

Robert Roskoski Jr. PUBLICATIONS (15 May 2026)

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From the Department of Biochemistry, the University of Chicago (Chicago, Illinois)

- [1.](#) Roskoski, R. Jr. and Steiner, D.F. (1967) Cycloheximide and Actinomycin D Inhibition of Estrogen-Stimulated Sugar and Amino Acid Transport in Rat Uterus. *Biochem. Biophys. Acta* **135**, 347-349.
- [2.](#) Roskoski, R. Jr. and Steiner, D.F. (1967) The Effect of Estrogen on Sugar Transport in the Rat Uterus. *Biochem. Biophys. Acta* **135**, 717-726.
- [3.](#) Roskoski, R. Jr. and Steiner, D.F. (1967) The Effect of Estrogen on Amino Acid Transport in the Rat Uterus. *Biochem. Biophys. Acta* **135**, 727-731.

From the Pharmacology-Biochemistry Branch, Biosciences Division, US Air Force School of Aerospace Medicine, Brooks Air Force Base (San Antonio, Texas)

- [4.](#) Roskoski, R. Jr. (1969) Role of Divalent Cations on the Association of Rat Liver Ribosomal Subunits. *Arch. Biochem. Biophys.* **130**, 561-566.
- [5.](#) Landez, J.H., Roskoski, R. Jr. and Coppoc, G.L. (1969) Ethidium Bromide and Chloroquine Inhibition of Rat Liver Cell-Free Aminoacylation. *Biochem. Biophys. Acta* **195**, 276-279.
- [6.](#) Roskoski, R. Jr. and Jaskunas, S.R. (1972) Chloroquine and Primaquine Inhibition of Cell-Free Rat Liver Polypeptide Synthesis. *Biochem. Pharm.* **21**, 391-399.

From the Rockefeller University (New York, New York)

- [7.](#) Roskoski, R. Jr., Gevers, W., Kleinkauf, H. and Lipmann, F. (1970) Tyrocidine Biosynthesis by Three Complementary Fractions from *Bacillus brevis* (ATC 8185). *Biochemistry* **9**, 4839-4845.
- [8.](#) Roskoski, R. Jr., Kleinkauf, H., Gevers, W. and Lipmann, F. (1970) Isolation of Enzyme-Bound Peptide Intermediates in Tyrocidine Biosynthesis. *Biochemistry* **9**, 4846-4851.
- [9.](#) Kleinkauf, H., Gevers, W., Roskoski, R. Jr. and Lipmann, F. (1970) Enzyme-Bound Pantetheine in Tyrocidine Biosynthesis. *Biochem. Biophys. Res. Commun.* **41**, 1218-1222.
- [10.](#) Roskoski, R. Jr., Ryan, G., Kleinkauf, H., Gevers, W. and Lipmann, F. (1971) Polypeptide Biosynthesis from Thioesters of Amino Acids. *Arch. Biochem. Biophys.* **143**, 485-492.
- [11.](#) Lipmann, F., Gevers, W., Kleinkauf, H. and Roskoski, R. Jr. (1971) Polypeptide Synthesis on Protein Templates: The Enzymatic Synthesis of Gramicidin S and Tyrocidine. *Adv. Enzymol.* **35**, 1-37.
- [12.](#) Kleinkauf, H., Roskoski, R. Jr. and Lipmann, F. (1971) Pantetheine-Linked Peptide Intermediates in Gramicidin S and Tyrocidine Biosynthesis. *Proc. Natl. Acad. Sci. (U.S.)* **68**, 2069.
- [13.](#) Bauer, K., Roskoski, R. Jr., Kleinkauf, H. and Lipmann, F. (1972) Synthesis of a Linear Gramicidin by a Combination of Biosynthesis and Organic Methods. *Biochemistry* **11**, 3266-3271.
- [14.](#) Lee, S.G., Roskoski, R. Jr., Bauer, K. and Lipmann, F. (1973) Purification of the Polyenzymes Responsible for Tyrocidine Synthesis and their Dissociation into Subunits. *Biochemistry* **12**, 398-405.

From the Department of Biochemistry, the University of Iowa (Iowa City, Iowa)

- [15.](#) Roskoski, R. Jr. (1973) Choline Acetyltransferase: Evidence for an Acetyl-Enzyme Intermediate.

Biochemistry **12**, 3709-3714.

- [16.](#) Rahmsdorf, H.J., Pai, S.H., Ponta, H., Herrlich, P., Schweiger, M. and Roskoski, R. Jr. (1974) Protein Phosphokinase Induction in *E. coli* by Bacteriophage T 7. *Proc. Natl. Acad. Sci. (U.S.)* **71**, 586-589.
- [17.](#) Roskoski, R. Jr. (1974) Choline Acetyltransferase: Inhibition by Thiol Reagents. *J. Biol. Chem.* **249**, 2156-2159.
- [18.](#) Roskoski, R. Jr. (1974) Choline Acetyltransferase: Reversible Inhibition by Bromoacetyl Coenzyme A and Bromoacetylcholine. *Biochemistry* **13**, 2295-2298.
- [19.](#) Roskoski, R. Jr., Ryan, L.D. and Diecke, F.J.P. (1974) γ -Aminobutyric Acid Synthesized in the Olfactory Nerve. *Nature* **251**, 526-529.
- [20.](#) Roskoski, R. Jr., Mayer, H.E. and Schmid, P.G. (1974) Acetylcholine Biosynthesis in Guinea Pig Heart *in vitro*. *J. Neurochem.* **23**, 1197-1200.
- [21.](#) Roskoski, R. Jr. (1974) Choline acetyltransferase: Reactions of the Active Site Sulfhydryl group. In: D. Richter (Editor) *Lipmann Symposium: Energy Biosynthesis and Regulation in Molecular Biology*, Walter deGruyter Verlag, Berlin-New York, pp. 534-547.
- [22.](#) Roskoski, R. Jr. (1974) Choline Acetyltransferase and Acetyl-cholinesterase: Evidence for Essential Histidine Residues. *Biochemistry* **13**, 5141-5144.
- [23.](#) Witt, J.J. and Roskoski, R. Jr. (1975) Rapid Protein Kinase Assay Using Phosphocellulose Paper Absorption. *Anal. Biochem.* **66**, 253-258.
- [24.](#) Roskoski, R. Jr., Schmid, P.G., Mayer, H.E. and Abboud, F.M. (1975) *In Vitro* Acetylcholine Biosynthesis in Normal and Failing Guinea Pig Hearts. *Circ. Res.* **36**, 547-552.
- [25.](#) Witt, J.J. and Roskoski, R. Jr. (1975) Bovine Brain Adenosine 3',5'-Monophosphate Dependent Protein Kinase: Mechanism of Regulatory Subunit Inhibition of the Catalytic Subunit. *Biochemistry* **14**, 4503-4507.
- [26.](#) Roskoski, R. Jr., Lim, C.T. and Roskoski, L.M. (1975) Human Brain and Placental Choline Acetyltransferase: Purification and Properties. *Biochemistry* **14**, 5101-5110.
- [27.](#) Ryan, L.D. and Roskoski, R. Jr. (1975) Selective Release of Newly-Synthesized and Newly-Captured GABA from Synaptosomes by Potassium Depolarization. *Nature* **258**, 254-256.
- [28.](#) Ryan, L.D. and Roskoski, R. Jr. (1976) Resolution and Reconstitution of Glutamate Decarboxylase from Cerebellum. *Neurochemical Research* **1**, 37-45.
- [29.](#) Lais, L.T., Brody, M.J., Bhatnagar, R. and Roskoski, R. (1976) Evidence that Hypertension Appears in SHR in the Absence of Altered Sympathetic Nervous System Activity or Development. In: *Spontaneous Hypertension: Its Pathogenesis and Complications* (11) (K. Okamoto and F.M. Bumpus, eds.) U.S. Government Printing Office, 181-190.
- [30.](#) Roskoski, R. Jr. and Frederick, C.E. (1977) Subcellular Distribution of a Heat-Stable Protein Inhibition of Cyclic AMP-Dependent Protein Kinase in Rat Brain. *J. Neurochem.* **28**, 543-547.
- [31.](#) Ryan, L.D. and Roskoski, R. Jr. (1977) Net uptake of γ -Aminobutyric Acid by a High Affinity Synaptosomal Transport System. *J. Pharm. Exp. Ther.* **200**, 285-291.
- [32.](#) Roskoski, R. Jr., McDonald, R.I., Roskoski, L.M., Marvin, W.J. and Hermsmeyer, K. (1977) Choline Acetyltransferase Activity in Heart: Evidence for Neuronal and Not Myocardial Origin. *Am. J.*

Physiol. **233**, H642-H646.

33. Schmid, P.G., Greif, B.J., Lund, D.D. and Roskoski, R. Jr. (1978) Regional Choline Acetyltransferase Activity in the Guinea Pig Heart. *Circ. Res.* **42**, 657-660.
34. Roskoski, R. Jr., Ngan, P., Mettenburg, R.M. and Lund, D.D. (1978) Isoproterenol Injection Alters Protein Kinase DEAE-Cellulose Profiles in Selected Rat Tissues. *Biochem. Biophys. Res. Commun.* **82**, 641-647.
35. Roskoski, R. Jr. and Roskoski, L.M. (1978) A Rapid Histidine Decarboxylase Assay. *Analyt. Biochem.* **87**, 293-297.
36. Roskoski, R. Jr. (1978) Acceleration of Choline Uptake After Depolarization-Induced Acetylcholine Release in Rat Cortical Synaptosomes. *J. Neurochem.* **30**, 1357-1361.
37. Lund, D.D., Schmid, P.G., Kelly, S.E., Corry, R.J. and Roskoski, R. Jr. (1978) Choline Acetyltransferase Activity in Rat Heart After Transplantation. *Am. J. Physiol.* **235**, H367-H371.
38. Roskoski, R. Jr. (1978) Net Uptake of L-Glutamate and GABA by High Affinity Synaptosomal Transport Systems. *J. Neurochem.* **31**, 493-498.
39. Lund, D.D., Knuepfer, M.M., Brody, M.J., Bhatnagar, R.K., Schmid, P.G. and Roskoski, R. Jr. (1978) Comparison of Tyrosine Hydroxylase and Choline Acetyltransferase Activity in Response to Sympathetic Nervous System Activation. *Brain Res.* **156**, 192-197.
40. Roskoski, R. Jr. (1979) Net Aspartate Uptake by a High Affinity Synaptosomal Transport System. *Brain Res.* **160**, 85-93.
41. Lund, D.D., Schmid, P.G. and Roskoski, R. Jr. (1979) Choline Acetyltransferase Activity in Heart Following Vagotomy. *Am. J. Physiol.* **236**, H620-H623.
42. Witt, J.J. and Roskoski, R. Jr. (1980) Adenosine 3',5'-Monophosphate Dependent Protein Kinase: Interaction with Guanidinium Compounds. *Arch. Biochem. Biophys.* **201**, 36-43.
43. Witt, J.J. and Roskoski, R. Jr. (1980) Cyclic 3,5'-Adenosine Monophosphate Dependent Protein Kinase: Active Site Directed Inhibition by Cibacron Blue F3GA. *Biochemistry* **19**, 143-148.
44. Marvin, W.J. Jr., Hermsmeyer, K., McDonald, R.I., Roskoski, L.M. and Roskoski, R. Jr. (1980) Ontogenesis of Cholinergic Innervation in Rat Heart. *Circ. Res.* **46**, 690-695.
45. Oderfeld-Nowak, B., Potempska, A. and Roskoski, R. Jr. (1980) Acetylcholine Levels Increase in Rat Hippocampus following Acute Septal Lesions: Evidence for Interaction between Cholinergic and Non-cholinergic Neurons. *Neuroscience* **5**, 1699-1703.

From the Department of Biochemistry and Molecular Biology, Louisiana State University Health Sciences Center (New Orleans, Louisiana)

46. Vrana, K.E., Allhiser, C.L. and Roskoski, R. Jr. (1981) Tyrosine Hydroxylase Activation and Inactivation by Protein Phosphorylation Conditions. *J. Neurochem.* **36**, 92-100.
47. Roskoski, R. Jr., Rauch, N. Roskoski, L.M. (1981) Glutamate, Aspartate and Gamma-Aminobutyrate Transport by Membrane Vesicles Prepared from Rat Brain. *Arch. Biochem. Biophys.* **207**, 407-415.
48. Roskoski, R. Jr. (1981) Comparison of DABA and GABA Transport into Plasma Membrane Vesicles Derived from Synaptosomes. *J. Neurochem.* **36**, 544-550.

- [49.](#) Crockatt, L.H., Lund, D.D., Schmid, P.G. and Roskoski, R. Jr. (1981) Hypoxia-Induced Changes in Parasympathetic Neurochemical Markers in Guinea Pig Heart. *J. Appl. Phys.* **50**, 1017-1021.
50. Schmid, P.G., Lund, D.D. and Roskoski, R. Jr. (1981) Efferent Autonomic Dysfunction in Heart Failure. In: *Disturbances in Neurogenic Control of the Circulation*, American Physiological Society, edited by F.M. Abboud, H.A. Fozzard, J.P. Gilmore and D.J. Reis, Bethesda, 33-49.
- [51.](#) Dickson, D.W., Lund, D.D., Subieta, A.R., Prall, J.L., Schmid, P.G. and Roskoski, R. Jr. (1981) Regional Distribution of Tyrosine Hydroxylase and Dopamine Beta-Hydroxylase Activities in Guinea Pig Heart. *J. Autonomic Nervous System* **4**, 319-326.
- [52.](#) Lund, D.D., Schmid, P.G., Bhatnagar, R.K. and Roskoski, R. Jr. (1982) Changes in Parasympathetic and Sympathetic Neurochemical Indices in Hearts of Myopathic Hamsters. *J. Autonomic Nervous System* **5**, 237-246.
- [53.](#) Cook, P.F., Neville, M.E., Vrana, K.E., Hartl, F.T., and Roskoski, R. Jr. (1982) Cyclic 3',5'-Adenosine Monophosphate-Dependent Protein Kinase: Kinetic Mechanism for the Bovine Skeletal Muscle Catalytic Subunit. *Biochemistry* **21**, 5794-5799.
- [54.](#) F. Thomas Hartl and R. Roskoski, Jr. (1982) Cyclic AMP-Dependent Protein Kinase from Bovine Brain: Inactivation of the Catalytic Subunit and the Holoenzyme by 7-Chloro-4-nitrobenzo-2-oxa-1,3-diazole (NBD-Cl). *Biochemistry* **21**, 5175-5183.
- [55.](#) Lund, D.D., Schmid, P.G., Johannsen, U.J. and Roskoski, R. Jr. (1982) Biochemical Indices of Cholinergic and Adrenergic Autonomic Innervation in Dog Heart: Disparate Alterations in Chronic Right Heart Failure. *J. Mol. Cell. Cardiol.* **14**, 419-425.
- [56.](#) Schmid, P.G., Lund, D.D., Davis, J.A., Whiteis, C.A., Bhatnagar, R.K. and Roskoski, R. Jr. (1982) Selective Sympathetic Neural Changes in Hypertrophied Right Ventricle. *Am. J. Physiol.* **243**, 175-4180.
- [57.](#) Schmid, P.G., Greif, B.J., Lund, D.D. and Roskoski, R. Jr. (1982) Tyrosine Hydroxylase and Choline Acetyltransferase Activities in Ischemic Canine Heart. *Am. J. Physiol.* **243**, H788-H795.
- [58.](#) Roskoski, R. Jr. (1983) Regional Distribution of Choline Acetyltransferase and Multiple Affinity Forms of the Muscarinic Receptor in Heart. *Adv. Exp. Med. Biol.* **161**, 159-178.
- [59.](#) Lund, D.D., Schmid, P.G. and Roskoski, R. Jr. (1983) Neurochemical Indices of Autonomic Innervation of Heart in Different Experimental Models of Heart Failure. *Adv. Exp. Med. Biol.* **161**, 179-198.
- [60.](#) Roskoski, R. Jr. (1983) Assays of Protein Kinase. *Methods in Enzymology* **99**, 3-6.
- [61.](#) Vrana, K.E. and Roskoski, R. Jr. (1983) Tyrosine Hydroxylase Inactivation Following cAMP-Dependent Phosphorylation Activation: Effect of Pterin Co-substrate. *J. Neurochem.* **40**, 1692-1700.
- [62.](#) Hartl, F. Thomas, Roskoski, Robert Jr., Rosendahl, Mary S. and Leonard, Nelson J. (1983) Adenosine 3':5'-Cyclic Monophosphate Dependent Protein Kinase: Interaction of the Catalytic Subunit and Holoenzyme with lin-Benzoadenine Nucleotides. *Biochemistry* **22**, 2347-2352.
- [63.](#) Hartl, F. Thomas and Roskoski, Robert Jr. (1983) Adenosine 3':5'-Cyclic Monophosphate Dependent Protein Kinase: Comparison of Type II Enzymes from Bovine Brain, Skeletal Muscle, and Cardiac Muscle. *J. Biol. Chem.* **258**, 3950-3955.
- [64.](#) Reinhardt, R.R. and Roskoski, R. Jr. (1983) Methacholine Induced Decrease of the Cholinergic

Muscarinic Receptor Content in the Perfused Working Rat Heart. *J. Pharmacol. Exp. Ther.* **226**, 135-139.

- [65.](#) Bhatnagar, D., Roskoski, R. Jr., Rosendahl, M.S. and Leonard, N.J. (1983) Adenosine Cyclic 3',5'-Monophosphate Dependent Protein Kinase: A New Fluorescence Displacement Titration Technique for Mapping the Nucleotide-Binding Site on the Catalytic Subunit. *Biochemistry* **22**, 6310-6317.
- [66.](#) Clinton, G.M. and Roskoski, R. Jr. (1984) Tyrosyl and cAMP-Dependent Protein Kinase Activities in BHK Cells that Express Viral pp60SRC. *Cell. Mol. Biol.* **4**, 973-977.
- [67.](#) Rauch, N. and Roskoski, R. Jr. (1984) Cyclic AMP-Dependent Phosphorylation of Neuronal Membrane Proteins. *J. Neurochem.* **43**, 755-762.
68. Roskoski, R. Jr. (1985) Isozymes of Cyclic 3',5'-Adenosine Monophosphate Dependent Protein Kinase. In: Lipmann Symposium: Cellular Regulation and Malignant Growth, S. Ebashi ed., Japan Scientific Societies Press, Tokyo, 228-239.
- [69.](#) Bhatnagar, D., Hartl, F.T., Roskoski, R. Jr., Lessor, R.A. and Leonard, N.J. (1984) Adenosine Cyclic 3',5'-Monophosphate-Dependent Protein Kinase: Nucleotide Binding to Chemically Modified Catalytic Subunit. *Biochemistry* **23**, 4350-4356.
- [70.](#) Roskoski, R. Jr., Reinhardt, R.R., Enseleit, W., Johnson, W.D. and Cook, P.F. (1985) Cardiac Cholinergic Muscarinic Receptors: Changes in Multiple Affinity Forms with Down-Regulation. *J. Pharmacol. Exp. Ther.* **232**, 754-759.
- [71.](#) Bhatnagar, D., Glass, D.B., Roskoski, R. Jr., Lessor, R.A. and Leonard, N.J. (1985) Interaction of Guanosine Cyclic 3',5'-Monophosphate Dependent-Protein kinase with lin-Benzoadenine Nucleotides. *Biochemistry* **24**, 1122-1129.
- [72.](#) Roskoski, R. Jr., Guthrie, R. Jr., Roskoski, L.M. and Rossowski, W. (1985) Degradation of Rat Brain Muscarinic Receptors *In Vitro*: Enhancement by Agonists and Inhibition by Antagonists. *J. Neurochem.* **45**, 1096-1100.
- [73.](#) Puri, R.N., Bhatnagar, D. and Roskoski, R. Jr. (1985) Adenosine Cyclic 3',5'-monophosphate Dependent Protein Kinase: Fluorescent Affinity Labeling of the Catalytic Subunit from Bovine Skeletal Muscle with o-Phthalaldehyde. *Biochemistry* **24**, 6499-6508.
- [74.](#) Puri, R.N., Bhatnagar, D., Glass, D.B. and Roskoski, R. Jr. (1985) Inactivation of Guanosine Cyclic 3',5'-Monophosphate Dependent Protein Kinase from Bovine Lung with o-Phthalaldehyde. *Biochemistry* **24**, 6508-6514.
75. Roskoski, R. Jr. (1986) Fritz Lipmann (obituary). *ASM News* **52**, 643-644.
- [76.](#) Roskoski, R. Jr. (1987) Cholinergic Muscarinic Receptor Characterization and Regulation in Tissues Innervated by the Autonomic Nervous System. *Rev. in Basic and Clin. Pharmacol.* **6**, 1-60. **8 Mb file**
- [77.](#) Roskoski, R. Jr. and Roskoski, L.M. (1987) Activation of Tyrosine Hydroxylase in PC12 Cells by the Cyclic GMP and Cyclic AMP Second Messenger Systems. *J. Neurochem.* **48**, 236-242.
- [78.](#) Roskoski, R. Jr., Vulliet, P.R., and Glass, D.B. (1987) Phosphorylation of Tyrosine Hydroxylase by Cyclic GMP-Dependent Protein Kinase. *J. Neurochem.* **48**, 840-845.
- [79.](#) Roskoski, R. Jr. (1987) Fritz Lipmann (1899-1986): An Appreciation. *Trends in Biochemical Sciences* **12**, 136-138.

- [80.](#) Kubinec, J., Vrana, K.E., and Roskoski, R. Jr. (1987) Paraoxon-Induced Decrease in the Muscarinic Acetylcholine Receptor Content in Rat Heart. *Eur. J. Pharmacol.* **136**, 295-301.
81. Roskoski, R. Jr. (1987) Biochemistry (Chapter 4). In: *Rypin's Basic Science Questions and Answers* (E.D. Frohlich, ed.), J.B. Lippincott, Co.; Philadelphia, PA.; pp. 65-83.
82. Roskoski, R. Jr. (1987) Determination of Pyridine Nucleotides and Nicotinamide by Fluorescence and Optical Techniques. Pyridine Nucleotide Coenzymes: Chemical, Biochemical and Medical Aspects, Vol. 2B, pp. 173-188. (D. Dolphin, R. Poulson, and O. Avramovic, eds.) Wiley Interscience; New York.
- [83.](#) Roskoski, R. Jr. (1988) Regulation of Tyrosine Hydroxylase Activity by the Cyclic GMP and Cyclic AMP Second Messenger Systems. In: *Progress in Catecholamine Research Part A: Basic Aspects and Peripheral Mechanisms* (Annica Dahlstrom, ed.), A.R. Liss, Inc., New York, pp. 67-70.
- [84.](#) Roskoski, R. Jr. (1988) Fritz Lipmann, Phosphoproteins and Regulation of Aromatic Amino Acid Hydroxylase Activity. In: *The Roots of Modern Biochemistry* (ed. H. Kleinkauf) Walter deGruyter, Berlin, pp. 791-804. [7 Mb file](#)
- [85.](#) Puri, R. and Roskoski, R. Jr. (1988) Inactivation of Fructose-1,6-Bisphosphatase by o-Phthaldehyde. *Biochem. Biophys. Res. Commun.* **150**, 1088-1095.
- [86.](#) Bhatnagar, D., Glass, D.B., Roskoski, R. Jr., Lessor, R.A. and Leonard, N.J. (1988) Synthetic Peptide Analogues Alter the Binding Affinities of Cyclic Nucleotide-Dependent Protein Kinase for Nucleotide Substrates. *Biochemistry* **27**, 1988-1994.
- [87.](#) Cheng, A., Fitzgerald, T.J., Bhatnagar, D., Roskoski, R. Jr. and Carlson, G.M. (1988) Allosteric Nucleotide Specificity of Phosphorylase Kinase: Utilization of lin-Benzo-ADP to Measure the Binding of Other Nucleoside Diphosphates, Including the Phosphothioates of ADP. *J. Biol. Chem.* **263**, 5534-5543.
- [88.](#) Wilgus, H. and Roskoski, R. Jr. (1988) Inactivation of Tyrosine Hydroxylase Activity By Ascorbate *In Vitro* and in Rat PC12 Cells. *J. Neurochem.* **51**, 1232-1239.
- [89.](#) Puri, R.N. and Roskoski, R. Jr. (1988) Inactivation of Yeast Hexokinase by 2-Aminothiophenol: Evidence for Half-The-Sites Mechanism. *Biochem. J.* **254**, 819-827.
- [90.](#) Puri, R.N. and Roskoski, R. Jr. (1988) Reaction of Low Molecular Weight Amino thiols with o-Phthalaldehyde. *Analytic. Biochem.* **173**, 26-32.
- [91.](#) Puri, R.N., Bhatnagar, D. and Roskoski, R. Jr. (1988) Inactivation of Yeast Hexokinase by o-Phthalaldehyde: Evidence for the Presence of a Cysteine and a Lysine at or near the Active Site. *Biochim. Biophys. Acta* **951**, 34-46.
- [92.](#) Bhatnagar, D., Burton, A.A., and Roskoski, R. Jr. (1988) Differential Sensitivity of Neural and Non-Neural Protein Kinase Isozymes to Cyclic AMP. *Biochem. Res. Commun.* **156**, 801-806.
93. Roskoski, R. Jr. (1989) Biochemistry: in *Rypin's Medical Boards Review*, 15th edition, (E.D. Frohlich, editor). J.B. Lippincott Company, Philadelphia, 293-401.
- [94.](#) Roskoski, R. Jr. and Roskoski, L. M. (1989) Adenosine Receptor Activation and the Regulation of Tyrosine Hydroxylase Activity in PC12 and PC18 Cells. *J. Neurochem.*, **53**, 1934-1940.
- [95.](#) Roskoski, R. Jr., White, L., Knowlton, R., and Roskoski, L.M. (1989) Regulation of Tyrosine Hydroxylase Activity by Neuropeptides of the Secretin Family. *Mol. Pharmacol.*, **36**, 925-931.

- [96.](#) Roskoski, R. Jr., Wilgus, H., and Vrana, K.E. (1990) Inactivation of Tyrosine Hydroxylase by Pterin Substrates Following Phosphorylation by Cyclic AMP-dependent Protein Kinase. *Mol. Pharmacol.*, **38**, 541-546.
- [97.](#) Roskoski, R. Jr. and Ritchie, P. (1991) Phosphorylation of Rat Tyrosine Hydroxylase and Its Model Peptides in vitro by Cyclic AMP-Dependent Protein Kinase. *J. Neurochem.*, **56** 1019-1023.
- [98.](#) Gahn, L.G. and Roskoski, R. Jr., (1991) Tyrosine Hydroxylase Purification form Rat PC12 Cells, *Protein Expression Purific.*, **2**, 10-14.
99. Roskoski, R. Jr. (1993) Biochemistry (Chapter 4). In: *Rypin's Basic Science Questions and Answers*, 2nd edition, (E.D. Frohlich, ed.), J.B. Lippincott, Co.; Philadelphia, PA.; 81-107.
100. Roskoski, R. Jr. (1993) Biochemistry: in *Rypin's Medical Boards Review*, 16th edition, (E.D. Frohlich, editor). J.B. Lippincott Company, Philadelphia, 299-413.
- [101.](#) Puri, R. N. and Roskoski, R. Jr. (1993) Inactivation of yeast hexokinase by Cibacron brilliant red 3B-A. *Arch. Biochem. Biophys.* **303**, 288-295.
- [102.](#) Gahn, L. G. and Roskoski, R. Jr. (1993) Tyrosine hydroxylase activity and extrinsic fluorescent changes produced by polyanions. *Biochem. J.* **295**, 189-194.
- [103.](#) Roskoski, R. Jr., Gahn, L. G., and Roskoski, L. M. (1993) Inactivation of phosphorylated rat tyrosine hydroxylase by ascorbate in vitro. *Eur. J. Bio.* **218**, 363-370.
- [104.](#) Puri, R. N. and Roskoski, R. Jr. (1994) Inactivation of yeast hexokinase by Cibacron blue 3G-A: Spectral, kinetic, and structural investigations. *Biochem. J.* **300**, 91-97.
- [105.](#) Walker, J. J., Liu, X., Roskoski, R. Jr., and Vrana, K. E. (1994) Catalytic core of rat tyrosine hydroxylase: terminal deletion analysis of bacterially-expressed enzyme. *Biochim. Biophys. Acta* **1206**, 113-119.
- [106.](#) Roskoski, R. Jr., Patricia Ritchie, and Laura G. Gahn (1994) Farnesyl-protein transferase and geranylgeranyl-protein transferase assays using phosphocellulose paper absorption. *Analytic. Biochem.* **222**, 275-280.
- [107.](#) Gahn, L. G. and Roskoski, R. Jr. (1995) Thermal stability and CD analysis of rat tyrosine hydroxylase. *Biochemistry*, **34**, 252-256.
108. Roskoski, R. Jr. (1996) *Biochemistry*, W.B. Saunders Co. Philadelphia, pp. 1-530.
109. Roskoski, R. Jr. and Herbert, J. D. (1996) *Biochemistry Review*, W.B. Saunders Co. Philadelphia, pp. 1-242.
110. Roskoski, R. Jr. (1997) *Biochemistry*, (Chapter 4). In: *Rypin's Basic Science Questions and Answers*, 3rd edition, (E.D. Frohlich, ed.), J.B. Lippincott, Co.; Philadelphia, PA.; 99-125.
111. Roskoski, R. Jr. (1997) Biochemistry: in *Rypin's Medical Boards Review*, 17th edition, (E.D. Frohlich, editor). J.B. Lippincott Company, Philadelphia, 279-389.
- [112.](#) Roskoski, R. Jr. (1998) and Ritchie, P. (1998) Role of the Carboxyterminal Residue in Peptide Binding to Protein Farnesyltransferase and Protein Geranylgeranyltransferase. *Archiv. Biochem. Biophys.* **356**, 167-176.
- [113.](#) Xu, Y., Stokes, A.H., Roskoski, R. Jr. and Vrana, K.E. (1998) Dopamine, in the presence of tyrosinase, covalently modifies and inactivates tyrosine hydroxylase. *J. Neuro. Res.* **54**, 691-697.

- [114.](#) Roskoski R. Jr. and Ritchie, P.A. (2001) Time-Dependent Inhibition of Protein Farnesyltransferase by a Benzodiazepine Peptide Mimetic, *Biochemistry* **40**, 9329–9335.
115. Roskoski R. Jr. (2001) Biochemistry: in *Rypin's Medical Boards Review*, 18th edition, (E.D. Frohlich, editor). J.B. Lippincott Company, Philadelphia, 263–383.
116. Roskoski R. Jr. (2001) Biochemistry, (Chapter 4). In: *Rypin's Basic Science Questions and Answers*, 3rd edition, (E.D. Frohlich, ed.), J.B. Lippincott, Co.; Philadelphia, PA., 105–137.
117. Roskoski R. Jr. (2002) *Energy Metabolism*, In: McGraw-Hill Encyclopedia of Science and Technology, 9th edition, McGraw-Hill and Co., New York, NY, **6**, 524-526.
- [118.](#) Roskoski R. Jr. (2003) Protein prenylation: A pivotal posttranslational process, *Biochem. Biophys. Res. Commun.* **303**, 1-7.
- [119.](#) Roskoski, R. Jr. (2003) STI-571: an anticancer protein-tyrosine kinase inhibitor, *Biochem. Biophys. Res. Commun.*, **309**, 709-717.
- [120.](#) Roskoski, R. Jr. (2004) *Principles of Enzymes*, xPharm, Ed. Byland, D.B. and Enna, S. J., Elsevier Science, Inc.
- [121.](#) Roskoski, R. Jr. (2004) *Enzyme Assays*, xPharm, Ed. Byland, D.B. and Enna, S. J., Elsevier Science, Inc.
- [122.](#) Roskoski, R. Jr. (2004) *Enzyme Structure and Function*, xPharm, Ed. Byland, D.B. and Enna, S. J., Elsevier Science, Inc.
- [123.](#) Roskoski, R. Jr. (2004) *Michaelis-Menten Kinetics*, xPharm, Ed. Byland, D.B. and Enna, S. J., Elsevier Science, Inc.
- [124.](#) Roskoski, R. Jr. (2004) *Modulation of Enzyme Activity*, xPharm, Ed. Byland, D.B. and Enna, S. J., Elsevier Science, Inc.
- [125.](#) Roskoski, R. Jr. (2004) The ErbB/HER receptor protein-tyrosine kinases and cancer. *Biochem. Biophys. Res. Commun.* **319**, 1-11.
- [126.](#) Roskoski, R. Jr. (2004) Src protein-tyrosine kinase structure and regulation. *Biochem Biophys Res. Commun.* **324**, 1155-64.
- [127.](#) Roskoski, R. Jr. (2005) Src kinase regulation by phosphorylation and dephosphorylation. *Biochem Biophys. Res. Commun.* **331**, 1-14.
- [128.](#) Roskoski, R. Jr. (2005) Signaling by Kit protein-tyrosine kinase-the stem cell factor receptor. *Biochem Biophys Res. Commun.* **337**, 1-13.
- [129.](#) Roskoski, R. Jr. (2005) Structure and regulation of Kit protein-tyrosine kinase-the stem cell factor receptor. *Biochem Biophys. Res. Commun.* **338**, 1307-1317.
- [129a](#) Roskoski, R. Jr. (2006) Messelson, Stahl, and the replication of DNA: A history of “The Most Beautiful Experiment in Biology.” *BAMBED*. **30**, 431-432.

From the Blue Ridge Institute for Medical Research (Horse Shoe, North Carolina)

- [130.](#) Roskoski, R. Jr. (2007) *Protein kinase*, In: McGraw-Hill Encyclopedia of Science and Technology, 10th edition, McGraw-Hill and Co., New York, NY, **14**, 512-514.

- [131.](#) Roskoski, R. Jr. (2007) *Biological Oxidation*, In: McGraw-Hill Encyclopedia of Science and Technology, 10th edition, McGraw-Hill and Co., New York, NY, **2**, 51-53.
- [132.](#) Roskoski, R. Jr.(2007) *Adenosine triphosphate*, In: McGraw-Hill Encyclopedia of Science and Technology, 10th edition, McGraw-Hill and Co., New York, NY, **1**, 147-148.
- [133.](#) Roskoski, R. Jr. and Greenberg, D. M. (2007) *Protein metabolism*, In: McGraw-Hill Encyclopedia of Science and Technology, 10th edition, McGraw-Hill and Co., New York, NY, **14**, 514-518.
- [134.](#) Roskoski, R. Jr. (2007) *Energy Metabolism*, In: McGraw-Hill Encyclopedia of Science and Technology, 10th edition, McGraw- Hill and Co., New York, NY, **6**, 541-543.
- [135.](#) Roskoski, R. Jr. (2007) Vascular endothelial growth factor (VEGF) signaling in tumor progression. *Crit. Rev. Oncol. Hematol.* **62**, 179-213.
- [136.](#) Roskoski, R. Jr. (2007) Sunitinib: A VEGF and PDGF receptor protein kinase and angiogenesis inhibitor. *Biochem. Biophys. Res. Commun.* **356**, 323-328.
- [137.](#) Roskoski, R. Jr. (2008) VEGF receptor protein-tyrosine kinases: Structure and regulation. *Biochem. Biophys. Res. Commun.* **375**, 287-291.
- [138.](#) Roskoski, R.Jr. (2010) RAF protein-serine/threonine kinases: Structure and regulation. *Biochem. Biophys. Res. Commun.* **399**, 313-317.
- [139.](#) Roskoski, R. Jr. (2012) MEK1/2 Dual Specificity Protein Kinases: Structure and Regulation. *Biochem. Biophys. Res. Commun.* **417**, 5-10.
- [140.](#) Roskoski, R. Jr. (2012) ERK1/2 MAP Kinases: Structure, Function, and Regulation. *Pharmacol. Res.* **66**, 105-143.
- [141.](#) Roskoski, R. Jr. (2013) Anaplastic lymphoma kinase (ALK): Structure, Oncogenic Activation, and Pharmacological Inhibition. *Pharmacol. Res.* **68**, 68-94.
- [142.](#) Roskoski, R. Jr. (2013) The Preclinical Profile of Crizotinib for the Treatment of Non-small-Cell Lung Cancer and Other Neoplastic Disorders. *Expert Opin. Drug Discov.* **8**, 1165-1179.
- [143.](#) Roskoski, R. Jr. (2014) The ErbB/HER Family of Protein-tyrosine Kinases and Cancer. *Pharmacol. Res.* **79**, 34-74.
- [144.](#) Roskoski, R. Jr. (2014) ErbB/HER Protein-tyrosine Kinases: Structures and Small Molecule Inhibitors. *Pharmacol. Res.* **87**, 42-59.
- [145.](#) Alexander SP, Benson HE, Faccenda E, Pawson AJ, Sharman JL, McGrath JC, Roskoski R. Jr. et al. (2013) the Concise Guide to Pharmacology 2013/2014. *Br. J. Pharmacol.* **170**,1449-1458.
- [146.](#) Tekin I, Roskoski R Jr, Carkaci-Salli N, Vrana KE. (2014) Complex Molecular Regulation of Tyrosine Hydroxylase. *J. Neural Transm.* **121**, 1451-1481.
- [147.](#) Roskoski, R. Jr. (2015) Src protein-tyrosine kinase structure, mechanism, and small molecule inhibitors. *Pharmacol. Res.* **94**, 9-25.
- [148.](#) Roskoski, R. Jr. (2015) A historical overview of protein kinases and their targeted small molecule inhibitors. *Pharmacol. Res.* **100**, 1-23.
- [149.](#) Roskoski, R. Jr. (2016) Classification of small molecule inhibitors based upon the structures of their drug-enzyme complexes. *Pharmacol. Res.* **103**, 26-48.

- [150.](#) Roskoski, R. Jr. (2016) Cyclin-dependent protein kinase inhibitors including palbociclib as anticancer drugs. *Pharmacol. Res.* **107**, 249-275.
- [151.](#) Roskoski, R. Jr. ((2016) Janus kinase (JAK) inhibitors in the treatment of inflammatory and neoplastic diseases. *Pharmacol. Res.* **111**, 784-803.
- [152.](#) Roskoski, R. Jr. (2016) Ibrutinib inhibition of Bruton protein-tyrosine kinase (BTK) in the treatment of B cell neoplasms. *Pharmacol. Res.* **113**, 395-408.
- [153.](#) Roskoski, R. Jr. (2017) Allosteric MEK1/2 inhibitors including cobimetinib and trametinib in the treatment of cutaneous melanomas. *Pharmacol. Res.* **117**, 20-31.
- [154.](#) Roskoski, R. Jr. (2017) Anaplastic lymphoma kinase (ALK) inhibitors in the treatment of ALK-driven lung cancers. *Pharmacol. Res.* **117**, 343-356.
- [155.](#) Roskoski, R. Jr. (2017) Guidelines for preparing figures for everyone including the colorblind. *Pharmacol. Res.* **119**, 217-218. [155a.](#) Corrigendum, *Pharmacol. Res.* **139**, 569.
- [156.](#) Roskoski, R. Jr. (2017) Vascular endothelial growth factor (VEGF) and VEGF receptor inhibitors in the treatment of renal cell carcinomas. *Pharmacol. Res.* **120**, 116-132.
- [157.](#) Roskoski, R. Jr. (2017) ROS1 protein-tyrosine kinase inhibitors in the treatment of ROS1-fusion-protein driven non-small cell lung cancers. *Pharmacol. Res.* **121**, 202-212.
- [158.](#) Roskoski, R. Jr. (2018) and Sadeghi-Nejad, A. Role of RET protein-tyrosine kinase inhibitors in the treatment of RET-driven thyroid and lung cancers. *Pharmacol. Res.* **128**, 1-17.
- [159.](#) Roskoski, R. Jr. (2018) The role of small molecule platelet-driven growth factor receptor (PDGFR) inhibitors in the treatment of neoplastic disorders. *Pharmacol. Res.* **129**, 65-83.
- [160.](#) Roskoski, R. Jr. (2018) The role of small molecule Kit protein-tyrosine kinase inhibitors in the treatment of neoplastic disorders. *Pharmacol. Res.* **133**, 35-52.
- [161.](#) Roskoski, R. Jr. (2018) Targeting oncogenic Raf protein-serine/threonine kinase in human cancers. *Pharmacol. Res.* **135**, 239-258.
- [162.](#) Roskoski, R. Jr. (2019) Small molecule inhibitors targeting the EGFR/Erb family of protein-tyrosine kinases in human cancers. *Pharmacol. Res.* **139**, 395-411.
- [163.](#) Roskoski, R. Jr. (2019) Cyclin-dependent protein serine/threonine kinase inhibitors as anticancer drugs. *Pharmacol. Res.* **139**, 471-478.
- [164.](#) Roskoski, R. Jr. (2019) Targeting ERK1/2 protein-serine/threonine kinases in human cancers. *Pharmacol. Res.* **142**, 151-168.
- [165.](#) Roskoski, R. Jr. (2019) Properties of FDA-approved small molecule protein kinase inhibitors. *Pharmacol. Res.* **144**, 19-50.
- [166.](#) Roskoski, R. Jr. (2020) The role of fibroblast growth factor receptor (FGFR) protein-tyrosine kinase inhibitors in the treatment of cancers including those of the urinary bladder. *Pharmacol Res.* **151**, 104567.
- [167.](#) Roskoski, R. Jr. (2020) Properties of FDA-approved small molecule protein kinase inhibitors: A 2020 update. *Pharmacol Res.* **152**, 104609.
- [168.](#) Roskoski, R. Jr. (2020) The role of small molecule Flt3 receptor protein-tyrosine kinase inhibitors

in the treatment of Flt3-positive acute myelogenous leukemias. *Pharmacol Res.* **155**, 104725.

- [169.](#) Noble P, Ten Eyck P, Roskoski R Jr, Jackson JB, (2020) NIH funding trends to US Medical Schools from 2009-2018. *PloS One*; 15:e0233367.
- [170.](#) Roskoski, R. Jr. (2021) Orally effective FDA-approved protein kinases targeted covalent inhibitors (TCIs). *Pharmacol. Res.* **165**, 105422.
- [171.](#) Roskoski, R. Jr. (2021) Properties of FDA-approved small molecule protein kinase inhibitors: a 2021 update. *Pharmacol. Res.* **165**, 105463.
- [172.](#) Roskoski, R. Jr. (2021) Properties of small molecule phosphatidylinositol 3-kinase inhibitors prescribed for malignancies. *Pharmacol. Res.* **168**, 105579.
- [173.](#) Roskoski, R. Jr. (2021) Hydrophobic and polar interactions of FDA-approved small molecule protein kinase inhibitors with their target enzymes. *Pharmacol. Res.* (2021) **169**, 105560.
- [174.](#) Roskoski, R. Jr. (2021) Writing it right for Pharmacological Research. *Pharmacol. Res.* (2021) **170**, 105733.
- [175.](#) Roskoski, R. Jr. (2021) Blockade of mutant *RAS* oncogenic signaling with a special emphasis on *KRAS*. *Pharmacol. Res.* **172**, 105806.
- [176.](#) Roskoski, R. Jr. (2022) Properties of FDA-approved small molecule protein kinase inhibitors: A 2022 update. *Pharmacol. Res.* **175**, 106037.
- [177.](#) Parslow, TG, Roskoski R Jr. (2022) A primer on BRIMR: Understanding the rankings of NIH support from the Blue Ridge Institute for Medical Research. *Am J Pathol.* **192**, 392-394.
- [178.](#) Roskoski, R. Jr. (2022) Targeting BCR-Abl in the treatment of Philadelphia-chromosome positive chronic myelogenous leukemia. *Pharmacol. Res.* **178**, 106156.
- [179.](#) Roskoski, R. Jr. (2022) Janus kinase (JAK) inhibitors in the treatment of neoplastic and inflammatory diseases. *Pharmacol. Res.* **183**, 106362.
- [180.](#) Roskoski, R. Jr. (2023) Properties of FDA-approved small molecule protein kinase Inhibitors: A 2023 update. *Pharmacol. Res.* **187**, 106552.
- [181.](#) Roskoski, R.Jr. (2023) Futibatinib (Lytgobi) for cholangiocarcinoma. *Trends Pharmacol. Sci.* **44** 190-191.
- [182.](#) Roskoski, R.Jr. (2023) Deucravacitinib is an allosteric TYK2 protein kinase inhibitor FDA-approved for the treatment of psoriasis. *Pharmacol. Res.* **189** 106642.
- [183.](#) Roskoski, R.Jr. (2023) Trends in NIH funding to Medical Schools in 2011 and 2020. *Acad. Med.* **98** 67-94.
- [184.](#) Roskoski, R.Jr. (2023) Rule of five violations among the FDA-approved small molecule protein kinase inhibitors. *Pharmacol. Res.* **191** 106774.
- [185.](#) Roskoski, R. Jr. (2023) Small molecule protein kinase inhibitors approved by regulatory agencies outside of the United States. *Pharmacol. Res.* **194** 106847.
- [186.](#) Roskoski, R. Jr. (2024) Cost in the United States of small molecule protein kinase inhibitors for the treatment of neoplastic and non-neoplastic diseases. *Pharmacol. Res.* **199** 107036.

- [187](#). Roskoski, R. Jr. (2024) Properties of FDA-approved small molecule protein kinase inhibitors: A 2024 update. *Pharmacol. Res.* **200**, 107059. Erratum [187b](#).
- [188](#). Roskoski, R. Jr. (2024) Combination immune checkpoint and targeted protein kinase inhibitors for the treatment of renal cell carcinomas. *Pharmacol. Res.* **203**, 107181.
- [189](#). Roskoski, R. Jr. (2024) Targeted and cytotoxic inhibitors used in the treatment of lung cancers. *Pharmacol. Res.* **209**, 107465. Erratum [189b](#).
- [190](#). Roskoski, R. Jr. (2024) Targeted and cytotoxic inhibitors used in the treatment of breast cancer. *Pharmacol. Res.* **2010**, 107534.
- [191](#). Roskoski, R. Jr. (2025) Properties of FDA-approved small molecule protein kinase inhibitors: A 2025 update. *Pharmacol. Res.* **2016**, 107723.
- [192](#). Roskoski, R. Jr. (2025) Orally effective FDA-approved protein kinase targeted covalent inhibitors (TCIs): A 2025 update. *Pharmacol. Res.* **217**, 107805.
- [193](#). Roskoski, R. Jr. (2025) Vascular endothelial cells and angiogenesis. *Pharmacol. Res.* **221**, 107893.
- [194](#). Roskoski, R. Jr. (2025) Poly (ADP-ribose) polymerase (PARP) inhibitors approved for the treatment of cancers. *Pharmacol. Res.* **222**, 108055.
- [195](#). Roskoski, R. Jr. (2026) Properties of FDA-approved small molecule protein kinase inhibitors: A 2026 update. *Pharmacol. Res.* **224**, 108107.
- [196](#). Roskoski, R. Jr. (2026) Bruton protein-tyrosine kinase (BTK) FDA-approved small molecule inhibitors used for the management of neoplastic and inflammatory disorders. *Pharmacol. Res.* **227**, 108187.
- [197](#). Roskoski, R. Jr. (2026) FDA-approved RET protein-tyrosine kinase inhibitors in the management of RET-driven thyroid and lung cancer. *Pharmacol. Res.* **229**, 106237.