



## Dr. Enrique Guerrero Beltrán

### Research Areas

- Immunomodulatory mechanisms mediated by the use of nanoparticles, proteins, peptides and genetic material,
- Cytotoxicity mediated by nanomaterials and chemical agents,
- Antioxidant, anti-inflammatory, anti-fibrotic and cell death mechanisms by natural compounds in cardiovascular pathologies.

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Dr. Enrique Guerrero, has a degree in Experimental Biology (Bachelor in Biology) of Universidad Autónoma de Sinaloa (UAS) and a Bachelor Degree in Music (Piano) by the same institution (UAS). He has a Master degree in Sciences and a Doctoral Degree in Sciences from the Faculty of Chemistry by Universidad Nacional Autónoma de México (UNAM). He did a research stay at The National Institutes of Health / National Institute on Alcohol Abuse and Alcoholism (NIH / NIAAA) in Maryland. He was a postdoctoral researcher at the Departament de Fisiología, Biofísica y Neurociencias del Centro de Investigación y de Estudios Avanzados del Instituto Politécnico Nacional (CINVESTAV-IPN). On the other hand, he made a postdoctoral stay in the Cardiovascular Medicine group of Tecnológico de Monterrey. He was a Professor-Postdoc within the focus group in Molecular Medicine and was a Postdoctoral Researcher at the Department of Nanomedicine at the Houston Methodist Research Institute in Houston, Texas, USA. Currently, Dr. Guerrero Beltrán is a full-time Research Professor at the Medical School of Tecnológico de Monterrey.

Dr. Enrique Guerrero is a member of the Mexican System of Researchers (Level 1). He has published 15 articles with more than 350 citations, in biochemical and biomedical areas. He has been a reviewer for Editorial Planeta and is a reviewer at the British Journal of Pharmacology. His work as a researcher deals with the study, in vitro and in vivo, of the immunomodulatory mechanisms mediated by the use of nanoparticles, proteins, peptides and genetic material, the toxic and pro-oxidant effects through the use of nanomaterials and chemical agents, as well as the antioxidant, anti-inflammatory, antifibrotic and cell death mechanisms mediated by natural compounds in cardiovascular pathologies such as heart failure.

### Most recent publications:

1. Enhancing internalization of silica particles in myocardial cells through surface modification. Ornelas-Soto N, Rubio-Govea R, **Guerrero-Beltrán CE**, Vázquez-Garza E, Bernal-Ramírez J, García-García A, Oropeza-Almazán Y, García-Rivas G, Contreras-Torres FF. Mater Sci Eng C Mater Biol Appl. 2017 Oct 1;79:831-840.
2. Differential cytotoxicity and internalization of graphene family nanomaterials in myocardial cells. Contreras-Torres FF, Rodríguez-Galván A, **Guerrero-Beltrán CE**, Martínez-Lorán E, Vázquez-Garza E, Ornelas-Soto N, García-Rivas G. Mater Sci Eng C Mater Biol Appl. 2017 Apr 1;73:633-642.
3. Silica nanoparticles induce cardiotoxicity interfering with energetic status and Ca<sup>2+</sup> handling in adult rat cardiomyocytes. **Guerrero-Beltrán CE**, Bernal-Ramírez J, Lozano O, Oropeza-Almazán Y, Castillo EC, Garza JR, García N, Vela J, García-García A, Ortega E, Torre-Amione G, Ornelas-Soto N, García-Rivas G. Am J Physiol Heart Circ Physiol. 2017 Apr 1;312(4):H645-H661.

Reference pages:

<http://orcid.org/0000-0002-5001-0093> and <http://www.musicavirreinal.com>