EDUARDO R. MARTÍNEZ-MONTES

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EDUCATION

JOHNS HOPKINS SCHOOL OF MEDICINE, BALTIMORE, MD
PH.D IN BIOCHEMISTRY – MAY 2022 (EXPECTED)

UNIVERSITY OF PUERTO RICO RÍO PIEDRAS, SAN JUAN, PR
B.S. IN CHEMISTRY – MAGNA CUM LAUDE - AUGUST 2017

RESEARCH EXPERIENCE

CHARACTERIZING DNA METHYLATION PROFILES OF D1-TYPE AND D2-TYPE EXPRESSING NEURONS IN RAT STRIATUM
JOHNS HOPKINS SCHOOL OF MEDICINE (Primary Investigator: Dr. Andrew Feinberg)
Rotation Project Fall 2017

Compared DNA methylation patterns between neurons expressing D1-type and D2-type dopamine receptors in neurons from rat striatum. The striatum plays an important role in mediating reward-seeking behavior in mammals. Medium Spiny Neurons (MSN) comprise ~95% of cellular population in the striatum and are generally categorized by either expressing D1-type or D2-type dopamine receptors. We sought to characterize and compare the DNA methylation profiles between these neuronal subtypes to better understand epigenetic contributions to neuronal specialization.

Techniques: Neuronal nuclei isolation, Whole Genome Bisulfite Sequencing

IDENTIFICATION OF NOVEL ENDOGENOUS ENDOPLASMIC RETICULUM ASSOCIATED DEGRADATION SUBSTRATES
STANFORD UNIVERSITY (Primary Investigator: Dr. Ron Kopito)
Summer 2016

Investigated potential endogenous targets for endoplasmic reticulum associated degradation (ERAD). The ER is the site of synthesis and folding for about 30% of proteins and misfolded or mutated proteins are degraded via ERAD. The identification and characterization of endogenous ERAD substrates provides details on this important regulatory pathway maintaining cellular homeostasis.

Techniques: HEK293 cell culture, Endoplasmic Reticulum enrichment, Cycloheximide chase

IDENTIFICATION OF NOVEL HUR PARTNERS DURING T CELL ACTIVATION
UNIVERSITY OF PUERTO RICO RÍO PIEDRAS (Primary Investigator: Dr. Carlos I. Gonzalez)
August 2014-July 2017

Investigated the role of the post-transcriptional regulator HuR during the inflammatory response, specifically the alteration of HuR-associated proteins during T cell activation. This research provides mechanistic insights into HuR-associated transcript stabilization during the inflammatory response.

Techniques: Jurkat T cell tissue culture, Tandem Mass Spectrometry (Peptide Mass Fingerprinting)

'THE BATTLE FOR THE PDZ DOMAIN'– HOW SMALL PEPTIDES AFFECT THE INTERACTION OF THE NEURONAL PROTEINS CYPIN AND PSD-95 AND DENDRITE BRANCHING
RUTGERS UNIVERSITY (Primary Investigator: Dr. Bonnie Firestein)
Summer 2015

Studied neuronal protein association between cypin and PSD-95 and its influence on dendrite morphology in early stages of embryonic development. Synthetic peptides, which competitively inhibited cypin binding to PSD-95 PDZ domain, were used to evaluate the role of this interaction in dendrite formation. This research provides details on the dynamics of dendrite elongation in hippocampal neurons during embryonic development.

Techniques: Hippocampal neuron culture, immunohistochemistry, Fluorescent microscopy, Sholl analysis

HONORS AND AWARDS

RISE scholarship (Research Initiative for Scientific Enhancement) - 08/2014-07/2015- University of Puerto Rico Rio PIedras
MARC scholarship (Maximizing Access to Research Careers) - 08/2015- 06/2017- University of Puerto Rico Rio Piedras
RiSE scholarship(Research in Science and Engineering) - Summer 2015- Rutgers University
AMGEN scholarship- SSRP (Stanford Summer Research Program) - Summer 2016- Stanford University
Outstanding Achievement in Poster Presentation- Biochemistry- ABRCMS 2016
Outstanding Achievement in Oral Presentation- SSRP Symposium- Summer 2016- Stanford University
Dean's List- 2015- 2017- University of Puerto Rico Rio Piedras

MEMBERSHIPS

PROJECT BRIDGE- Sci-Communications Group
Johns Hopkins School of Medicine
September 2017-Present
Participate in creating, organizing, and executing science communications activities like podcasts, webinars, workshops, and science slams.

BIOMEIDCAL ODYSSEY- Adventures from the Johns Hopkins University School of Medicine
September 2017-Present
Write for the Johns Hopkins School of Medicine blog on topics regarding recently published science articles, perspectives in research, daily experiences of the students of the School of Medicine, and current university events read by thousands in the Hopkins community.

PROJECT BRIDGE- Outreach Group
Johns Hopkins School of Medicine
September 2017-Present
Participate in creating, organizing, and executing science outreach activities to foster public interest in primary research through activities at K-12 schools of diverse backgrounds and off-campus science fairs.

PRESENTATIONS

ANNUAL BIOMEDICAL RESEARCH CONFERENCE FOR MINORITY STUDENTS (ABRCMS) 2016
Tampa, Florida November 9-12, 2016
Poster presentation Martinez-Montes E. R., van der Goot A. T., Kopito R. "Identification of Endogenous Endoplasmic Reticulum Associated Degradation Substrates"

ANNUAL BIOMEDICAL RESEARCH CONFERENCE FOR MINORITY STUDENTS (ABRCMS) 2015
Seattle, Washington November 11-14, 2015
Poster presentation Martinez-Montes E. R., Menon H., Firestein B. L. "'The Battle for the PDZ Domain'– How Small Peptides Affect the Interaction of Neuronal Proteins Cypin and PSD-95 and Dendrite Branching"

PUERTO RICO JUNIOR TECHNICAL MEETING 2015
University of Puerto Rico Rio Piedras March 12, 2015
Oral presentation Martinez-Montes E. R., Martinez M., Gonzalez C. "Identification of Novel HuR Partners During T Cell Activation"

LANGUAGES
ENGLISH
Fluent- both written and spoken
SPANISH
Fluent- both written and spoken

SOFTWARE
Proficient in ImageJ, Zotero and mMass
Beginner in Python, Linux/Unix, R