553. Jacobson, K.A., von Lubitz, D.K.J.E., Daly, J.W. and Fredholm, B.B. Adenosine receptor ligands: Differences with acute versus chronic treatment. *Trends Pharmacol. Sci.* **17**:108-113, 1996.
554. van Rhee, A.M., Siddiqi, S.M., Melman, N., Shi, D., Padgett, W.L., Daly, J.W. and Jacobson, K.A. Tetrahydrobenzothiophenone derivatives as a novel class of adenosine receptor antagonists. *J. Med. Chem.* **39**:398-406, 1996.
555. Siddiqi, S.M., Ji, X-D., Melman, N., Olah, M.E., Jain, R., Evans, P., Glashofer, M., Padgett, W.L., Cohen, L.A., Daly, J.W., Stiles, G.L. and Jacobson, K.A. A survey of nonxanthine derivatives as adenosine receptor ligands. *Nucleosides Nucleotides* **15**:693-717, 1996.
556. Badio, B., Shi, D., Shin, Y., Hutchinson, K.D., Padgett, W.L. and Daly, J.W. Spiropyrrolizidines: A new class of blockers of nicotinic receptors. *Biochem. Pharmacol.* **52**:933-939, 1996.
557. Daly, J.W., Andriamaharavo, N.R., Andriantsiferana, M. and Myers, C.W. Madagascan poison frogs (*Mantella*) and their skin alkaloids. *Am. Mus. Novitates*. No. 3177, 1-34, 1996.
558. Nie, J-Y., Shi, D., Daly, J.W. and Kirk, K.L. Synthesis of fluorodopamines: Effects of aryl fluoro substituents on affinities for adrenergic and dopaminergic receptors. *Med. Chem. Res.* **6**:316-332, 1996.
559. Rabemanantsoa, A., Ranarivelo, Y., Andriantsiferana, M., Tillequin, F., Silverton, J.V., Garraffo, H.M., Spande, T.F., Yeh, H.J.C. and Daly, J.W. A new secotrinerpene diterpene isolated from soldiers of the Madagascan termite species, *Nasutitermes canaliculatus*. *J. Nat. Prod.* **59**:883-886, 1996.
560. Badio, B., Padgett, W.L. and Daly, J.W. Ibogaine: A potent noncompetitive blocker of ganglionic/neuronal nicotinic receptors. *Mol. Pharmacol.* **51**:1-5, 1997.
561. Garraffo, H.M., Jain, P., Spande, T.F. and Daly, J.W. Alkaloid **223A**: The first trisubstituted indolizidine from dendrobatid frogs. *J. Nat. Prod.* **60**:2-5, 1997.
562. Jain, P., Garraffo, H.M., Yeh, H.J.C., Spande, T.F., Daly, J.W., Andriamaharavo, N.R. and Andriantsiferana, M. A 1,4-disubstituted quinolizidine from a Madagascan mantelline frog (*Mantella*). *J. Nat. Prod.* **59**:1174-1178, 1996.
563. Shin, Y., Daly, J.W., Jacobson, K.A. Activation of phosphoinositide breakdown and elevation of intracellular calcium in a rat RBL-2H3 mast cell line by adenosine analogs: Involvement of A₃-adenosine receptors? *Drug Develop. Res.* **39**: 36-46, 1996.
564. Badio, B., Garraffo, H.M., Padgett, W.L., Greig, N.H. and Daly, J.W. Pseudophrynaminol: A potent noncompetitive blocker of nicotinic receptor-channels. *Biochem. Pharmacol.* **53**:671-676, 1997.
565. Badio, B., Garraffo, H.M., Plummer, C.V., Padgett, W.L. and Daly, J.W. Synthesis and nicotinic activity of epiboxidine: An isoxazole analogue of epibatidine. *Eur. J. Pharmacol.* **321**:189-194, 1997.

566. Daly, J.W., Padgett, W.L., Saunders, R.L. and Cover, J.F. Jr.: Absence of tetrodotoxins in a captive-raised riparian frog, *Atelopus varius*. *Toxicon* **35**:705-709, 1997.
567. Daly, J.W., Garraffo, H.M., Hall, G.S.E. and Cover, J.F. Jr.: Absence of skin alkaloids in captive-raised Madagascan mantelline frogs (*Mantella*) and sequestration of dietary alkaloids. *Toxicon* **35**:1131-1135, 1997.
568. Toyooka, N., Tanaka, K., Momose, T., Daly, J.W. and Garraffo, H.M.: Highly stereoselective construction of *trans*(2,3)-*cis*(2,6)-trisubstituted piperidines: An application to the chiral synthesis of *Dendrobates* alkaloids. *Tetrahedron* **53**:9553-9574, 1997.
569. Daly, J.W., Garraffo, H.M. and Myers, C.W. The origin of frog skin alkaloids: An enigma. *Pharmaceutical News* **4**:9-14, 1997.
570. Harper, J.L., Shin, Y. and Daly, J.W. Loperamide: A positive modulator for store-operated calcium channels? *Proc. Natl. Acad. Sci.* **94**:14912-14917, 1997.
571. Daly, J.W. The nature and origin of amphibian alkaloids. In: *The Alkaloids*, Cordell, G.A. (Ed.). Academic Press, San Diego, vol. 50, pp. 141-169, 1998.
572. Shi, D., Padgett, W.L., Hutchinson, K.D., Moore, S.P. and Daly, J.W. Pyrazolopyridines: Effect of structural alterations on activity at adenosine- and GABA_A-receptors. *Drug Develop. Res.* **42**:41-56, 1997.
573. Daly, J.W. Thirty years of discovering arthropod alkaloids in amphibian skin. *J. Nat. Prod.* **61**:162-172, 1998.
574. Daly, J.W., Shi, D., Padgett, W.L., Ji, X.D., Jacobson, K. Riboflavin: Inhibitory effects on receptors, G-proteins, and adenylate cyclase. *Drug Develop. Res.* **42**:98-108, 1997.
575. Pei, X.F., Gupta, T.H., Badio, B., Padgett, W.L. and Daly, J.W. 6 β -Acetoxynortropane: A potent muscarinic agonist with apparent selectivity toward M₂-receptors. *J. Medicinal Chem.* **41**:2047-2055, 1998.
576. Daly, J.W. and Fredholm, B.B. Caffeine-an atypical drug of dependence. *Drug and Alcohol Dependence* **51**:199-206, 1998.
577. Daly, J.W. Pharmacology of caffeine. In *Handbook of Substance Abuse: Neurobehavioral Pharmacology*. Tarter, R.E., Ammerman, R.T. and Ott, P.J. (Eds.) Plenum Press, New York, pp. 53-68, 1998.
578. Park, K-S., Hoffmann, C., Kim, H.O., Padgett, W.L., Daly, J.W., Brambilla, R., Motta, C., Abbracchio, M.P. and Jacobson, K.A. Activation and desensitization of rat A₃-adenosine receptors by selective adenosine derivatives and xanthine-7-ribosides. *Drug Develop. Res.* **44**:97-105, 1998.
579. Tokuyama, T., Garraffo, H.M., Spande, T.F. and Daly, J.W. A revised structure for alkaloid **205B**, a novel 8 β -azaacenaphthylene from a poison frog. *Anal. Asoc. Quim. Argentina* **86**: 291-298, 1998.
580. Daly, J.W., Holmén, J. and Fredholm, B.B. Är koffein beroendeframkallande? *Läkartidningar* **95**: 5878-5883, 1998.

581. Daly, J.W. Bernard Witkop. A chemist in a biomedical institute. *Heterocycles* **49**: 5-8, 1998.
582. Tokuyama, T., Shimada, A., Garraffo, H.M., Spande, T.F. and Daly, J.W. The isolation and structure of the novel *cis*-fused indolizidine **249H** from frog skin: *cis*- vs. *trans*-fused indolizidines distinguished by nmr. *Heterocycles* **49**: 427-436, 1998.
583. Spande, T.F., Jain, P., Garraffo, H.M., Pannell, L.K., Yeh, H.J.C., Daly, J.W., Fukumoto, S., Imamura, K., Tokuyama, T., Torres, J.A., Snelling, R.R. and Jones, T.H. Occurrence and significance of decahydroquinolines from dendrobatid poison frogs and a myrmicine ant: Use of ^1H and ^{13}C NMR in their conformational analysis. *J. Nat. Prod.* **62**: 5-21, 1999.
584. Jain, P., Spande, T.F., Garraffo, H.M. and Daly, J.W. The isolation and structure of pumiliotoxin **341A**: A novel cyclic ether from the frog *Epipedobates tricolor*. *Heterocycles* **50**: 903-912, 1999.
585. Jones, T.H., Gorman, J.S.T., Snelling, R.R., Delabie, J.H.C., Blum, M.S., Garraffo, H.M., Jain, P., Daly, J.W. and Spande, T.F. Further alkaloids common to ants and frogs: Decahydroquinolines and a quinolizidine. *J. Chem. Ecol.* **25**: 1179-1193, 1999.
586. Daly, J.W., Shi, D., Nikodijević, O. and Jacobson, K.A. The role of adenosine receptors in the central action of caffeine. In *Caffeine and Behavior. Current Views and Research Trends*. Gupta, B.S. and Gupta, U. (Eds.). CRC Press, New York, Chapter 1, pp. 1-64, 1999.
587. Shi, D. and Daly, J.W. Chronic effects of xanthines on levels of central receptors in mice. *Cell. Mol. Neurobiol.* **19**: 719-732, 1999.
588. Garraffo, H.M., Spande, T.F., Jones, T.H. and Daly, J.W. Ammonia chemical ionization tandem mass spectrometry in structure determination of alkaloids. I. Pyrrolidines, piperidines, decahydroquinolines, pyrrolizidines, indolizidines, quinolizidines and an azabicyclo[5.3.0]decane. *Rapid Commun. Mass Spectrom.* **13**, 1553-1563, 1999.
589. Harper, J.L. and Daly, J.W. Inhibitors of store-operated calcium channels: Imidazoles, phenothiazines, and other tricyclics. *Drug Develop. Res.* **47**:107-117, 1999.
590. Daly, J.W., Garraffo, H.M., Jain, P., Spande, T.F., Snelling, R.R., Jaramillo, C. and Rand, A.S. Arthropod-frog connection: Decahydroquinoline and pyrrolizidine alkaloids common to microsymbiotic myrmicine ants and dendrobatid frogs. *J. Chem. Ecol.* **26**:73-85, 2000.
591. Daly, J.W., Garraffo, H.M. and Spande, T.F. Alkaloids from Amphibian Skin. In: *Alkaloids: Chemical and Biological Perspectives*, Pelletier, S.W. (Ed.), Pergamon, New York, vol. 13, pp. 1-161, 1999.
592. Daly, J.W. and Harper, J. Loperamide: Novel effects on capacitative calcium influx. *Cell. Mol. Life Sci.* **57**: 149-157, 2000.
593. Kirk, K.L., Jayachandran, B., Herbert, B., Lu, S.-F., Oshunlet, O., Padgett, W.L., Daly, J.W., Haufe, G. and Laue, K.W. Chemical and biochemical approaches to the enantiomers of chiral fluorinated catecholamines and amino acids. ACS Symposium Series 746, P.V. Ramachandran, Ed., American Chemical Society, Washington, D.C., pp. 194-209, 2000.

594. Jiang, X., Lim, L.Y., Daly, J.W., Li, A.H., Jacobson, K.A. and Roberge, M. Structure-activity relationships for G2 checkpoint inhibition by caffeine analogs. *Internat. J. Oncol.* **16**: 971-978, 2000.
595. Daly, J.W., Garraffo, H.M., Spande, T.F., Decker, M.W., Sullivan, J.P. and Williams, M. Alkaloids from frog skin: the discovery of epibatidine and the potential for developing novel non-opioid analgesics. *Nat. Prod. Report* **17**: 131-135, 2000.
596. Lu, S-F., Herbert, B., Haufe, G., Laue, K.W., Padgett, W.L., Oshunleti, O., Daly, J.W. and Kirk, K.L.: Syntheses of (R)- and (S)-2- and 6-fluoronorepinephrine and (R)- and (S)-2- and 6-fluoroepinephrine: Effect of stereochemistry on fluorine-induced adrenergic selectivities. *J. Med. Chem.* **43**: 1611-1619, 2000.
597. Harper, J.L. and Daly, J.W.: Store-operated calcium channels in HL-60 cells effects of temperature, differentiation and loperamide. *Life Sci.* **67**: 651-662, 2000.
598. Harper, J.L. and Daly, J.W.: Effect of calmidazolium analogs on calcium influx in HL-60 cells. *Biochem. Pharmacol.* **60**: 317-324, 2000.
599. Daly, J.W., Gupta, T.H., Padgett, W.L. and Pei, X-F. 6 β -Acyloxy(nor)tropanes: Affinities for antagonist/agonist binding sites on transfected and native muscarinic receptors. *J. Med. Chem.* **43**: 2514-2522, 2000.
600. Shin, Y., Daly, J.W. and Choi, O.H. Diverse effects of sphingosine on calcium mobilization and influx in differentiated HL-60 cells. *Cell Calcium* **27**: 269-280, 2000.
601. Daly, J.W. Alkylxanthines as research tools. *J. Autonomic Nervous System* **81**:44-52, 2000.
602. Kibayashi, C., Aoyagi, S., Wang, T.-C., Saito, K., Daly, J.W. and Spande, T.F. Determination of absolute stereochemistry and an alternative synthesis of homopumiliotoxin 223G: Identification on chiral GC columns with the natural alkaloid. *J. Nat. Prod.* **63**:1157-1159, 2000.
603. Daly, J.W. and H.M. Garraffo. An arthropod origin for bioactive alkaloids of amphibian skin. *Anal. Acad. Nac. Cs. Ex. Fis. y Nat. Buenos Aires, Argentina* **51**: 9-20, 1999.
604. Dumbacher, J.P., Spande, T.F. and Daly, J.W.: Batrachotoxin alkaloids from passerine birds: A second toxic bird genus (*Ifrita Kowaldi*) from New Guinea. *Proc. Natl. Acad. Sci.* **97**: 12970-12975, 2000.
605. Michel, P., Rassat, A., Daly, J.W. and Spande, T.F.: A stereospecific synthesis of (\pm)-5,8-disubstituted indolizidines and (\pm)-1,4-disubstituted quinolizidines found in poison frog skins. *J. Org. Chem.* **65**: 8908-8918, 2000.
606. Sei, Y., Gallagher, K.L., Daly, J.W.: Multiple effects of caffeine on Ca²⁺ release and influx in human B lymphocytes. *Cell Calcium* **29**: 149-160, 2001.
607. Garraffo, H.M., Jain, P., Spande, T.F., Daly, J.W., Jones, T.H., Smith, L.J. and Zottig, V.E. Structure of alkaloid **275A**, a novel 1-azabicyclo[5.3.0]decane from a dendrobatid frog, *Dendrobates lehmanni*: Synthesis of the tetrahydrodiastereomers. *J. Nat. Prod.* **64**: 421-427, 2001.

608. Garraffo, H.M., Spande, T.F., Jain, P., Kaneko, T., Jones, T.H., Blum, M.S., Ali, T.M.M., Snelling, R.R., Isbell, L.A., Robertson, H.G. and Daly, J.W. Ammonia chemical ionization-tandem mass spectrometry in structure determination of alkaloids. II. Tetraoponerines from *Pseudomyrmicine* ant. Rapid Commun. Mass Spectrom. **15**: 1409-1415, 2001.
609. Hayallah, A.M., Sandoval-Ramírez, J., Reith, U., Schobert, U., Preiss, B., Schumacher, B., Daly, J.W. and Müller, C.E. 1,8-Disubstituted xanthine derivatives: Synthesis of potent A_{2B}-selective adenosine receptor antagonists. J. Med. Chem. **45**: 1500-1510, 2002.
610. Smith, B.P., Tyler, M.J., Kaneko, T., Garraffo, H.M., Spande, T.F. and Daly, J.W. Evidence for biosynthesis of pseudophrynamine alkaloids by an Australian myobatrachid frog (*Pseudophryne*) and sequestration of dietary pumiliotoxins. J. Nat. Prod. **65**: 439-447, 2002.
611. Toyooka, N., Fukutome, A., Nemoto, H., Daly, J.W., Spande, T.F., Garraffo, H.M. and Kaneko, T. Synthesis of alkaloid **223A** and a structural revision. Organic Lett. **4**:1715-1717, 2002.
612. Flowers, A., Onwueme, K., Creveling, C.R. and Daly, J.W. Reserpine: Interactions with batrachotoxin and brevetoxin sites on voltage-dependent sodium channels. Cell. Mol. Neurobiol. **22**:1-11, 2002.
613. Müller, C.E., Thorand, M., Qurishi, R., Diekmann, M., Jacobson, K.A., Padgett, W.L. and Daly, J.W. Imidazo[2,1-*J*]purin-5-ones and related tricyclic water-soluble purine derivatives: Potent A_{2A}- and A₃-adenosine receptor antagonists. J. Med. Chem. **45**:3440-3450, 2002.
614. Daly, J.W., Kaneko, T., Wilham, J., Garraffo, H.M., Spande, T.F., A. Espinosa and Donnelly, M.A. Bioactive alkaloids of frog skin: Combinatorial bioprospecting reveals that pumiliotoxins have an arthropod source. Proc. Natl. Acad. Sci. U.S.A. **99**:13996-14001, 2002.
615. Sunthitikawinsakul, A., Kongkathip, N., Kongkathip, B., Phonnakhu, S., Daly, J.W., Spande, T.F., Nimit, Y., and Rochanaruangrai, S. Coumarins and carbazoles from *clausena excavata* exhibited antimycobacterial and antifungal activities. Planta Medica **69**:155-157, 2003.
616. Daly, J.W. Yuichi Kanaoka. A pioneer in chemical biology. Heterocycles **59**: 3-5, 2003.
617. Daly, J.W. Ernest Guenther Award in Chemistry of Natural Products. Amphibian Skin: A remarkable source of biologically active arthropod alkaloids. J. Med. Chem. **46**:445-452, 2003.
618. Harper, J.L., Camerini-Otero, C.S., Li, A.-H., Kim, S.-A., Jacobson, K.A. and Daly, J.W. Dihydropyridines as inhibitors of capacitative calcium entry in leukemic HL-60 cells. Biochem. Pharmacol. **65**:329-338, 2003.
619. Kaneko, T., Spande, T.F., Garraffo, H.M., Yeh, H.J.C., Daly, J.W., Andriamaharavao, N.R. and Andriantsiferana, M. A structure for **261C**, a novel tricyclic alkaloid from the madagascan poison frog, *mantella betsileo*. Heterocycles **59**: 245-258, 2003.
620. Fitch, R.W., Xiao, Y., Kellar, K.J. and Daly, J.W. Membrane potential fluorescence: A rapid and highly sensitive assay for nicotinic receptor channel function. Proc. Natl. Acad. Sci. U.S.A. **100**:4909-4914, 2003.

621. Sei, Y., Brandom, B.W., Bina, S., Hosoi, E., Gallagher, K.L., Wyre, H.W., Pudimat, P.A., Holman, S.J., Venzon, D.J., Daly, J.W. and Muldoon, S. Patients with malignant hyperthermia demonstrate an altered calcium control mechanism in B lymphocytes. *Anesthesiology* **97**:1052-1058, 2002.
622. Shi, D., Padgett, W.L. and Daly, J.W. Caffeine Analogs: Effects on Ryanodine-Sensitive Calcium-Release Channels and GABA_A Receptors. *Cell. Mol. Neurobiol.* **23**:331-347, 2003.
623. Daly, J.W., Garraffo, H.M., Spande, T.F., Clark, V.C., Ma, J., Ziffer, H. and Cover, Jr., J.F. Evidence for an enantioselective pumiliotoxin 7-hydroxylase in dendrobatid poison frogs of the genus *Dendrobates*. *Proc. Natl. Acad. Sci. U.S.A* **100**:11092-11097, 2003.
624. Fitch, R.W., Garraffo, H.M., Spande, T.F., Yeh, H.J.C. and Daly, J.W. Bioassay-guided isolation of epiquinamide, a Novel quinolizidine alkaloid and nicotinic agonist from an Ecuadoran poison frog, *Epipedobates tricolor*. *J. Nat. Prod.* **66**:1345-1350, 2003.
625. Fitch, R.W., Pei, X-F., Kaneko, Y., Gupta, T., Shi, D., Federova, I. and Daly, J.W. Homoepiboxidines: Further potent agonists for nicotinic receptors. *Bioorg. Med. Chem.* **12**: 179-190, 2004.
626. Sunthitikawinsakul, A., Kongkathip, N., Kongkathip, B., Phonnakhu, S., Daly, J.W., Spande, T.F., Nimit, Y., Napaswat, C., Kasisit, J. and Yoosook, C. Anti-HIV-1 Limonoid: First Isolation from *Clausena excavata*. *Phytother. Res.* **17**: 1101-1103, 2003.
627. Saporito, R.A., Donnelly, M.A., Hoffman, R.L., Garraffo, H.M. and Daly, J.W. A siphonotid millipede (*Rhinotus*) as the source of spiropyrolizidine oximes of dendrobatid frogs. *J. Chem. Ecol.* **29**:2781-2786, 2003.
628. Daly, J.W. and Fredholm, B.B.: Mechanisms of action of caffeine on the nervous system. In *Coffee, Tea, Chocolate, and the Brain*, Nehlig, A. (Ed.) CRC Press, Boca Raton, FL. pp 1-11, 2004.
629. Ye, S., Rezende, M.M., Deng, W-P., Herbert, B., Daly, J.W., Johnson, R.A. and Kirk, K.L. Synthesis of 2',5'-dideoxy-2-fluoroadenosine and 2',5'-dideoxy-2,5'-difluoroadenosine: Potent p-site inhibitors of adenylyl cyclase. *J. Med. Chem.* **47**:1207-1213, 2004.
630. Yotsu-Yamashita, M., Kim, Y.H., Dudley, Jr., S.C., Choudhary, G., Pfahnl, A., Oshima, Y. and Daly, J.W. The structure of zetekitoxin AB, a saxitoxin analog from the Panamanian golden frog *Atelopus zeteki*: A potent sodium-channel blocker. *Proc. Natl. Acad. Sci. U.S.A* **101**:4346-4351, 2004.
631. Saporito, R.A., Garraffo, H.M., Donnelly, M.A., Edwards, A.L., Longino, J.T. and Daly, J.W. Formicine ants: An arthropod source for the pumiliotoxin alkaloids of dendrobatid poison frogs. *Proc. Natl. Acad. Sci. U.S.A* **101**:8045-8050, 2004.
632. Daly, J.W. Marine toxins and nonmarine toxins: Convergence or symbiotic organisms? *J. Nat. Prod.* **67**: 1211-1215, 2004.
633. Daly, J.W., Noimai, N., Kongkathip, B., Kongkathip, N., Wilham, J.M., Garraffo, H.M., Kaneko, T., Spande, T.F., Nimit, Y., Nabhitabhata, J. and Chan-Ard, T. Biologically active substances from amphibians: Preliminary studies on anurans from twenty-one genera of Thailand. *Toxicon* **44**: 805-815, 2004.

634. Dumbacher, J.P., Wako, A., Derrickson, S.R., Samuelson, A., Spande, T.F. and Daly, J.W. Melyrid beetles (Choresine): A putative source for the batrachotoxin alkaloids found in poison-dart frogs and toxic passerine birds. *Proc. Natl. Acad. Sci. USA* **101**: 15857-15860, 2004.
635. Toyooka, N., Kawasaki, M., Nemoto, H., Daly, J.W., Spande, T.F. and Garraffo, H.M. Enantioselective synthesis of poison-frog alkaloid **237D** and determination of absolute stereochemistry. *Heterocycles* **65**: 5-8, 2005.
636. Toyooka, N., Nemoto, H., Kawasaki, M., Garraffo, H.M., Spande, T.F. and Daly, J.W. Enantioselective syntheses of two 5,9*E* diastereomers of **223V**, an alkaloid from the poison frog *Dendrobates pumilio*. *Tetrahedron* **61**: 1187-1198, 2005.
637. Fitch, R.W., Kaneko, Y., Klaperski, P., Daly, J.W., Seitz, G. and Gündisch, D. Halogenated and isosteric cytosine derivatives with increased affinity and functional activity at nicotinic acetylcholine receptors. *Bioorg. Med. Chem. Lett.* **15**: 1221-1224, 2005.
638. Fitch, R.W. and Daly, J.W. Phosphorimaging detection and quantitation for isotopic ion flux assays. *Anal. Biochem.* **342**:260-270, 2005.
639. Daly, J.W. Nicotinic agonists, antagonists, and modulators from natural sources. *Cell. Mol. Neurobiol.* **25**:513-552, 2005.
640. St. Claire, M.B., Kennett, M.J., Thomas, M.L. and Daly, J.W. The husbandry and care of dendrobatid frogs. *Contemporary Topics* **44**: 7-13, 2005.
641. Daly, J.W., Spande, T.F. and Garraffo, H.M. Alkaloids from amphibian skin: A tabulation of over eight-hundred compounds. *J. Nat. Prod.* **68**:1556-1575, 2005.
642. Andriamaharavo, N.R., Andriantsiferana, M., Stevenson, P.A., O'Mahony, G., Yeh, H.J.C., Kaneko, T., Garraffo, H.M., Spande, T.F. and Daly, J.W. A revised structure for alkaloid **235C** isolated from skin extracts of mantellid (*Mantella*) frogs of Madagascar. *J. Nat. Prod.* **68**:1743-1748, 2005.
643. Toyooka, N., Dejun, Z., Nemoto, H., Garraffo, H.M., Spande, T.F. and Daly, J.W. The enantioselective synthesis of poison-frog alkaloids (-)-**203A**, (-)-**209B**, (-)-**231C**, (-)-**233D**, and (-)-**235B''**. *Tetrahedron Lett.* **47**:577-580, 2006.
644. Toyooka, N., Dejun, Z., Nemoto, H., Garraffo, H.M., Spande, T.F. and Daly, J.W. Enantioselective syntheses of poison-frog alkaloids: **219F** and **221I** and an epimer of **193E**. *Tetrahedron Lett.* **47**:581-582, 2006.
645. Macfoy, C., Danosus, D., Sandit, R., Jones, T.H., Garraffo, H.M., Spande, T.F. and Daly, J.W. Alkaloids of anuran skin: Antimicrobial function? *Z. Naturforsch.* **60c**:932-937, 2005.
646. Ohtani, M., Oka, T., Badyuk, M., Xiao, Y., Kellar, K.J. and Daly, J.W. Mouse β -TC6 insulinoma cells: High expression of functional $\alpha 3\beta 4$ nicotinic receptors mediating membrane potential, intracellular calcium and insulin release. *Mol. Pharmacol.* **69**: 899-907, 2006.

647. Saporito, R.A., Donnelly, M.A., Garraffo, H.M., Spande, T.F., and Daly, J.W. Geographic and seasonal variation in alkaloid-based chemical defenses of *Dendrobates pumilio* from Bocas del Toro, Panama. *J. Chem. Ecol.* **32**:795-814, 2006.
648. Daly, J.W. and Camerini-Otero, C.S. Imidazole-induced elevations of intracellular calcium in HL-60 cells: Effect of inhibition of phospholipase C by the steroidal maleimide U73122. *Drug Develop. Res.* **67**:519-534, 2006.
649. Weldon, P.J., Kramer, M., Gordon, S., Spande, T.F. and Daly, J.W. A common pumiliotoxin from poison frogs exhibits enantioselective toxicity against mosquitoes. *Proc. Natl. Acad. Sci. USA* **103**:17818-17821, 2006.
650. Toyooka, N., Dejun, Z., Nemoto, H., Garraffo, H.M., Spande, T.F. and Daly, J.W. Chiral synthesis of poison-frog alkaloids 251N and 221K. *Heterocycles* **70**: 541-548, 2006.
651. Jones, T.H., Voegtle, H.L., Miras, H.M., Weatherford, R.G., Spande, T.F., Garraffo, H.M., Daly, J.W., Davidson, D.W. and Snelling, R.R. Venom chemistry of the ant *Myrmecaria melanogaster* from Brunei. *J. Nat. Prod.* **70**: 160-168, 2007.
652. Daly, J.W., Wilham, J.M., Spande, T.F., Garraffo, H.M., Gil, R.R., Silva, G.L. and Vaira, M. Alkaloids in bufonid toads (*Melanophryniscus*): Temporal and geographic determinants for two Argentinian species. *J. Chem. Ecol.* **33**: 871-887, 2007.
653. Saporito, R.A., Donnelly, M.A., Norton, R.A., Garraffo, H.M., Spande, T.F. and Daly, J.W. Oribatid mites as a major dietary source for alkaloids in poison frogs. *Proc. Natl. Acad. Sci. USA* **104**:8885-8890.
654. Toyooka, N.; Kobayashi, S.; Zhou, D.; Tsuneki, H.; Wada, T.; Sakai, H.; Nemoto, H.; Sasaoka, T.; Garraffo, H. M.; Spande, T. F.; Daly, J. W. Synthesis of Poison-frog Alkaloids 233A, 235U, and 251AA and Their Inhibitory Effects on Neuronal Nicotinic Acetylcholine Receptors. *Bioorg. Med. Chem. Lett.* **17** 5872-5875, 2007.
655. Toyooka, N.; Zhou, D.; Nemoto, H.; Garraffo, H. M.; Spande, T. F.; Daly, J. W. Flexible Synthetic Routes to Poison-frog Alkaloids of the 5,8-Disubstituted Indolizidine-class. I.: Synthesis of Common Lactam Chiral Building Blocks and Application to the Synthesis of (-)-203A, (-)-205A, and (-)-219F. *Beilstein J. Org. Chem.* **3**, 29, 2007.
656. Kobayashi, S.; Toyooka, N.; Zhou, D.; Tsuneki, H.; Wada, T.; Sasaoka, T.; Sakai, H.; Nemoto, H.; Garraffo, H. M.; Spande, T. F.; Daly, J. W. Flexible Synthesis of Poison-frog Alkaloids of the 5,8-Disubstituted Indolizidine-class. II: Synthesis of (-)-209B, (-)-231C, (-)-233D, (-)-235B", (-)-221I, and an Epimer of 193E and Pharmacological Effects at Neuronal Nicotinic Acetylcholine Receptors. *Beilstein J. Org. Chem.* **3**, 30, 2007.
657. Saporito, Ralph A.; Donnelly, Maureen A.; Jain, Poonam; Garraffo, H. Martin; Spande, Thomas F.; Daly, John W. Spatial and temporal patterns of alkaloid variation in the poison frog *Oophaga pumilio* in Costa Rica and Panama over 30 years; *Toxicon*, **50(6)**, 757-778, 2007.
658. Daly, J. W. Caffeine analogs: biomedical impact; *Cellular and Molecular Life Sciences*, **64(16)**, 2153-2169, 2007.

659. Toyooka, N.; Zhou, D.; Kobayashi, S.; Tsuneki, H.; Wada, T.; Sakai, H.; Nemoto, H.; Sasaoka, T.; Tezuka, Y.; Subehan; Kadota, S.; Garraffo, H. M.; Spande, T. F.; Daly, J. W. Synthesis of the Proposed Structure of Poison-Frog Alkaloids 179 and 207E and Their Inhibitory Effects on Neuronal Nicotinic Acetylcholine Receptors. *Synlett* 2008, 61-64.
660. Toyooka, N.; Zhou, D.; Nemoto, H.; Tezuka, Y.; Kadota, S.; Jones, T. H.; Garraffo, H. M.; Spande, T. F.; Daly, J. W. First Enantioselective Synthesis of a Hydroxyindolizidine Alkaloid from the Ant *Myrmicaria melanogaster*; *Synlett* 2008, 1894-1896.
661. Daly, John W.; Garraffo, H. Martin; Spande, Thomas F.; Yeh, Herman J. C.; Peltzer, Paola M.; Cacivio, Pedro M.; Baldo, J. Diego; Faivovich, Julian Indolizidine 239Q and quinolizidine 275I. Major alkaloids in two Argentinian bufonid toads (*Melanophryniscus*); *Toxicon*, 52, 858-870, 2008.
662. Wijdeven, Marloes A.; Wijtmans, Roel; van den Berg, Rutger J. F.; Noorduyn, Wim; Schoemaker, Hans E.; Sonke, Theo; van Delft, Floris L.; Blaauw, Richard H.; Fitch, Richard W.; Spande, Thomas F.; Daly, John W.; Rutjes, Floris P. J. T. N,N-Acetals as N-Acyliminium Ion Precursors: Synthesis and Absolute Stereochemistry of Epiquinamide; *Organic Letters*, 10, 4001-4003, 2008.
663. Nelson, Angela; Garraffo, H. Martin; Spande, Thomas F.; Daly, John W.; Stevenson, Paul J. Facile synthesis of two diastereomeric indolizidines corresponding to the postulated structure of alkaloid 5,9E-259B from a bufonid toad (*Melanophryniscus*); *Beilstein Journal of Organic Chemistry*, 4, 6, 2008.
664. Daly, John W.; Garraffo, H. Martin; Spande, Thomas F.; Giddings, Lesley-Ann; Saporito, Ralph A.; Vieites, David R.; Vences, Miguel. Individual and Geographic Variation of Skin Alkaloids in Three Species of Madagascan Poison Frogs (*Mantella*); *Journal of Chemical Ecology*, 34(2), 252-279, 2008.