

M. Rocío Sierra-Honigmann, M.D., Ph.D.
CURRICULUM VITAE

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Visa Status: Mexican Citizen, U.S. Permanent Resident

Education

(training) May 1992 Ph.D., Biochemistry
The Johns Hopkins University School of Medicine, Baltimore
Center for Research and Advanced Studies, Mexico (degree).

July 1980 M.D.
National University of Mexico, *Cum Laude*
Mexico

1978 to 1979 Medical Internship
National Medical Center IMSS
Mexico

July 1974 Bachelor in Science (Biomedical Sciences)
National University of Mexico, *Magna Cum Laude*
Mexico.

Post-Graduate Training and Faculty Appointments

September 2000-present *Research Scientist II*
Laboratory Director, Division of Plastic Surgery
Department of Surgery
Cedars Sinai Medical Center, Los Angeles, CA

September 2000-present *Assistant Professor of Surgery (Adjunct)*
Division of Plastic Surgery

University of Southern California, Los Angeles, CA

June 1993-August 2000	<i>Associate Research Scientist</i> Department of Pathology, Molecular Cardiobiology Program, Yale University School of Medicine New Haven, CT
1989-1993 Diseases	<i>Research Associate</i> Department of Pediatrics, Division of Infectious The Johns Hopkins University School of Medicine Baltimore, MD
1984-1989	<i>Postdoctoral Fellow</i> Immunology and Infectious Diseases The Johns Hopkins University School of Medicine Baltimore, MD
1981-1982	<i>Biochemistry Course Professor</i> Department of Biochemistry ENEP Iztacala Campus National University of Mexico Mexico, D. F.
1976-1979	<i>Instructor</i> Department of Biochemistry and Cell Biology ENEP Iztacala Campus National University of Mexico Mexico, D.F.

Grants and Awards

September 2003-2007	NIGMS RO1 GM066292-01 A1 <i>Role of Leptin in Wound Angiogenesis</i> (pending).
July 2003-2005	Office of Naval Research . <i>Optical technologies for Improved Minimally Invasive Surgery.</i> to Achilles Demetriou MD, PhD and Daniel Farkas Ph.D. (Co-Investigator)
September 2000-2003	Skirball Foundation and CSHS " <i>Role of Leptin in Wound Healing</i> "

September 2001-2002	Ross Nutrition, Division of Abbott. <i>"Morphometric Analysis of Incision Wounds Treated with RN-01 protein"</i>
July 1999-June, 2000	Patterson Foundation Biomedical Research Award <i>"Role of Leptin in Myocardial Revascularization"</i>
Sept 26-Oct 2 nd , 1999	5 th Annual Mouse Developmental Genetics Course. Production of Transgenic and Knockout Mice. Albert Einstein College of Medicine. New York, NY
1994-1999	Research Development Award for Minority Faculty, K14, NHLBI, National Institutes of Health <i>Eicosanoids and Endothelial Cell activation</i>
1989-1992	Minority Research Investigator Supplement Award NHLBI, National Institutes of Health
1984	World Health Organization Fellowship Award, <i>International Laboratory Training Course in Molecular and Cellular Immunology,</i> The Weizman Institute of Science, Rehovot, Israel
1979-1984	Fellowship for Graduate Studies National Council of Science and Technology Fellowship, Mexico, D. F.
1978- 1979	Ford Foundation Fellowship for Biomedical Research in Reproductive Biology National Medical Center IMSS Mexico, D. F.

Lectures and Presentations

1999

Guest lecturer: Vascular Biology Program, American Red Cross Holland Research Laboratory. Rockville, MD. *Biological Actions of Leptin as an Angiogenic Factor.*

Guest lecturer: Vascular Biology Program, University of Connecticut Health Science Center. Farmington, CT. *Role of Leptin in Angiogenesis and Wound Healing.*

Guest lecturer: Division of Cardiology Albert Einstein College of Medicine. New York, NY. *Leptin: A Novel Mediator of Angiogenesis*

Guest Lecturer: The Burnham Institute, La Jolla, CA. *Leptin and Wound Angiogenesis.*

Guest Lecturer: Yale University School of Medicine, Department of Medicine, Division of Endocrinology. New Haven, CT. *Leptin is a Pleiotropic Cytokine with Angiogenic Activity.*

Guest Lecturer: Yale University School of Medicine, Department of Medicine, Division of Digestive Diseases. New Haven, CT. *Leptin Mediated Angiogenesis .*

Invited speaker: Second Annual Symposium on Angiogenesis and DMR. Washington DC. *Biological Actions of Leptin as an Angiogenic Factor.*

Speaker: Yale University School of Medicine, Department of Pathology Grand Rounds. New Haven, CT.

2000

Invited Keynote Speaker: XXIII Congreso de la Sociedad Mexicana de Bioquímica. Acapulco Gro. Mex. *Angiogenesis y Revascularización de Heridas.*

Speaker: Cedars Sinai Medical Center. Department of Surgery Grand Rounds. Los Angeles, CA. Basic Aspects of Wound Revascularization.

2001

Speaker: USC Keck School of Medicine. Department of Surgery Grand Rounds. Los Angeles, CA. *Angiogenesis and Wound Revascularization.*

Publications

Murad, A. Nath, A.K., Cha S.T., Demir, E., Flores-Riveros, J. and Sierra-Honigmann, M.R.. *Leptin is an Autocrine/Paracrine Regulator of Wound Healing.* FASEB J. (in press).

Nath, A.K., Demir, E., Murad, A. Cha, S.T., Carrol, C. Kirkiles, N. Schechner, J., Sierra-Honigmann, M.R. *Pharmacological use of Leptin to Accelerate Wound Healing: Quantitative analysis by computer-assisted micro-morphometry (submitted).*

Ambrosini, G., Nath, A.K., Sierra-Honigmann, M.R., Flores-Riveros, J. (2002). *Transcriptional Activation of the Human Leptin Gene in Response to Hypoxia: Involvement of Hypoxia Inducible Factor 1.* The Journal of Biological Chemistry, 277(37): 34601-9.

Schechner, J.S., Nath, A.K., Zheng, L., Kluger, M.S., Hughes, C.W., Sierra-Honigmann, M.R., Lorber, M.I., Tellides, G., Kashgarian, M., Murray, A.L.M., and Pober, J.S. (2000). BCL-2 Overexpression in a Synthetic Human Vascular Bed Induces the Formation of

Complex Microvessels In Vivo. *Proceedings of the National Academy of Science*, 97(16): 9191-6.

Gariano, R.F., Nath, A.K., D'Amico, D.J., Thomas, L., and Sierra-Honigmann, M.R. (2000). Elevation of Leptin in Human Vitreous in Diabetic Retinopathy. *Investigative Ophthalmology and Visual Sciences*, 41: 3576-81.

Madge, L.A. Sierra-Honigmann, M.R. and Pober, J.S.(1999). Apoptosis-inducing Agents Cause Rapid Shedding of Tumor Necrosis Factor Receptor 1 (TNFR1). A Nonpharmacological Explanation for Inhibition of TNF-mediated Activation *J. Biol Chem.* 274, 13643-13649.

Sierra-Honigmann, M.R., Nath, A.K., Murakami, C., Garcia-Cardena, G., Papapetropoulos, A., Sessa, W.C., Madge, L.A., Schechner, J.S., Schwabb, M.B., Polverini, P.J. and Flores-Riveros, J.R. (1998) Biological Action of Leptin as an Angiogenic Factor. *Science* 281, 1683-1686.

Sierra-Honigmann, M.R., Bradley, J.R. and Pober, J.S. (1996) "Cytosolic" Phospholipase A2 is in the Nucleus of Subconfluent Endothelial Cells but Confined to the Cytoplasm of Confluent Endothelial Cells and Redistributes to the Nuclear Envelope and Cell Junctions upon Histamine Stimulation. *Lab Invest* 74, 684-695.

Sierra-Honigmann, M.R. and Murphy, P.A. (1992) T Cell Receptor-Independent Immunosuppression Induced by Dexamethasone in Murine Helper Cells. *J. Clin. Invest.* 89, 556-560.

Sierra-Honigmann, M.R. and Murphy, P.A. (1992) Suppression of Interleukin-1 Action by Phospholipase A2 Inhibitors in Helper T Lymphocytes. *Peptide Res.* 5, 258-261.

Abstracts and Presentations

Demir, E., Murad, A. Cha, S.T., Sierra-Honigmann, M.R. *Development of a Model System for in vitro Wound Angiogenesis using Primary Cultures of Murine Dermal Microvascular Endothelial Cells.* The Wound Healing Society 12th Annual Symposium, Baltimore MD, May 28 through June 1, 2002.

Murad, A., Demir, E., Cha, S.T., and Sierra-Honigmann, M.R. *Kinetic Analysis of Angiogenic Modulators and Vascular Markers in Experimental Wounds.* The Wound Healing Society 12th Annual Symposium, Baltimore MD, May 28 through June 1, 2002.

Sierra-Honigmann, M. R. Ambrosini, G., Nath, A.K., and Flores-Riveros, J. R. *Transcriptional Activation of the Human Leptin Gene in Response to Hypoxia*. Second Annual Southern California Wound Healing Symposium USC Keck School of Medicine, Los Angeles, and CA. March 29th, 2002.

Sierra-Honigmann, M. R. Nath, A.K., Ambrosini, G., and Flores-Riveros, J. R. *Acute Production of Leptin in Experimental Wounds*. The Wound Healing Society, 11th Annual Symposium, Albuquerque, NM June 2001

Nath, A.K. and Sierra-Honigmann, M.R. *Leptin is a Central Mediator of Cutaneous Wound Healing*. The Wound Healing Society, 10th Annual Symposium, WHS 2000, Toronto, Canada. June 2000

D. Clark, F. Giordano, M. Cleman, S. Pfau, A. K. Nath, M. R. Sierra-Honigmann. Increases in Circulating Leptin after Acute Myocardial Infarction. Annual Meeting of the American Heart Association. 2001

M. R. Sierra-Honigmann. Biological Action of Leptin as an Angiogenic Factor. The Second Annual Symposium on Angiogenesis and Direct Myocardial Revascularization . Cardiovascular Research Foundation. Washington D.C. June 10th , 1999 (Invited Speaker).

M. R. Sierra-Honigmann. Leptin as an Angiogenic Factor. Department of Internal Medicine, Division of Endocrinology, Grand Rounds, Yale University School of Medicine. New Haven, CT. May 21st , 1999.

M. R. Sierra-Honigmann. Role of Leptin in Normal and Pathological Neovascularization. Department of Pathology Grand Rounds, Yale University School of Medicine. New Haven, CT May 6th , 1999.

Gariano, R.F., D'Amico, D.J., Nath, A.K., Sierra-Honigmann, M.R. (1999) Leptin Levels in Vitreous in Patients with Diabetic Retinopathy. *ARVO'99* (May 9 to 14).Fort Lauderdale, FL

Schechner, J.S., Nath, A., Hughes, C.W., Sierra-Honigmann, M.R., Kluger, M.L. and Pober, J.S. (1999) A Chimeric Mouse Model for Functional Studies of Human Endothelial Cells. *Annual Meeting of the Society for Investigative Dermatology* , (April 1999) abstract in *J Invest Dermatology* 112, 64.

Sierra-Honigmann, M.R. Nath, A.K., Garcia-Cardena, G., Polverini, P.J. and Flores-Riveros, J.R. (1998). Leptin Causes Angiogenesis in Endothelial Cells Expressing the Functional Ob-Rb Form of the Leptin Receptor. *Hot Topic Presentation. VIII International Congress on Obesity*, Paris, France

Sierra-Honigmann, M.R. Johnson, D.R. Wang Min and Pober, J.S. (1996) Characterization of a Nuclear Form of Phospholipase A2 in Endothelial Cells. *IX International Vascular Biology Meeting*, Seattle, WA.

Sierra-Honigmann, M.R., Rubalcaba, E. and Murphy, P.A. (1991) *Third International Workshop on Cytokines*, Stresa, Italy. Relationship Between Protein Kinase C and Interleukin-1 in Helper T Cells.

Sierra-Honigmann, M.R. and Murphy, P.A. (1990) *Fed. Proc.* 45, 863. The Effects of Asynchronous Stimulation of D10.G4.1 Cells with 3D3 Monoclonal Antibody and Interleukin 1 or Interleukin 2.

Sierra-Honigmann, M.R. (1983) *Memorias de la III Reunion de Bioenergetica y Biomembranas, SMB*, 3, 66. Adenilato Ciclasa en el Sistema Nervioso Central (Adenylate Cyclase in the CNS).

Sierra-Honigmann, M.R., Murphy, P.A. and Rubalcava, B. (1983) *Memorias de la III Reunion de Bioenergetica y Biomembranas, SMB*, 3, 54. Purificación y Acción Hormonal de la Interleucocina 1/Pirógeno Endógeno (Purification and Hormone Action of Interleukin-1/Endogenous Pyrogen).

Sierra-Honigmann, M.R. and Rubalcava, B. (1982) *Memorias del XIV Congreso Nacional de la Sociedad Mexicana de Bioquímica* 14, 173. Papel de la Adenilato Ciclasa en la Producción de Fiebre (Role of Adenylate Cyclase in Fever Production).

Sierra-Honigmann, M.R., Pliego, J.A. and Rubalcava, B. (1981) *Memorias de la II Reunion de Bioenergetica y Biomembranas, SMB*, 2:48. Actividad de Adenilato Ciclasa en el Hipotálamo de Conejo como un Modelo para el Estudio de Substancias Pirogénicas de Acción Central (Adenylate Cyclase Activity in Rabbit Hypothalamus as a Model for Studying Pyrogens with CNS Effects).

Patents

MODULATION OF ANGIOGENESIS AND WOUND HEALING

New U.S. Utility Patent *pending*.

Consultations

Ross Laboratories, Division of Abbott. Columbus, OH.

Trainees

Sung Tae Cha; Postdoctoral Fellow 2001-2002
Ali Murad, MD; Postdoctoral Fellow 2000-
Erhan Demir, MD; Postdoctoral Fellow 2002-2003
Anjali Nath, Research Fellow; 1998-2000
Chiaki Murakami, DVM; Postdoctoral Fellow 1997 to 1998
Michael Shwabb, Undergraduate 1998

