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POSITIONS HELD

- 2023-present **Assistant Professor of Biological Chemistry**
University of California, Irvine
- 2021-present **Assistant Professor of Pharmaceutical Sciences**
Member, UCI Chao Family Comprehensive Cancer Center
University of California, Irvine
- 2022-present **Consultant**
Velia Therapeutics
- 2020-2022 **Consultant**
The Column Group

EDUCATION AND TRAINING

- 2015-21 **NIH NRSA Postdoctoral Fellow**
Salk Institute for Biological Studies
Research: Annotation and characterization of human smORF-encoded microproteins
Advisor: Prof. Alan Saghatelian
- 2009-15 **Ph.D. in Biochemistry and Molecular Biophysics**
California Institute of Technology (Caltech)
Research: Investigations of Pyrrole-Imidazole Polyamide Effects on DNA Replication
Advisor: Prof. Peter B. Dervan
- 2005-09 **B.S. in Biological Engineering**
Massachusetts Institute of Technology (MIT)

RESEARCH FUNDING

Ongoing

- 2023 UC Drug Discovery Consortium Seed Award
2021 NIH Mentored Research Scientist Development Award – K01CA249038

Completed

- 2022 American Cancer Society-Institutional Research Grant Seed Award (UCI Cancer Research Institute)
- 2017 NIH NRSA Postdoctoral Fellowship – F32GM123685
- 2011 NIH NRSA Predoctoral Fellowship – F31CA159896
- 2009 Sloan Foundation Minority Predoctoral Fellowship

AWARDS & HONORS

- 2024 Keynote Speaker – Sanford Burnham Prebys 2024 Rising Stars Symposium
- 2022 Keystone Symposia Fellow
- 2021 Associate – Intersections Science Fellows Symposium

2020	Best Poster Award – JAX Course on “Experimental Models of Human Cancer”
2009	Sigma Xi, MIT Chapter
2009	Outstanding Undergraduate Research Award, MIT Dept of Chemistry
2009	Combining Academic Excellence with Outstanding Contributions to the Undergraduate Curriculum and Professional Culture Award, MIT Dept of Biological Engineering
2008	MIT Amgen Scholar

PUBLICATIONS

* denotes equal contribution; † denotes co-corresponding author

1. Kelly M.E., **Martinez T.F.**, Jang C. The landscape of fetus metabolism in maternal hyperglycemia. *Trends Endocrinol Metab.* doi: 10.1016/j.tem.2024.01.012 (2024). (Spotlight)
2. Cao, K., Heydary Y.H., Tong, G., **Martinez, T.F.** Integrated workflow for discovery of microprotein-coding small open reading frames. *STAR Protoc.* 4(4): 102649 (2023).
3. Morgado-Palacin, L.*, Brown, J.A.*, **Martinez, T.F.**, Garcia-Pedrero, J.M., Forouhar, F., Quinn, S.A., Reglero, C., Vaughan, J., Heydary, Y.H., Donaldson, C., Rodriguez-Perales, S., Allonca, E., Granda-Diaz, R., Fernandez, A.F., Fraga, M.F., Kim, A.L., Santos-Juanes, J., Owens, D.M., Rodrigo, J.P., Saghatelian, A. & Ferrando, A.A. The TINCR ubiquitin-like microprotein is a tumor suppressor in squamous cell carcinoma. *Nat Commun* 14, 1328 (2023).
4. **Martinez, T.F.**, Lyons-Abbott, S., Bookout, A.L., De Souza, E.V., Donaldson, C., Vaughan, J.M., Lau, C., Abramov, A., Baquero, A.F., Baquero, K., Friedrich, D., Huard, J., Davis, R., Kim, B., Koch, T., Mercer, A.J., Misquith, A., Murray, S.A., Perry, S., Pino, L.K., Sanford, C., Simon, A., Zhang, Y., Zipp, G., Bizarro, C.V., Shokhirev, M.N., Whittle, A.J., Searle, B.C., MacCoss, M.J., Saghatelian, A.† & Barnes, C.A.† Profiling mouse brown and white adipocytes to identify metabolically relevant small ORFs and functional microproteins. *Cell Metab* 35, 166-183 e111 (2023). (Cover article)
5. Mudge, J.M.†, Ruiz-Orera, J.†, Prensner, J.R.†, Brunet, M.A., Gonzalez, J.M., Magrane, M., **Martinez, T.F.**, Schulz, J.F., Yang, Y.T., Albà, M.M., Baranov, P.V., Bazzini, A., Bruford, E., Martin, M.J., Carvunis, A.-R., Chen, J., Couso, J.P., Flicek, P., Frankish, A., Gerstein, M., Hubner, N., Ingolia, N.T., Menschaert, G., Ohler, U., Roucou, X., Saghatelian, A., Weissman, J. & van Heesch, S.† Standardized Annotation of translated open reading frames. *Nat Biotechnol* 40, 994-999 (2022).
6. Koh, M., Ahmad, I., Ko, Y., Zhang, Y., **Martinez, T.F.**, Diedrich, J.K., Chu, Q., Moresco, J.J., Erb, M.A., Saghatelian, A., Schultz, P.G., Bollong, M.J. A Short ORF-encoded Transcriptional Regulator. *PNAS* 118(4), e2021943118 (2020).
7. **Martinez, T.F.**, Vaughan, J., Saghatelian, A. Insights into GLP-1 Receptor Activation with a Nonpeptide Agonist. *Biochemistry* 59(16), 1549-1559 (2020). (Viewpoint)
8. Chen C., Li Y., Jia T., He L., Hare A.A., Silberstein A., Gallagher J., **Martinez, T.F.**, Stiles J.W., Olenyuk B., Dervan P.B., Stiles B.L. Repression of the transcriptional activity of ERR α with sequence-specific DNA-binding polyamides. *Med Chem Res.* 29, 607-616 (2020).
9. **Martinez, T.F.**†, Chu, Q.C., Donaldson C., Tan, D., Shokhirev, M., Saghatelian, A.† Accurate annotation of protein-coding small open reading frames in multiple human cell lines. *Nat Chem Biol* 16, 458-468 (2019). (Cover Article, [F1000Prime Recommended Article](#))
10. Chu, Q., **Martinez, T.F.**, Novak, S.W., Donaldson, C., Tan, D., Vaughan, J.M., Chang, T., Diedrich, J.K., Andrade, L., Kim, A., Zhang, T., Manor, U.†, Saghatelian, A.† Regulation of the ER stress response by a Mitochondrial Microprotein. *Nat Commun* 10, 4883 (2019).
11. Choi, S.H., **Martinez, T.F.**, Kim, S., Donaldson, C., Shokhirev, M.N., Saghatelian, A. & Jones, K.A. CDK12 phosphorylates 4E-BP1 to enable mTORC1-dependent translation and mitotic genome stability. *Genes Dev* 33, 418-435 (2019).
12. Rathore, A., **Martinez, T.F.**, Chu, Q. & Saghatelian, A. Small, but mighty? Searching for human microproteins and their potential for understanding health and disease. *Expert Rev Proteomics* 15, 963-965 (2018). (Review)

13. Rathore, A., Chu, Q., Tan, D., **Martinez, T.F.**, Donaldson, C.J., Diedrich, J.K., Yates, J.R., 3rd & Saghatelian, A. MIEF1 Microprotein Regulates Mitochondrial Translation. *Biochemistry* 57, 5564-5575 (2018).
14. Hargrove, A.E., **Martinez, T.F.**, Hare, A.A., Kurmis, A.A., Phillips, J.W., Sud, S., Pienta, K.J. & Dervan, P.B. Tumor Repression of VCaP Xenografts by a Pyrrole-Imidazole Polyamide. *PLoS One* 10, e0143161 (2015).
15. **Martinez, T.F.***, Phillips, J.W.*, Karanja, K.K., Polaczek, P., Wang, C.M., Li, B.C., Campbell, J.L.† & Dervan, P.B.† Replication stress by Py-Im polyamides induces a non-canonical ATR-dependent checkpoint response. *Nucleic Acids Res* 42, 11546-59 (2014).

PREPRINTS

* denotes equal contribution; † denotes co-corresponding author

1. Tong, G., Hah, N., **Martinez, T.F.** Comparison of software packages for detecting unannotated translated small open reading frames by Ribo-seq. *bioRxiv*. 2023:2023.12.30.573709. doi: 10.1101/2023.12.30.573709.

PRESENTATIONS

Invited Lectures

1. **Martinez, T.F.** Big Surprises from Small Proteins. Washington University in St Louis – Biochemistry and Molecular Biophysics Seminar. September 17, 2024.
2. **Martinez, T.F.** Discovery and Characterization of Microproteins. Velia Therapeutics. May 10, 2024.
3. **Martinez, T.F.** Big Surprises from Small Proteins. Sanford Burnham Prebys Rising Stars Symposium 2024 – Keynote Speaker. May 2, 2024.
4. **Martinez, T.F.** Microproteins and the Dark Proteome: challenges, opportunities, and potential applications (Guest Panelist). Virtual Boulder Peptide Symposium. March 12, 2024
5. **Martinez, T.F.** Big Surprises from Small Proteins. Annual Biomedical Conference for Minoritized Scientists (ABRCMS) – Novel Approaches for Therapeutic Target Identification in Cancer. November 17, 2023.
6. **Martinez, T.F.** What are Non-canonical Open Reading Frames and How Are They Detected? American Society of Human Genetics Annual Meeting – Session 49: Does size matter? Changing the rules of human genetics with miniproteins. November 3, 2023.
7. **Martinez, T.F.** Big Surprises from Small Proteins. Karolinska Institutet – Medical Biochemistry and Biophysics Seminar. September 21, 2023.
8. **Martinez, T.F.** Big Surprises from Small Proteins. UC Irvine SOM – Microbiology & Molecular Genetics Seminar. June 15, 2023.
9. **Martinez, T.F.** Impact of Ribo-seq Analysis Tool Choice on Translated smORF Identification (Short Talk). University of Copenhagen - Microproteins 2023 Conference. June 1, 2023.
10. **Martinez, T.F.** Big Surprises from Small Proteins. UC DDC Annual Symposium. March 24, 2023.
11. **Martinez, T.F.** Discovery and Characterization of Microproteins (Lightning Talk). Keystone Symposia SAB Meeting. January 21, 2023.
12. **Martinez, T.F.** Mining the Microproteome. UC Irvine Vertex Day Seminar. October 23, 2022.
13. **Martinez, T.F.** Discovery and Characterization of Microproteins in Mouse Primary Adipocytes. UC Irvine SOM – Biological Chemistry Seminar. May 11, 2022.
14. **Martinez, T.F.** Exploring the Microproteome of Cancer. UC Irvine Campus-wide Symposium on Basic Cancer Research. May 6, 2022.
15. **Martinez, T.F.** Discovery and Characterization of Microproteins in Mouse Primary Adipocytes. Keystone Symposia on Micropeptides: Biogenesis and Function. April 7, 2022.
16. **Martinez, T.F.** Annotation and Characterization of Human Protein-coding Small Open Reading Frames. CSU Long Beach – Biological Sciences Seminar. February 3, 2022.

17. **Martinez, T.F.** Annotation and Characterization of Human Protein-coding Small Open Reading Frames. UC Irvine SBS – Molecular Biology & Biochemistry Seminar. November 5, 2021.
18. **Martinez, T.F.** Annotation and Characterization of Human Protein-coding Small Open Reading Frames. University of Michigan RNA Innovation Seminar. May 17, 2021.
19. **Martinez, T.F.** Annotation and Characterization of Human Protein-coding Small Open Reading Frames. Stanford Cancer Institute Seminar. March 16, 2021.
20. **Martinez, T.F.** Annotation and Characterization of Human Protein-coding Small Open Reading Frames. UC Irvine SPPS – Pharmaceutical Sciences Seminar. February 12, 2021.
21. **Martinez, T.F.** Annotation and Characterization of Human Protein-coding Small Open Reading Frames. Fred Hutchinson Cancer Research Center – Human Biology Seminar. February 1, 2021.
22. **Martinez, T.F.** Annotation and Characterization of Human Protein-coding Small Open Reading Frames. St. Jude Children’s Research Hospital – Chemical Biology and Therapeutics Seminar. December 21, 2020.
23. **Martinez, T.F.** Annotation and Characterization of Human Protein-coding Small Open Reading Frames. Columbia University Irving Medical Center – Molecular Pharmacology and Therapeutics Seminar. December 17, 2020.
24. **Martinez, T.F.** Annotation and Characterization of Human Protein-coding Small Open Reading Frames. Perelman School of Medicine at the University of Pennsylvania – Biochemistry and Molecular Biophysics Seminar. November 2, 2020.

TEACHING

- 2022-present Course Director, PHRMSCI 223/CHEM 223 – Biomacromolecules
2022 Course Director, PHMD 213 – Pharmaceutical Biochemistry
2022-present Instructor, PHRMSCI 272 – Medicinal Chemistry 2: Future Blockbusters
2022 Instructor, PHMD 277B – Medicinal Chemistry 2: Future Blockbusters
2022 Instructor, PHRMSCI 177L – Medicinal Chemistry Lab
2021-present Course Director, PHRMSCI 298 – Research Seminar

SERVICE

Professional Service

- 2025 Lead Organizer – Keystone Symposia Meeting: “Microproteins: From Discovery to Applications” (Feb 2025)
2023 PhD Opponent – Karolinska Institute, PhD candidate Dörte Schlesinger (Elsässer lab)
2023 NIH study section ad hoc member – Mechanisms of Cancer Therapeutics B (MCTB)
2023-2024 External Reviewer – Israel Science Foundation, Personal Research Grant
2023-present Member – American Chemical Society Division of Medicinal Chemistry, Long Range Planning Committee
2016-present Ad hoc journal reviewer: *Nucleic Acids Research*, *NAR Cancer*, *Cell Reports*, *PLoS Biology*, *Biochemistry*, *International Journal of Cancer*, *Frontiers in Cell and Developmental Biology*, *iScience*, *Scientific Reports*, *Bio-protocol*

University Service

- 2023 Member – Department of Pharmaceutical Sciences Faculty Search Committee
2023-present Co-leader – UC Irvine Cancer Biology T32 Subcommittee for Diversity and Recruitment
2022-present Member – Cellular and Molecular Biology PhD Program Admissions Committee
2021-present Member – Pharmacological Sciences PhD Program Admissions Committee
2021-present Vice Chair – UCI School of Pharmacy & Pharmaceutical Sciences DEI

Prior to UCI

- 2020-21 Chair & Founder – Salk Institute URM affinity group: “Underrepresented Minorities Actively Supporting Excellence (URMase)”

2020-21 Postdoc Representative – Salk Institute Campus Culture Advisory Committee

OUTREACH

2024 CSU Biotechnology Symposium – Graduate School Information Session Representative for UC Irvine
2023 ABRCMS Cancer Biology Section Poster Judge
2023 UCI Minority Science Program Seminar Speaker
2023 UCI Cancer Research Institute Youth Science Fellowship Program - Mentor
2022-present UCI Cancer Research Institute Youth Science Fellowship Program Seminar Speaker

Prior to UCI

2019 & 2021 Salk Institute High School Science Day - Lab Tour & Demo Leader
2018 Salk Institute Education Outreach - Lab Tour & Demo Leader (Cardinals Interact Program)
2017 Avanza Network - Middle School Seminar on Exploring Careers in Science (Logan K-8)
2016 Explore Salk - “Discoveries for Health” Booth

MENTORING

Postdoctoral Fellows

Dr. Anaí Campos Contreras (**Pew Latin American Fellow**)

Graduate Students

Miranda Kelly, 2023-present (joint with Prof. Cholsoon Jang)
Kevin Cao, 2022-present
Gregory Tong, 2021-present
Yasamin Heydary, 2022-2023

Undergraduate Students

Jessica Molina, 2023-present
Jacqueline Serobyan, 2023-present (pursuing PharmD degree at USC)
Cynthia Le Pham, 2022-2023
Reem Nasr, 2022
Paul Yu, 2022 (currently at Zymo, Inc.)