Diego Romero-Perez

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EDUCATION

Molecular Pathology PhD program. UCSD School of Medicine. 5th year. Research focus:
Major "Role of matrix metalloproteinases in mediating myocardial injury during ischemia/reperfusion".
Minor "Role of TRIM5α sequence variation associated with increased restriction of HIV-1".

Bachelor of Science in Biology – December 1998.
National Autonomous University of Mexico (UNAM).
GPA: 95.2 / 100.0 (3.8 / 4.0).

PROFESSIONAL EXPERIENCE

Biologist. Huella Genica, Molecular Diagnostics. Mexico, 2002 to 2003.
- Performed forensic identification of individuals by DNA fingerprinting.
- Screened and determined Human Papilloma Virus in patients by PCR and DNA sequencing.
- Diagnosed leukemias in patients using genetic markers by RT-PCR and FISH.

Research Associate. Laboratory of Molecular Biology, School of Medicine, University of the Army and Air Force of Mexico. Mexico, 2000 to 2002.
- Independently planned research project on mutations responsible for decreasing activity in repressor E2 of the Human Papilloma Virus type 16 Asiatic-American variants.
- Designed research protocol.
- Achieved site directed mutagenesis by recombinant circle-PCR.
- Generated expression vectors with P97 promoters and mutagenized e2 genes.
- Accomplished transient and stable transfection of cell lines and protein/enzyme assays.

Research Associate. Department of Genetics, National Institute for Medical Sciences and Nutrition "Salvador Zubiran". Mexico, 1999.
- Performed genotyping of polymorphisms from different Mexican indigenous populations.
- Screened for c677t and a1298c polymorphisms in thermolabile methylene tetrahydrofolate reductase gene by RFLP, established these as a leading cause of neural tube defects in Mexican newborn.
- Screened for Insertion/Deletion polymorphism in angiotensin-converting enzyme gene by AFLP, assessed odds ratio for high blood pressure in patients with this polymorphism

Research Associate. Department of Cellular Engineering and Biocatalysis, Institute of Biotechnology, UNAM. Cuernavaca, 1998.
- Conducted thesis research: Characterized unknown open reading frame in *E. coli*.
- Cloned and expressed gene *udhA* in *E. coli*.
- Determined activity of UDHA as soluble pyridine nucleotide transhydrogenase.
- Characterized new subfamily of soluble transhydrogenases.

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Intern. Department of Molecular Biology and Biotechnology, Institute of Biomedical Research, UNAM. Mexico, 1997.
- Achieved culture and transformation of *Streptomyces* sp.
- Tested replicating functions among plasmids from *Streptomyces* sp.

Intern. Department of Public Health, School of Medicine, UNAM. Mexico, 1996.
- Assessed virulence factors in enteropathogenic *E. coli* (EPEC).
- Evaluated invasive capability in EPEC clinical isolates.
- Effectively developed in vivo assay to determine invasive strains.
- Established invasive strains as leading cause of severe intestine damage in children with bloody diarrhea.

QUALIFICATIONS

DNA , RNA isolation / PCR / RT-PCR / DNA cloning , site-directed mutagenesis and sequencing / gel electrophoresis / westernblot / transformation and culture of bacteria / plasmid preparation / mammalian cell culture / transient and stable transfection of cell lines / expression and purification of recombinant protein / characterization of protein structure and function / protein crystallization / x-ray diffraction / spectrophotometry / light and fluorescence microscopy / flow cytometry / isolated perfused rodent hearts (Langendorff) / animal surgery / stem cell implant in heart / haemodynamic measurements (Millar catheter) .

- Data mining proficiency in comparative sequence analysis.
- Conversant with UNIX , Windows and MacIntosh operating systems.
- Desktop applications in MS Word , Excel , PowerPoint , biostatistics , digital image processing and geographic information systems.
- Bilingual and bicultural in English and Spanish.

PUBLICATIONS

- Puerta, D.T., Griffin, M.O., Lewis, J.A., **Romero-Perez, D.**, Garcia, R., Villarreal, F.J. & Cohen, S.M. Heterocyclic zinc-binding groups for use in next-generation matrix metalloproteinase inhibitors: potency, toxicity, and reactivity. *J. Biol. Inorg. Chem.* **11**, 131-138 (2006)
- **D. Romero-Perez**, D. Puerta, J. Lewis, J. Mongan, A. McCammon, F. Villarreal, S. Cohen. Development of novel matrix metalloproteinase inhibitors and their effects on isolated stunned hearts. *J. Mol. Cell. Cardiol.* **40**, 896 (2006)

GRANST AND FELLOWSHIPS

- Doctoral Fellowship from Mexico's National Council of Science and Technology (CONACYT).
- Doctoral Fellowship from The University of California Institute for Mexico and The United States (UC-MEXUS).
- NIH grant to participate in the course "Systems Pharmacology and Translational Biology".

AWARDS AND HONORS

- 1999 award for best biotechnology dissertation research nationwide from Mexican Society of Biotechnology and Bioengineering. (www.smbb.com.mx/menu3/prem_asm.htm).