

**BIOGRAPHICAL SKETCH**

Provide the following information for the key personnel in the order listed on Form Page 2.  
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NAME James A. McKanna		POSITION TITLE Associate Professor of Cell Biology	
EDUCATION/TRAINING (Begin with baccalaureate or other initial professional education, such as nursing, and include postdoctoral training.)			
INSTITUTION AND LOCATION	DEGREE (if applicable)	YEAR(s)	FIELD OF STUDY
Harvard College, Cambridge		1962-65	Biology
St. Olaf College, Northfield	AB	1966	Biology
University of Wisconsin	PhD	1972	Anatomy
University of Wisconsin	Postdoc	1972	Biochemistry

**A. Positions and Honors****Positions and Employment**

1972-73 Instructor in Anatomy, University of Wisconsin Medical School, Madison  
 1973-76 Assistant Professor, Department of Anatomy, S.U.N.Y. Upstate Medical Center, Syracuse  
 1976-81 Assistant Professor, Department of Anatomy, School of Medicine, Vanderbilt University  
 1983 NIH Cell Biology Study Section (ad hoc reviewer)  
 1981-pres Associate Professor, Department of Cell Biology (formerly Department of Anatomy), School of Medicine, Vanderbilt University

**B. Selected Peer-reviewed Publications**

Chinkers, M., McKanna, J. A., & Cohen, S. (1979). Rapid induction of morphological changes in human carcinoma cells A-431 by epidermal growth factor. *Journal of Cell Biology*, 83, 260-265.  
 Haigler, H. T., McKanna, J. A., & Cohen, S. (1979). Rapid stimulation of pinocytosis in human carcinoma cells A-431 by epidermal growth factor. *Journal of Cell Biology*, 83, 83-90.  
 McKanna, J. A., Chinkers, M., & Cohen, S. (1979). EGF-stimulated ruffle and filopodium formation. *Journal of Cell Biology*, 83, 253a.  
 McKanna, J. A., Haigler, H. T., & Cohen, S. (1979). Binding and mobility of ferritin labeled EGF as viewed by TEM of whole-mounted cells. *Anatomical Record*, 193, 170.  
 McKanna, J. A., Haigler, H. T., & Cohen, S. (1979). Direct morphologic evidence for internal-ization of the epidermal growth factor/receptor complex. *Anatomical Record*, 193, 620.  
 McKanna, J. A., Haigler, H. T., & Cohen, S. (1979). Hormone receptor topology and dynamics: A morphological analysis using ferritin labeled epidermal growth factor. *Proceedings of the National Academy of Science U.S.A.*, 76, 5689-5693.  
 McKanna, J. A., Lempka, T. (1979). Phase separation in alcohol CO<sub>2</sub> solvent system facilitates critical point drying. *Journal of Microscopy*, 118, 237-240.  
 McKanna, J. A. (1980). EGF-stimulated membrane flow. *European Journal of Cell Biology*, 22, 211.  
 Chinkers, M., McKanna, J. A., & Cohen, S. (1981). Rapid rounding of human epidermoid carcinoma cells A-431 induced by EGF. *Journal of Cell Biology*, 88, 422-429.  
 Jackowski, M. M., Cohen, S., & McKanna, J. A. (1981). The effect of cholesterol on EGF-induced ruffling in A-431 cells. *Journal of Cell Biology*, 91, 208a.  
 Haimes, H. B., Jackowski, M. J., Cohen, S., & McKanna, J. A. (1982). Membrane movement in EGF-stimulated ruffling: Immunocytochemical verification. *Journal of Cell Biology*, 95, 194a.

- Jackowski, M. M., Cohen, S., & McKanna, J. A. (1982). A possible role of hormone-stimulated phosphorylation in the EGF-induced rounding response of A-431 cells. *Journal of Cell Biology*, 95, 194a.
- Nanney, L. B., McKanna, J. A., Stoscheck, C. M., Carpenter, G., & King, L. E. (1984). Visualization of epidermal growth factor receptors in human epidermis. *Journal of Investigative Dermatology*, 82, 164-169.
- Ataya, K. M., McKanna, J. A., Weintraub, A. M., Clark, M. R., & LeMaire, W. J. (1985). A luteinizing hormone-releasing hormone agonist for the prevention of chemotherapy-induced ovarian follicular loss in rat. *Cancer Research*, 45, 3651-3656.
- McKanna, J. A., & Casagrande, V. A. (1985). Computerized radioautographic grain counting. In R. E. Mize (Ed.), *The microcomputer in cell and neurobiology research* (pp. 355-373). New York: Elsevier.
- McKanna, J. A., & Cohen, S. (1985). Morphological analysis of phosphorylation substrate of the EGF receptor kinase. *Journal of Cell Biology*, 101, 300a.
- Fava, R. A., Cohen, S., & McKanna, J. A. (1987). Immunohistochemical localization of p35 in adult rat, porcine and human tissues. *Journal of Cell Biology*, 105, 17a.
- McKanna, J. A., Fava, R. A., & Cohen, S. (1987). Co-localization of EGF receptor and its 35 kDa substrate in human placental syncytial trophoblast. *Journal of Cell Biology*, 105, 275a.
- McKanna, J. A. (1988). Expression of the 35-kDa substrate for the EGF receptor tyrosine kinase in a ventral midline raphe of the developing CNS. *Anatomical Record*, 220(4), 68A.
- McKanna, J. A. (1988). Ocular embryogenesis involves expression of the 35-kDa substrate for EGF receptor tyrosine kinase in the cornea and conjunctiva. *Investigative Ophthalmology & Visual Science*, 29, 207.
- Jackowski, M. M., Swift, L. L., Cohen, S., & McKanna, J. A. (1990). EGF stimulation of A-431 cells: Effects of cholesterol and LDL on ruffling. *Journal of Cell Physiology*, 142, 458-468.
- McKanna, J. A., & Chuncharunee, A. (1990). Lens and corneal teratology induced by retinoic acid involves overexpression of p35, a Calcium-dependent substrate for the EGF receptor kinase. *Investigative Ophthalmology & Visual Science*, 31, 157.
- McKanna, J. A. (1991). Axon guidance at the developing rat optic chiasm: p35 annexin appears in a glial raphe prior to arrival of pioneer fibers. *Investigative Ophthalmology & Visual Science*, 32, 925.
- McKanna, J. A. (1991). [Review of *Computer Techniques in Neuroanatomy*]. *Trends in Neuroscience*, 14, 37-38.
- Johnson, J. K., McKanna, J. A., & Casagrande, V. A. (1992). Transcellular staining in the optic chiasm of albino and normally pigmented prenatal rats. *Investigative Ophthalmology & Visual Science*, 33, 1212.
- McKanna, J. A. (1992). Expression of P35 (annexin I) defines midline glial raphes that guide specific decussating axons in the mammalian diencephalon. *Anat Rec*, 232, 59A.
- McKanna, J. A. (1992). Optic chiasm and infundibular decussation sites in the developing rat diencephalon are defined by glial raphes expressing annexin I (p35). *Dev Dyn*, 195, 75-86.
- McKanna, J. A., Chuncharunee, A., Munger, K. A., Breyer, J. A., Cohen, S., & Harris, R. C. (1992). Localization of p35 (Annexin I, Lipocortin I) in normal adult rat kidney and during recovery from ischemia. *Journal of Cell Physiology*, 153, 467-475.
- McKanna, J. A., Johnson, J. K., & Casagrande, V. A. (1992). Axon guidance at the developing rat optic chiasm: Alterations in the expression of p35 (annexin I) related to the albino defect. *Investigative Ophthalmology & Visual Science*, 33, 1212.
- Witelson, S. F., Kigar, D. L., & McKanna, J. A. (1992). A computer assisted direct-imaging system to obtain numerical densities of neurons in human cortex. *Brain Research Bulletin*, 29, 441-447.
- McKanna, J. A. (1993) Dendritic glia expressing lipocortin 1 respond to local neuronal death. *Glia* (submitted).
- McKanna, J. A., & Casagrande, V. A. (1993) Microglial phagocytes express high levels of the anti-inflammatory protein lipocortin 1. *Soc Neurosci* (submitted).
- McKanna, J. A. (in press). Primitive glial compartments in the floor plate of mammalian embryos: Distinct progenitors of adult astrocytes and microglia support the notoplate hypothesis. *Perspectives on Developmental Neurobiology*.
- Reiber, M. E., Schwaber, M. K., & McKanna, J. A. (in press). Lipocortin 1 immunolocalization in normal and hydroptic guinea pig ears. *Am J Otol*.