ANDREW B. CALDWELL

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408.592.9884

EDUCATION

2014 Ph.D. in Chemistry
University of California, San Diego, La Jolla, Ca
Towards a Quantitative Understanding of TNF's Signaling Functions

2010 M.S. in Chemistry
University of California, San Diego, La Jolla, Ca

2008 B.S. in Chemistry, B.S. in Biochemistry, *cum laude*
Seattle Pacific University, Seattle, Wa

RESEARCH EXPERIENCE

2024-present Senior Research Scientist, University of California, San Diego
Subramaniam Lab, Department of Bioengineering

2017-2024 Research Scientist, University of California, San Diego
Subramaniam Lab, Department of Bioengineering

2014-2017 Postdoctoral Scholar, University of California, San Diego
Subramaniam Lab, Department of Bioengineering
Research Project: Systems Biology of Alzheimer's Disease.

2009-2014 Graduate Student Researcher, University of California, San Diego
Department of Chemistry and Biochemistry *(Advisor: Alexander Hoffmann)*
Research Project: Towards a Quantitative Understanding of TNF's Signaling Functions.

2007-2008 Undergraduate Student Researcher, Seattle Pacific University
Department of Chemistry and Biochemistry *(Advisor: Benjamin McFarland)*
Research Project: Complementary Experimental and Computational Techniques to Investigate the Energetics of Symmetric Hot-spot Tyrosine Residues in NKG2D.

2007 Summer Undergraduate Researcher, University of California, Santa Cruz
Department of Chemistry and Biochemistry *(Advisor: Seth Rubin)*
Research Project: Site-Directed Mutagenesis of Retinoblastoma Protein LxCxE-like sequence.

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2006-2007 Undergraduate Student Researcher, Seattle Pacific University
Department of Chemistry and Biochemistry *(Advisor: Kevin Bartlett)*
Research Project: Determination of Energy Levels of 2,5 Didehydroarenes Using Computational Methods.

PUBLICATIONS

2025 Valdes P*, **Caldwell AB***, Qing L, Fitzgerald MQ, Ramachandran S, Karch CM, Dominantly Inherited Alzheimer Network (DIAN), Galasko DR, Yuan SH, Wagner SL, Subramaniam S. 2025. Integrative multiomics reveals common endotypes across *PSEN1*, *PSEN2*, and *APP* mutations in familial Alzheimer's disease. *Alzheimer's Research & Therapy* **17**, 5.

2023 Valdes P, Henry KW, Fitzgerald MQ, Muralidharan K, **Caldwell AB**, Ramachandran S, Goldstein LSB, Mobley WC, Galasko DR, Subramaniam S. 2023. Limitations of the human iPSC-derived neuron model for early-onset Alzheimer's disease. *Molecular Brain* **16**, 75.

2023 Patel AO, **Caldwell AB**, Ramachandran S, Subramaniam S. 2023. Endotype Characterization Reveals Mechanistic Differences Across Brain Regions in Sporadic Alzheimer's Disease. *Journal of Alzheimer's Disease Reports* **7**, 1:957-972.

2023 Dwivedi I, **Caldwell AB***, Zhou D*, Subramaniam S, Haddad GG. 2023. Methadone alters transcriptional programs associated with synapse formation in human cortical organoids. *Translational Psychiatry* **13**, 151.

2022 **Caldwell AB**, Anantharaman BG, Ramachandran S, Nguyen P, Liu Q, Trinh I, Galasko D, Desplats PA, Wagner SL, Subramaniam S. 2022. Transcriptomic profiling of sporadic Alzheimer's disease patients. *Molecular Brain* **15**:83.

2022 Azad P, **Caldwell AB**, Ramachandran S, Spann NJ, Akbari A, Villafuerte FC, Bermudez D, Zhao H, Poulson O, Zhou D, Bafna V, Subramaniam S, Haddad GG. 2022. ARID1B, a molecular suppressor of erythropoiesis, is essential for the prevention of Monge's disease. *Experimental & Molecular Medicine* **54**:777–787.

2022 **Caldwell AB**, Qing L, Zhang C, Schroth GP, Galasko DR, Rynearson KD, Tanzi RE, Yuan SH, Wagner SL, Subramaniam S. 2022. Endotype reversal as a novel

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strategy for screening drugs targeting familial Alzheimer's disease. *Alzheimer's & Dementia* **18**, 11:2117-2130.

2020 **Caldwell AB**, Qing L, Schroth GP, Galasko DR, Yuan SH, Wagner SL, Subramaniam S. 2020. Dedifferentiation and neuronal repression define familial Alzheimer's disease. *Science Advances* **6**, 46, eaba5933.

2014 **Caldwell AB**, Cheng Z, Vargas JA, Birnbaum H, Hoffmann A. 2014. Network dynamics determine the autocrine and paracrine signaling functions of TNF. *Genes. Dev.* **28**: 2120-2133.

2011 Culpepper DJ, Maddox MK, **Caldwell AB**, McFarland BJ. 2011. Systematic mutation and thermodynamic analysis of central tyrosine pairs in polyspecific NKG2D receptor interactions. *Mol. Immunol.* **48**: 516-523.

REVIEWS

2011 Shih VF, Tsui R, **Caldwell AB**, Hoffmann A. 2011. A single NFκB system for both canonical and non-canonical signaling. *Cell Res.* **21**: 86-102.

AWARDS AND HONORS

2022-2024 Shu Chien-Gene Lay Department of Bioengineering STAR Awardee, University of California, San Diego

2009-2011 Graduate Research Fellowship, Molecular Biophysics Training Program, University of California, San Diego

2010 Honorable Mention, NSF Graduate Research Fellowship

2007-2008 David T. and Christina Wong Scholar in Chemistry and Biochemistry, Seattle Pacific University

2007 Summer Undergraduate Research Fellowship, NSF, University of California, Santa Cruz

2004-2008 Philip W. Eaton Scholar in Leadership, Seattle Pacific University