Curriculum Vitae

Alexander Calderon

Postdoctoral Associate – Wang Lab

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Marital Status: Single • Citizenship: United States

EDUCATION

Case Western Reserve University (CWRU) School of Medicine, Cleveland, OH **Aug 2012 – May 2015**

B.A. Biochemistry, Minor Chemistry

New York University School of Medicine, New York, NY **Aug 2015 – August 2022**

Ph.D. Candidate – Vilcek Institute of Graduate Biomedical Sciences, Stem Cell Biology Training Program

The Jackson Laboratory | Farmington, CT **September 2022 – Current**

Postdoctoral Associate – The Jackson Laboratory for Genomic Medicine

RESEARCH EXPERIENCE

Case Cardiovascular Research Institute, CWRU

Project Title: "HIF and Notch Noncanonical Pathways Affect the Emergence and Differentiation of Cardiovascular Progenitor Cells" Oct 2012 – Aug 2015

Principal Investigator: Diana L. Ramírez-Bergeron, PhD

- Studied the effect of hypoxia and Notch inhibition on cardiovascular progenitor cells in an EB differentiation system.
- Analyzed possibility of Notch and hypoxia cross-talk in models of three-dimensional sprouting angiogenesis.
- Investigated the role of metabolism on iPS cell generation via PINK1.

Project Title: "Notch Regulation of Arterial Smooth Muscle Contractility" Aug 2013 – Aug 2015

Principal Investigator: Aaron Proweller, MD, PhD

- Studied the effects of Notch signaling on vascular reactivity via small vessel wire myography.

NYU School of Medicine

Project Title: "The role of LncRNAs during HSC development and differentiation" Sept 2015 – Dec 2015

Principal Investigator: Matthias Stadtfeld, PhD (Department of Cell Biology – Skirball Institute)

- Rotation project characterizing novel long non-coding RNA (lnc-RNA) during the process of directed differentiation from mouse embryonic stem cells to hematopoietic stem cells (HSCs).

Project Title: "Notch and Wnt cross-talk during a skeletal repair response" Jan 2016 – Apr 2016

Principal Investigator: Philipp Leucht, MD, PhD (Department of Orthopaedic Surgery)

- Rotation project seeking to isolate putative mesenchymal stem cells during bone fracture repair.

Project Title: "The role of Sin3B in the differentiation of HSCs and LSCs" May 2016 – Jul 2016

Principal Investigator: Gregory David, PhD (Department of Biochemistry and Molecular Pharmacology)

- Rotation Project seeking to further understand the role of chromatin modifying complexes on cellular quiescence using mouse HSCs as a model.

Project Title: "Linking Cell Cycle Progression and Differentiation in Hematopoiesis" Jul 2016 – May 2022

Principal Investigator: Gregory David, PhD (Department of Biochemistry and Molecular Pharmacology)

- Doctoral thesis work focusing on Sin3B, a scaffolding protein involved in transcriptional repression, and its role in linking quiescence with cellular differentiation using murine HSCs as a model.

The Jackson Laboratory for Genomic Medicine

Project Title: "The role of quiescence in AML therapy resistance" September 2022 – Current

- Project focusing on how exit from the cell cycle can contribute to resistance of AML to chemotherapy and possible relapse using high-throughput CRISPR screening.

PRESENTATIONS

Project Title: "HIF and Notch Noncanonical Pathways Affect the Emergence and Differentiation of Cardiovascular Progenitor Cells." Calderon, A. C., Kuang, S., Han, Y., Gomer, A., Ramírez-Bergeron, D. L.

Oral Presentation – Annual Biomedical Research Conference for Minority Students (ABRCMS) 2013

- National Center for Regenerative Medicine Annual Retreat

Poster Presentation – Society of Developmental Biology Annual Meeting 2014

Project Title: "Notch and Hypoxia Inducible Factor (HIF) Interact in Vascular Development." Calderon, A. C., and Ramírez-Bergeron, D. L.

Oral Presentation - CWRU Summer Lunch Seminars in the Biological, Social Sciences, and Chemistry 2014

Project Title: "Notch and Hypoxia Inducible Factor Cooperate in the Generation of Hemangioblast and in Sprouting Angiogenesis." Calderon A. C., Kuang, S. Z., Han, Y., Amjad E., Gomer A., and Ramírez-Bergeron, D. L.

Oral Presentation - Society of Developmental Biology Annual Meeting 2015

SCHOLARSHIPS/FUNDING/AWARDS

Recipient of Roberto J. Duran Scholarship 2012

Recipient of University Scholarship (merit based), Case Western Reserve University, Cleveland, OH 2012

National Heart Lung and Blood Institute (NHLBI) Summer Research Intern 2013/2014

- Award Number R25 HL03152 (to M.M.)

NHLBI Research Supplements to Promote Diversity in Health-Related Research 2013

- Award number: HL096597-S1

NSF Choose Development! Fellowship 2013

- Award number: NSF IOS 1239422

Annual Biomedical Research Conference for Minority Students (ABRCMS) 2013

- Best Presentation Award from the American Society for Biochemistry and Molecular Biology

Office of Maximizing Access to Research Careers (MARC) Travel Award 2013

- Federation of American Sciences for Experimental Biology (FASEB)

Special MacCracken Award 2017

- New York University School of Medicine, Sackler Institute of Graduate Biomedical Sciences

National Cancer Institute Ruth L. Kirschstein National Research Service Awards 2018

- For Individual Predoctoral Fellows to Promote Diversity in Health-Related Research. Award Number: 5F31CA232659-02

MEMBERSHIPS

DUCES Academic Success + Retention Program Student Executive Development Team 2013

American Society for Biochemistry and Molecular Biology 2013

Society of Developmental Biology 2014

LEADERSHIP EXPERIENCE

Ambassador - Case Western Reserve University Alumni 2015

Diversity Chair - Vilcek Student Council Diversity Chair 2016

Member - Student Diversity Initiative 2017

Member – Diversity, Inclusion, Valor, and Empowerment Retreat Planning Committee 2018

PUBLICATIONS

Other Writings:

Calderon, A., "Wyd? Wfh?" *The Sackler Messenger*, vol 32. no. 3. Aug. 2020. p. 9.

Calderon, A., "Alternative Facts vs. Alternative Hypotheses." *The Messenger*.,vol 33. no. 1. Jan. 2021. pp. 10-11.

Calderon, A., "Intellectual Property or an Intellectual's Property?" *The Messenger,* vol 33. no. 2. June 2021. pp. 9-10.

Abstracts:

Calderon, A. C., Kuang, S., Han, Y., Gomer, A., Ramírez-Bergeron, D. L. "HIF and Notch Noncanonical Pathways Affect the Emergence and Differentiation of Cardiovascular Progenitor Cells." Annual Biomedical Research Conference for Minority Students. National Center for Regenerative Medicine Annual Retreat (2013)

Calderon, A. C., Kuang, S., Han, Y., Gomer, A., Ramírez-Bergeron, D. L. "HIF and Notch Noncanonical Pathways Affect the Emergence and Differentiation of Cardiovascular Progenitor Cells." Experimental Biology – American Society for Biochemistry and Molecular Biology, FASEB J April 2014 28:LB270. Society of Developmental Biology Annual Meeting (SOURCE Summer Poster Session, Case Western Reserve University)

Calderon, A. C., and Ramírez-Bergeron, D. L. "Notch and Hypoxia Inducible Factor (HIF) Interact in Vascular Development." Oral Presentation. CWRU Summer Lunch Seminars in the Biological, Social Sciences, and Chemistry. (2014)

Calderon, A. C., Kuang, S. Z., Han, Y., Amjad E., Gomer A., and Ramírez-Bergeron, D. L. "Notch and Hypoxia Inducible Factor Cooperate in the Generation of Hemangioblast and in Sprouting Angiogenesis." Society of Developmental Biology Annual Meeting. Experimental Biology – American Society of Biochemistry and Molecular Biology. FASEB J April 2015 29:896.15

Peer Reviewed Publications:

Basu S, Barbur I, **Calderon A**, Banerjee S, Proweller A. 2018. Notch signaling regulates arterial vasoreactivity through opposing functions of Jagged1 and Dll4 in the vessel wall. ***Am. J. Physiol. Heart Circ. Physiol.***; 315(6):H1835-H1850

Bainor AJ, Saini S, **Calderon A**, Casado-Polanco R, Giner-Ramirez B, Moncada C, Cantor DJ, Ernlund A, Litovchick L, David G. 2018. The HDAC-Associated Sin3B Protein Represses DREAM Complex Targets and Cooperates with APC/C to Promote Quiescence. ***Cell Rep.***; 25(10):2797-2807