

**UNIVERSITY OF MIAMI SCHOOL OF MEDICINE
CLINICAL AND RESEARCH FACULTY**

John C. Hackman, Ph.D.

Titles:

Professor of Neurology
Professor of Molecular and Cellular Pharmacology
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Research Interests:

My research interests include the use of neurophysiological and neuropharmacological techniques to explore the interactions of neurotransmitters on the primary afferent terminal and the motoneuron of the spinal cord. The laboratory has concentrated its research efforts on the interactions of catecholamines and indolamines with the major fast neurotransmitters, gamma-aminobutyric acid and glutamate. We currently use two techniques: 1) sucrose gap recordings from the isolated hemisectioned amphibian spinal cord and patch clamp recordings from cultured rat and human dorsal root ganglion cells.

Education:

University of Miami; Biology; Ph.D. - 1979

University of Miami; Biology; M.S. - 1976

University of Miami; Biology; B.S. - 1969

Memberships:

American Association for the Advancement of Science, 1974

Society for Neuroscience, 1975

American Physiological Society, 1983

American Society for Pharmacology and Experimental Therapeutics, 1984

Southeastern Pharmacological Society, 1987

New York Academy of Sciences, 1989

International Society for Amino Acid Research Group, 1990

International Brain Research Organization, 1990

American Association for Laboratory Animal Science, 1993

Scientists Center for Animal Welfare, 1998

Honors and Awards:

Beta Beta Beta Biological Honorary Fraternity; Vice-President, Epsilon Tau Lambda Adult Honorary Fraternity; Dean's List-University of Miami; Army Commendation Medal; Outstanding Performance Award, VAMC Miami, FL, 1983-1987, 1989-1991, 1993-1997; Finalist, Federal Employee of the Year, Scientific Professional Category, 1984, 1985;

Recent and/or Most Important Publications:

Valeyev, A.Y., Hackman, J.C., Holohean, A.M., Wood, P.M. and Davidoff, R.A.: Pentobarbital-activated Cl⁻ channels in cultured adult and embryonic human DRG neurons. *Dev. Brain Res.* 124:137-140, 2000.

Valeyev, A.Y., Hackman, J.C., Holohean, A.M., Wood, P.M., Katz, J.L. and Davidoff, R.A.: GABA-induced Cl⁻-current in cultured embryonic human dorsal root ganglion neurons. *J. Neurophysiol.* 82:1-9, 1999.

Valeyev, A.Y., Hackman, J.C., Holohean, A.M., Wood, P.M., Katz, J.L. and Davidoff, R.A.: Alphaxalone-activated Cl⁻ current in cultured embryonic human dorsal root ganglion neurons. *J. Neurophysiol.* 82:10-15, 1999.

Holohean, A.M., Hackman, J.C. and Davidoff, R.A.: Mechanisms involved in the enhancement of NMDA-mediated motoneurone responses in frog spinal cord by metabotropic glutamate receptors. *Br. J. Pharmacol.* 126:333-341, 1999.

Hackman, J.C., Holohean, A.M. and Davidoff, R.A.: Role of metabotropic glutamate receptors in

the depression of GABA-mediated depolarization of frog primary afferent terminals. *Neuroscience* 81:1079-1090, 1997.

Valeyev, A.Y., Hackman, J.C., Wood, P.M. and Davidoff, R.A.: Pharmacologically novel GABA receptor in human dorsal root ganglion neurons. *J. Neurophysiol.* 76:3555-3558, 1996.

Holohean, A.M., Rodriguez, C.A., Hackman, J.C. and Davidoff, R.A.: Voltage-gated calcium currents in whole-cell patch-clamped bullfrog dorsal root ganglion cells: Effects of cell size and internal solutions. *Brain Research* 711:138-145, 1996.

Dalo, N.L., Hackman, J.C. and Davidoff, R.A.: Large depolarization and epileptiform activity induced by rapid cooling of toad spinal cord. *Comparative Biochemistry and Physiology* 112A:517-525, 1995.

Holohean, A.M., Hackman, J.C. and Davidoff, R.A.: Modulation of frog spinal cord interneuronal activity by activation of 5-HT³ receptors. *Brain Research* 704:184-190, 1995.

Dalo, N.L., Hackman, J.C., Storey, K. and Davidoff, R.A.: Changes in motoneuron membrane potential and reflex activity induced by sudden cooling of isolated spinal cords: Differences among cold-sensitive, cold-resistant, and freeze-tolerant amphibian species. *J. Exp. Biol.* 198:1765-1774, 1995.

Mash, D.C., Staley, J.K., Pablo, J.P., Holohean, A.M., Hackman, J.C. and Davidoff, R.A.: Properties of ibogaine and its principal metabolite (12-hydroxyibogamine) at the MK-801 binding site of the NMDA receptor complex. *Neuroscience Letters* 192:53-56, 1995.