

**BIOGRAPHICAL SKETCH**

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NAME James A. McRoberts, Ph.D.		POSITION TITLE Researcher I	
eRA COMMONS USER NAME mcroberts2			
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
University of California, Santa Barbara	B.A.	1969-1973	Cellular & Organismal Biology
University of California, San Francisco	Ph.D.	1973-1979	Biochemistry
University of California, San Diego	Postdoc	1979-1982	Membrane Biology
University of California, San Diego	Postdoc	1982-1983	Physiology

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

- 1983 – 1987 Assistant Research Physiologist, U.C. San Diego School of Medicine  
 1987 – 1992 Assistant Adjunct Professor, UCLA School of Medicine, Harbor-UCLA Medical Center  
 1992 – 1995 Associate Adjunct Professor, UCLA School of Medicine, Harbor-UCLA Medical Center  
 1995 – 2002 Associate Adjunct Professor, UCLA School of Medicine, UCLA  
 2002 – Present Researcher I, UCLA School of Medicine, UCLA; Research Physiologist; West Los Angeles VA Medical Center, CURE: Digestive Diseases Research Center

**Honors**

- 1972 Graduation with highest honors, University of California, Santa Barbara  
 1972 – 1973 Faculty scholarship, University of California, Santa Barbara  
 1974 – 1975 Regents fellowship, University of California  
 1988 – 1991 Director: Morphology Core of the Inflammatory Bowel Disease Center  
 1999 – 2003 Director of Preclinical Research, Neuroenteric Disease Program, UCLA  
 2003 Cell and Molecular Biology Program Director, CNS, Center for Neurovisceral Science and Women's Health, UCLA

**B. Selected peer-reviewed publications (in chronological order).** (44 peer-reviewed publications and 7 book chapters)

- Dharmasathaphorn K, Mandel KG, Tisdale LD, Masui H, **McRoberts JA**. VIP-induced chloride secretion by a human colonic epithelial cell line: Direct participation of a basolaterally localized Na<sup>+</sup>, K<sup>+</sup>, Cl cotransport system. *J Clin Invest* 1985;75:462-471.
- McRoberts JA**, Beuerlein G, Dharmasathaphorn K. Cyclic AMP and Ca<sup>2+</sup>-activated K<sup>+</sup> transport in a human colonic epithelial cell line. *J Biol Chem* 1985;260:14163-14172.
- McRoberts JA**, Barrett KE. Hormone regulated ion transport in T84 human colonic cells. In: Matlin KS, Valentich JD (Eds.), *Functional Epithelial Cells in Culture*, New York: Alan R. Liss, Inc., 1989, pp 235-265.
- McRoberts JA**, Aranda R, Riley N, Kang H. Insulin regulates the paracellular permeability of cultured intestinal epithelial cell monolayers. *J Clin Invest* 1990;85:1127-1134.
- McRoberts JA**, Riley N. Regulation of T84 colonic epithelial cell monolayer permeability by insulin-like growth factors. *Am J Physiol Cell Physiol* 1992;262:C207-C213.
- McRoberts JA**, Riley NE. Modulation of growth factor and cytokine-induced increases in T84 cell monolayer permeability by media components. *Am J Physiol Cell Physiol* 1994;267:C537-C543.
- McRoberts JA**, Riley NE. Role of insulin and insulin-like growth factor receptors in the regulation of T84 cell monolayer permeability. *Am J Physiol Gastrointest Liver Physiol* 1994;267:G883-G891.
- Kaunitz JD, Barrett KE, **McRoberts JA**. Secretion and absorption: Small intestine and colon. In: Yamada T, Alpers D, Powell D, Silverstein F, Owyang C (Eds.), *Textbook of Gastroenterology*, 2nd edition, Philadelphia: J.B. Lippincott, 1995, Chapter 14, pp 326-360.

9. Zeeh J, Hoffmann P, Sottili M, Ennes HS, Eysselein VE, **McRoberts JA**. Up-regulation of insulin-like growth factor-I binding sites in experimental colitis in rats. *Gastroenterology* 1995;108:644-652.
10. Zeeh JM, Hoffmann P, Aukerman SL, Procaccino F, **McRoberts JA**, Soltani S, Pierce GF, Laksmanan J, Eysselein VE. Keratinocyte growth factor ameliorates mucosal injury in an experimental model of colitis in rats. *Gastroenterology* 1996;110:1077-1083.
11. Zeeh JM, Ennes HS, Hoffmann P, Procaccino F, Eysselein VE, Snape WJ Jr., **McRoberts JA**. Expression of insulin-like growth factor I receptors and binding proteins by colonic smooth muscle cells. *Am J Physiol Gastrointest Liver Physiol* 1997;272:G481-G487.
12. Zeeh JH, Mohapatra N, Lund PK, Eysselein VE, **McRoberts JA**. Differential expression and localization of IGF-I and IGF binding proteins in inflamed rat colon. *J Receptor Signal Transduction Res* 1998;18:265-280.
13. Young SH, Ennes HS, **McRoberts JA**, Chaban VV, Dea SK, Mayer EA. Calcium waves in colonic myocytes produced by mechanical and receptor-mediated stimulation. *Am J Physiol Gastrointest Liver Physiol* 1999;276:G1204-G1212.
14. Gschossmann JM, Chaban VV, **McRoberts JA**, Raybould HE, Young SH, Ennes HS, Lembo T, Mayer EA. Mechanical activation of dorsal root ganglion cells in vitro: Comparison with capsaicin and modulation by kappa opioids. *Brain Res* 2000;856:101-110.
15. Chaban VV, **McRoberts JA**, Ennes HS, Mayer EA. Nitric oxide synthase inhibitors enhance mechanosensitive Ca<sup>2+</sup> influx in cultured DRG neurons. *Brain Res* 2001;903:74-85.
16. **McRoberts JA**, Coutinho S, Marvizón JCG, Grady EF, Tognetto M, Sengupta JN, Ennes HS, Chaban VV, Amadesi S, Creminon C, Lanthorn T, Geppetti P, Bunnett NW, Mayer EA. Role of peripheral N-methyl-D-aspartate (NMDA) receptors in visceral nociception in rats. *Gastroenterology* 2001;120:1737-1748.
17. Marvizon JC, **McRoberts JA**, Ennes HS, Song B, Wang X, Jinton L, Corneliusen B, Mayer EA. Two N-methyl-D-aspartate receptors in rat dorsal root ganglia with different subunit composition and localization. *J Comp Neurol* 2002;446:325-341.
18. Coutinho SV, Plotsky PM, Sablad M, Miller JC, Zhuo H, Bayati AI, **McRoberts JA**, Mayer EA. Neonatal maternal separation alters stress-induced responses to viscerosomatic nociceptive stimuli in the adult rat. *Amer J Physiol Gastrointest Liver Physiol* 2002;282:G307-G316.
19. **McRoberts JA**, Chaban VV, Ennes HS, Waldron RT, Rozengurt E, Mayer E. The glutamate receptor agonist NMDA potentiates mechanosensitive Ca<sup>2+</sup> responses of rat DRG neurons through protein kinase C. *Gastroenterology* 2002;122:A43.
20. **McRoberts JA**, Gale G, Schwetz I, Sablad M, Miller J, Zhou H, Fanselow M, Plotsky PM, Mayer EA. Relationship between behavioral characteristics and stress-induced visceral hyperalgesia in response to colorectal distension following neonatal maternal separation in Long Evans rats. *Gastroenterology* 2002;122:A157.
21. Schwetz I, Bryant C, Sablad M, **McRoberts JA**, Evans CJ, Mayer EA. Stress-induced visceral and somatic pain modulation in rats. *Gastroenterology* 2002;122:A157.
22. Million M, Coutinho S, Sablad M, **McRoberts JA**, Mayer EA, Rivier J, Vale W, Taché Y. Human Urocortin II (hUcn II), a new selective CRF2 agonist, prevents colorectal distention-induced visceral pain in rats. *Gastroenterology* 2002;122:A257.
23. Million M, Grigoriadis DE, Sullivan S, Crowe PD, **McRoberts JA**, Zhou H, Saunders PR, Maillot C, Mayer EA, Taché Y. A novel water-soluble selective CRF<sub>1</sub> receptor antagonist, NBI 35965, blunts stress-induced hyperalgesia and colonic motor function in rats. *Brain Res* 2003;985:32-42.
24. Schwetz I, Bradesi S, **McRoberts JA**, Sablad M, Miller JC, Zhou H, Ohning G, Mayer EA. Delayed stress-induced colonic hypersensitivity in male Wistar rats: Role of neurokinin-1 and corticotropin-releasing factor-1 receptors. *Am J Physiol Gastrointest Liver Physiol* 2004;286:G683-G691.
25. Amadesi S, Nie J, Vergnolle N, Cottrell GS, Grady EF, Trevisani M, Manni C, Geppetti P, **McRoberts JA**, Ennes H, Davis JB, Mayer EA, Bunnett NW. Protease-activated receptor 2 sensitizes the capsaicin receptor transient receptor potential vanilloid receptor 1 to induce hyperalgesia. *J Neurosci* 2004;24:4300-4312.
26. Li J, **McRoberts JA**, Nie J, Ennes HS, Mayer EA. Electrophysiological characterization of N-methyl-D-aspartate receptors in rat dorsal root ganglia neurons. *Pain* 2004;109:443-452.
27. Chaban VV, Li J, Ennes HS, Nie J, Mayer EA, **McRoberts JA**. N-methyl-D-aspartate receptors enhance mechanical responses and voltage-dependent Ca<sup>2+</sup> channels in rat dorsal root ganglia neurons through protein kinase C. *Neuroscience* 2004;128:347-357.

## **C. Research Support**

### **Ongoing Research Support**

5R01DK058173-02 Mayer (PI) 6/1/01 – 5/31/06

NIH/NIDDK

Peripheral NMDA Receptors in Visceral Nociception

The major goal of this grant is to elucidate the role of NMDA receptors on peripheral terminals of primary afferent fibers in the gut in regulating afferent responses to nociceptive colorectal distension.

Role: Co- Investigator

R21 DK066065-01 McRoberts (PI) 2/1/04-1/31/06

NIH NIDDK

Chronic Stress and Visceral Nociception

Experiments are designed in rats to test the general hypothesis that development of hypocortisolism (reduced glucocorticoid secretion) during chronic stress is an important factor in the up-regulation of the gut-associated immune system, production of inflammatory cytokines and cytokine-mediated sensitization of visceral afferent nerve pathways.

Role: Principal Investigator

### **Completed Research Support**

SSGI 133122 Mayer (PI) 1/01/97 – 6/30/03

AstraZeneca

AstraZeneca/UCLA Functional Bowel Research Project

The major goals of this program were to develop new pharmacological treatments for functional digestive diseases. Specific research projects addressed: 1) development of techniques for visceral sensitivity testing in rats and humans; 2) development of animal models of IBS; 3) examination of potential treatment compounds in animal models; 4) Cellular and molecular mechanisms of visceral sensation.

Role: Co-investigator