Anuja R. Modi Ph.D.

Burlingame, CA 94010. ◆ anuja.modi@gmail.com ◆ 216-212-5479 ◆ www.linkedin.com/in/anuja-modi

Dedicated Biochemist with 9+ years of expertise in accelerating early drug discovery across various modalities and target classes. Proven track record in designing and executing fit-for-purpose screening cascades (primary functional assays, selectivity, and off-target biology) for small molecule and peptide therapeutics. Expert at interpreting SAR to drive hit-to-lead decisions and partnering cross-functionally with Chemistry, Biology, and DMPK. Strong collaborator and experienced in external partnerships and CRO transfers to support discovery execution.

• **Strategic Assay Leadership**: Build mechanistically informative assays that directly support Discovery, SAR and platform optimization.
• **Workflow Innovation:** Implementing automation and plate-based technologies to increase throughput and reduce reagent costs.
• **Data-Driven Discovery:** Leveraging deep biochemical expertise to troubleshoot assays and validate lead molecules during various stages of the drug discovery process. Translate complex datasets into clear actionable recommendations for cross-functional decision-making.
• **Relationship Management:** Skilled in collaborating with CROs ensuring seamless integration. Serving as a technical bridge between Biology, Chemistry, DMPK and Automation groups to streamline the "Design-Make-Test" cycle.

AREAS OF EXPERTISE

- Design of Experiments: Target identification, assay development and validation, HTS, SAR, MOA studies
- Screening of small and large molecules, CRO management for HTS/SAR and in-vivo pharmacology.
- Biochemical and biophysical plate-based assays, design and optimization of activity, potency, ligand binding: ALPHAScreen/ ALPHALisa, UV/Fluorescence intensity/TR-FRET/ Fluorescence polarization. BLI, MST, DLS.
- Cell based assays: cellular viability/proliferation/survival. Cellular Biology: Uptake and seeding using flow cytometry/confocal microscopy. (IF/HCS) Target engagement, pathway activation, functional studies in mammalian primary cells. (ELISA/MSD) Cell line engineering for reporter assays. (Lum., NanoBRET, proximity labelling BioID)
- Experience in handling and processing human PBMCs, iPSC, primary cells, generating tumor homogenates.
- Liquid handling automation (INTEGRA/Biotek/Bravo/Biomek/Tecan/Formulatrix/ECHO)
- MS Word/Excel/PowerPoint, ChemDraw | ELN | Data Analysis: GraphPad Prism, Dotmatics, Benchling, Signals | Harmony HCS Imaging and Analysis | FACSDiva, FlowJo | Liquid handling software

PROFESSIONAL EXPERIENCE

Circle Pharma Inc. **South San Francisco, CA**
Scientist II (Biology) ***Oct 2024 – Jan 2026***

- Led the development of a suite of biochemical assays for discovery of selective macrocycles against highly conserved cell cycle targets, integral to preclinical discovery initiatives of a key oncology collaboration.
- Optimized and established 384-well plate-based screening workflows by strategically leveraging automation technologies to maximize screening efficiency and throughput. Collaborated proactively with informatics team to reduce data processing time by 75%.
- Established functional assays to test MOA hypotheses in hit-to-lead studies.
- Pioneered novel target occupancy (TO) assay methodology by innovatively combining proprietary molecules with existing commercial technologies, successfully bridging drug discovery and preclinical development. Expanded assay application to clinical fresh frozen tumor samples and cross-validated the approach across multiple preclinical discovery programs, demonstrating versatility and scientific adaptability.
- Spearheaded laboratory automation initiative by researching, procuring, and implementing advanced liquid handling technologies. Developed comprehensive training program and provided technical support, enabling seamless integration of new automation platforms, and enhancing group's technological capabilities.

Denali Therapeutics Inc. **South San Francisco, CA**
Scientist (Discovery Pharmacology) ***Jun 2021 – Feb 2024***

- Designed, validated, and executed diverse assays integral to multiple preclinical discovery initiatives focused on

Anuja R. Modi Ph.D.

Burlingame, CA 94010. ◆ anuja.modi@gmail.com ◆ 216-212-5479 ◆ www.linkedin.com/in/anuja-modi

neurodegeneration targets:

- Established high-throughput screening (HTS) and hit-to-lead assays that identified differentiated modalities, including functional target engagement and pathway activation studies in mammalian primary cells, and advanced transport vehicle (TV) conjugates for antibody (TREM2 receptor) and enzyme (GCase enzyme) platforms towards in vivo candidacy.

-Led laboratory experiments related to ex-vivo stability of preclinical oligonucleotide-Ab conjugates pivotal in configuring optimal conjugate architecture for platform development.

- Provided essential support to establish SOPs, maintained rigorous compliance of assay parameters for screening campaigns, liquid handling automation and assay miniaturization, adapting and troubleshooting experiments for efficient execution in 384w formats whenever feasible.
- Collaborated with the Informatics team to optimize data analysis workflows, expediting the dissemination of results. Contributed on behalf of pharmacology group to enhance the functionality and ensure compliance of ELN.
- Facilitated knowledge sharing within project teams by communicating literature reviews and research findings, guiding discussions in a dynamic cross-functional setting. Presented significant discoveries at companywide meetings.
- Effectively managed relationships with CROs, ensuring smooth assay transfers and execution across various small molecule programs. Coordinated with vendors to ensure timely availability of laboratory reagents and consumables.
- Provided mentorship and technical training to junior scientists, supporting their professional growth and development.

Center of Alzheimer's and Neurodegenerative diseases (CAND) at
University of Texas Southwestern Medical Center **Dallas, TX**
Research Scientist ***Dec 2019 – Apr 2021***
Senior Research Associate ***Mar 2017 – Nov 2019***

- Conceptualized and established the drug discovery project funded by Tau Consortium to screen small molecule inhibitors of tau-HSPG binding, collaborating with UTSW HTS core to validate and execute screening protocols.
- Led hit-to-lead optimization, managing compounds and identifying lead candidates for further refinement, collaborating with UTSW Med Chem core for SAR studies.
- Developed and standardized multiple assays across project phases, production methods for reagent with protocol documentation. Composed all project documentation and progress reports for funding agency, assisted PI with drafting of scholarly manuscripts.
- Facilitated lab infrastructure upgrade to high-throughput capabilities, acquiring liquid handling robots and bioprocess equipment, implementing centralized equipment scheduling, and providing technical training to personnel.

University of Texas Southwestern Medical Center (Radiation Oncology) **Dallas, TX**
Postdoctoral Research Associate ***Oct 2014 – Mar 2017***

- Designed and executed HTS to identify small molecule inhibitors of the oncology target SRMS kinase, assembling a small molecule library and developing a kinase activity inhibition assay to determine potency. Hits were demonstrated to be cell-permeable and to engage SRMS kinase in HEK293 cells, with functional activation of autophagy.
- Assay Development: 1) Developed an ALPHAScreen-based ligand binding assay as a broad method to identify small molecule inhibitors of kinase enzymes, designing a novel chemical probe for use in this assay. 2) Co-developed a method to determine k_{inact}/Ki parameter of covalent small molecule inhibitors of kinase enzymes using the mobility shift assay for improved inhibitor assessment of the covalent enzyme-binding kinetics.
- Served as co-chair of the UTSW Postdoctoral Association's Career Development Committee, collaborating with the Graduate Career Development office to peer-mentor, plan, and organize professional development events for postdoctoral researchers.

EDUCATION

- **Ph.D. Chemistry (Biochemistry)** University of South Carolina, Columbia, SC May 2014
- **M.S. Pharm. Sciences (Medicinal Chemistry)** Virginia Commonwealth University, Richmond, VA August 2009
- **B.S. Pharmacy** University of Mumbai, Mumbai, India June 2007

Anuja R. Modi Ph.D.

Burlingame, CA 94010. ◆ anuja.modi@gmail.com ◆ 216-212-5479 ◆ www.linkedin.com/in/anuja-modi

PATENTS

- Dennis, Mark S., Di Paolo Gilbert, **Modi, Anuja R**., Monroe, Kathryn M., Silverman, Adam P., Van Lengerich, Bettina, Zhan, Lihong (2023) MONOVALENT ANTI-TREM2 BINDING MOLECULES AND METHODS OF USE THEREOF WO/2023/192288.
- Marc I. Diamond, **Anuja R. Modi** (2020) "Methods To Discover Tau Protein Stabilizers" USP application (pending).

PUBLICATIONS

1) Bettina van Lengerich *et.al.* (2023) A TREM2-activating antibody with a blood–brain barrier transport vehicle enhances microglial metabolism in Alzheimer's disease models. Nat. Neurosci. 26, 416–429.
2) Barbara E Stopschinski, Talitha L Thomas, Sourena Nadji, Eric Darvish, Linfeng Fan, Brandon B. Holmes, **Anuja R Modi**, Jordan Finnell, Omar M Kashmer, Sandi Estill-Terpack, Hung S Luu, and Marc I Diamond. (2020) A synthetic heparinoid blocks tau aggregate cell uptake and amplification. J. Biol. Chem. 295 (10), 2974-2983.
3) Masanori Sono; Shengfang Sun; **Anuja Modi**; Mark Hargrove; Bastian Molitar; Nicole Frankenberg-Dinkel; John Dawson. (2018) Spectroscopic Evidence Supporting Neutral Thiol Ligation to Ferrous Heme Iron. J. Bio. Inorg. Chem. 23 (7), 1085-1092.
4) **Anuja Modi**, John H. Dawson. (2015) Oxidizing intermediates in P450 catalysis: a case for multiple oxidants in *Monooxygenase, Peroxidase and Peroxygenase Properties of Cytochrome P450 Enzymes and their Mechanisms of Action*. Adv Exp Med Biol. 851:63-81.
5) Jesús Beltrán, Brian Kloss, Jonathan P Hosler, Jiafeng Geng, Aimin Liu, **Anuja Modi**, John H Dawson, Masanori Sono, Maria Shumskaya, Charles Ampomah-Dwamena, James D Love and Eleanore T Wurtzel. (2015) Control of carotenoid biosynthesis through a heme-based cis-trans isomerase. Nat. Chem. Biol 11 (8): 598–605.
6) Aaron Smith, **Anuja Modi**, Shengfang Sun, Masanori Sono, John H. Dawson, and Angela Wilks. (2015) Spectroscopic Determination of Distinct Heme Ligands in Outer-Membrane Receptors PhuR and HasR of Pseudomonas aeruginosa. Biochemistry 54 (16): 2601-12.
7) Gareth K. Jennings, **Anuja Modi**, Justin E. Elenewski, Caroline M. Ritchie, Thuy Nguyen, Keith C. Ellis and John C Hackett. (2014) Spin equilibrium and O_2-binding kinetics of Mycobacterium tuberculosis CYP51 J. Inorg. Chem. 136: 81-91.
8) Bastian Molitor, Marc Stassen, **Anuja Modi**, Samir F El-Mashtoly, Christoph Laurich, Wolfgang Lubitz, John H Dawson, Michael Rother, Nicole Frankenberg-Dinkel. (2013) A heme-based redox sensor in the methanogenic archaeon *Methanosarcina acetivorans.* J. Biol. Chem. 288 (25):18458-18472.

ACTIVITIES, AWARDS AND LEADERSHIP

- Volunteer in the Denali STEM outreach program, to communicate neuroscience research, and help in promoting DEI in the STEM fields. (Jan 2022-24)
- Tau Consortium Fellow 2018, fellowship awarded to talented young scientist working in neurodegeneration to attend Tau Consortium Investigators' Meeting in Irving, Texas (Jan 15-18, 2018).
- Peer reviewed manuscripts for ASSAY and Drug Development Technologies, Bioorganic & Medicinal Chemistry, Journal of Inorganic Biochemistry and SLAS Discovery. (May – August 2017).
- UTSW Postdoctoral Association Outreach activities: Science fair judging and promoting STEM careers in Dallas ISD schools (2015-2017). Co-Chair Career Development Committee (2016-2017).
- Cancer Research Travel Award, University of South Carolina 2013.