

BIOGRAPHICAL SKETCH

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NAME Juan-Carlos García Marvizón, Ph.D.	POSITION TITLE Assistant Professor		
eRA COMMONS USER NAME MARVIZON2			
EDUCATION/TRAINING <i>(Begin with baccalaureate or other initial professional education, such as nursing, and include postdoctoral training.)</i>			
INSTITUTION AND LOCATION	DEGREE <i>(if applicable)</i>	YEAR(s)	FIELD OF STUDY
Universidad Autónoma de Madrid, Madrid, Spain	B.S.	1979	Chemistry
Universidad Autónoma de Madrid, Madrid, Spain	M.S.	1979	Biochemistry
Universidad Autónoma de Madrid, Madrid, Spain	Ph.D.	1985	Biochemistry

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

1981 – 1984 Doctoral Fellow, Dept. of Molecular Biology, Universidad Autónoma de Madrid, Madrid, Spain
 1985 – 1986 Researcher, Pharmuka Laboratoires (Rhône-Poulenc), Gennevilliers, France
 1986 – 1988 Visiting Scientist, Laboratory of Neuroscience, NIDDK, NIH, Bethesda, MD
 1988 – 1989 Visiting Associate, Laboratory of Neuroscience, NIDDK, NIH, Bethesda, MD
 1989 – 1991 “Profesor Titular” Dept. of Molecular Biology, Universidad Autónoma de Madrid, Madrid, Spain
 1991 – 1993 Research Assistant Professor, University of Southern California, Los Angeles, CA
 1994 – 2001 Assistant Researcher, Dept. of Medicine, UCLA, Los Angeles, CA
 2001 – Present Assistant Professor, Dept. of Medicine, UCLA, Los Angeles, CA

Memberships

1991 – Present Member, Society for Neuroscience
 2000 – Present Member, CURE: Digestive Diseases Research Center
 2002 – Present Member, UCLA Collaborative Centers for Integrative Medicine
 2003 – Present Member, Center for Neurovisceral Sciences and Women’s Health

Honors

1981 – 1984 Doctorate Fellowship “Plan de Formación de Personal Investigador”, Spanish Ministry of Education and Science
 1986 Fogarty Fellowship, National Institutes of Health
 1986 – 1988 Fulbright Fellowship, Council for International Exchange of Scholars
 1994 – 1996 Training Grant, CURE: Digestive Diseases Research Center

B. Selected peer-reviewed publications (in chronological order from a total of 35).

- Marvizón JCG**, Mayor F Jr., Aragón MC, Giménez C, Valdivieso F. L-Aspartate transport into plasma membrane vesicles derived from rat brain synaptosomes. *J Neurochem* 1981;37:1401-1406.
- Marvizón JCG**, Vázquez J, García Calvo M, Mayor F Jr., Ruiz Gómez A, Valdivieso F, Benavides J. The glycine receptor: Pharmacological studies and mathematical modeling of the allosteric interaction between the glycine- and the strychnine-binding sites. *Mol Pharmacol* 1986;30:590-597.
- Marvizón JCG**, García Calvo M, Vázquez J, Mayor F Jr., Ruiz Gómez A, Valdivieso F, Benavides J. Activation and inhibition of [³H]strychnine binding to the glycine receptor by Eccles’ anions: Modulatory effect of cations. *Mol Pharmacol* 1986;30: 598-602.
- Marvizón JCG**, Skolnick P. Enhancement of t-[³⁵S]Butylbicyclophosphorothionate and [³H]strychnine binding by monovalent anions reveals similarities between γ -aminobutyric acid- and glycine-gated chloride channels. *J Neurochem* 1988;50:1632-1639.
- Alonso T, Morgan RO, **Marvizón JCG**, Zarbl H, Santos E. Malignant transformation by ras and other oncogenes produces common alterations in phosphoinositide signalling pathways. *Proc Natl Acad Sci USA* 1988;85:4271-4275.
- Marvizón JCG**, Skolnick P. [³H]Glycine binding is modulated by Mg⁺² and other ligands of the NMDA

- receptor-cation channel complex. *Eur J Pharmacol* 1988;151:157-58.
7. **Marvizón JCG**, Skolnick P. Anion regulation of [³H]strychnine binding to glycine-gated chloride channels is explained by the presence of two anion binding sites. *Mol Pharmacol* 1988;34:806-813.
 8. **Marvizón JCG**, Lewin A, Skolnick P. 1-Amino-cyclopropane carboxylic acid: a potent and selective ligand for the glycine modulatory site of the N-methyl-D-aspartate receptor complex. *J Neurochem* 1989;52:992-994.
 9. **Marvizón JCG**, Baudry M. Receptor activation by two agonists: Analysis by non-linear regression and application to N-methyl-D-aspartate receptors. *Anal Biochem* 1993;213:3-11.
 10. **Marvizón JCG**, Baudry M. [³H]Dizocilpine association kinetics distinguish stimulatory and inhibitory polyamine sites of N-methyl-D-aspartate receptors. *J Neurochem* 1994;63:165-175.
 11. **Marvizón JCG**, Baudry M. Allosteric interactions and modulator requirement for NMDA receptor function. *Eur J Pharmacol Mol Pharmacol* 1994;269:165-175.
 12. **Marvizón JCG**, Martinez V, Grady EF, Bunnett NW, Mayer EA. Neurokinin 1 receptor internalization in spinal cord slices induced by dorsal root stimulation is mediated by NMDA receptors. *J Neurosci* 1997;17:8129-8136.
 13. **Marvizón JCG**, Eskandari S, Ennes H, Mayer EA. Substance P induces brief, localized increases in [Ca²⁺]_i in dorsal horn neurons. *NeuroReport* 1998;9:3369-3374.
 14. **Marvizón JCG**, Grady EF, Stefani E, Bunnett NW, Mayer EA. Substance P release in the dorsal horn assessed by receptor internalization: NMDA receptors counteract a tonic inhibition by GABA_B receptors. *Eur J Neurosci* 1999;11:417-426.
 15. **Marvizón JCG**, Grady EF, Wazsak-McGee J, Mayer E. Internalization of μ-opioid receptors in rat spinal cord slices. *NeuroReport* 1999;10:2329-2334.
 16. Lever IJ, Bradbury EJ, Cunningham JR, Adelson DW, Jones MG, McMahon SB, **Marvizón JCG**, Malcangio M. Brain-derived neurotrophic factor is released in the dorsal horn by distinctive patterns of nociceptor stimulation. *J Neurosci* 2001;21:4469-4477.
 17. McRoberts JA, Coutinho SV, **Marvizón JCG**, Grady EF, Tognetto M, Sengupta JN, Ennes HS, Chaban VV, Amadesi S, Creminon Ch, 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.
 18. **Marvizón JCG**, McRoberts J, Ennes HS, Song B, Wang X, Jinton L, Corneliussen B, Mayer EA. Two NMDA receptors in rat dorsal root ganglia with different subunit composition and localization. *J Comp Neurol* 2002;446:325-341.
 19. Wang X, **Marvizón JCG**. Time-course of the internalization and recycling of neurokinin 1 receptors in rat dorsal horn neurons. *Brain Res* 2002;944:239-247.
 20. **Marvizón JCG**, Wang X, Matsuka Y, Neubert JK, Spigelman I. Relationship between capsaicin-evoked substance P release and NK1 receptor internalization in the rat dorsal horn. *Neuroscience* 2003;118:535-545.
 21. Song B, **Marvizón JCG**. Peptidases prevent μ-opioid receptor internalization in dorsal horn neurons by endogenously released opioids. *J Neurosci* 2003;23:1847-1858.
 22. Lao LJ, Song B, **Marvizón JCG**. Neurokinin release produced by capsaicin acting on the central terminals and axons of primary afferents: relationship with NMDA and GABA_B receptors. *Neuroscience* 2003;121:667-680.
 23. Song B, **Marvizón JCG**. Dorsal horn neurons firing at high frequency, but not primary afferents, release opioid peptides that produce μ-opioid receptor internalization in the rat spinal cord. *J Neurosci* 2003;23:9171-9184.
 24. **Marvizón JCG**, Wang X, Lao L, Song B. Effect of peptidases on the ability of exogenous and endogenous neurokinins to produce neurokinin 1 receptor internalization in the rat spinal cord. *Br J Pharmacol* 2003;140:1389-1398.
 25. Lao L, **Marvizón JCG**. GABA_A receptor facilitation of neurokinin release from primary afferent terminals in the rat spinal cord. *Neuroscience* 2005;130: 1013-1027.
 26. Kondo I, **Marvizón JCG**, Song B, Salgado F, Codeluppi S, Hua X-Y, Yaksh T. Inhibition by spinal μ- and δ-opioid agonists of afferent-evoked substance P release. *J Neurosci* 2005 (in press).

C. Research Support

Ongoing Research Support

R01-DA-12609 Marvizón (PI)

09/01/00 – 06/30/05

NIH/NIDA

Spinal Neurokinin and Opioid Release in Nociception

The major goals of this grant are to determine the role of firing frequency and GABA receptors in controlling neurokinin release, and the role of primary afferents and adrenergic receptors in the release of opioid peptides.

Role: PI

RO1-DK-58173 Mayer (PI)

02/01/01 – 01/31/06

NIH/NIDDK

Peripheral NMDA receptors in visceral nociception

The major goals of this grant are to determine the role of NMDA receptors in primary afferent fibers of visceral origin in the production and sensitization of nociceptive signals and the modulation of neuropeptide release. Dr. Marvizón's role is to collaborate in electrophysiology and immunohistochemistry experiments in dorsal root ganglia.

Role: Collaborator

Completed Research Support

DA05010-17 Evans (PI)

06/01/03 – 05/31/04

NIH/NIDA and Center for Study of Opioid Receptors and Drug of Abuse, UCLA.

Effect of μ -opioid receptor activation on the phosphorylation of MAPK and Akt in dorsal horn neurons.

The goal of this pilot study is to determine whether activation of μ -opioid receptors in dorsal horn neurons produces the phosphorylation of MAP kinase and Akt kinase in these neurons or other dorsal horn neurons.

Role: PI of Pilot Grant

14278 Mayer (PI)

07/01/00 – 06/30/03

AstraZeneca

Basic and Clinical Studies in Functional GI Disorders

The long-term objective of this project was to find therapeutic strategies to alleviate Irritable Bowel Syndrome and other forms of chronic visceral pain. The project involved clinical, animal and 'in vitro' research. Dr.

Marvizón's role was to investigate responses to excitatory amino acid receptors, substance P and calcitonin gene-related peptide in dorsal horn neurons, using spinal cord slices.

Role: Investigator