EVAN S. MASSI

Oakland, CA 94608 | evan.massi@gmail.com

SUMMARY

Scientist with 10+ years of experience spanning cell therapy, immunology, and oncology. Specializes in assay development and optimization, process development, and CAR-T cell manufacturing workflows. Proven ability to independently design and lead R&D projects from conception through optimization across both startup and established pharma environments. Track record of peer-reviewed publications, conference presentations, and clear communication of complex scientific findings to diverse audiences.

RESEARCH EXPERIENCE

Senior Scientist — Process Development
Xcell Biosciences | San Francisco, CA | March 2022 – April 2026

- Developed and optimized a serial challenge assay (repeated CAR-T/tumor co-stimulations) to assess potency and functional persistence of CAR-T cell products under conditions mimicking chronic antigen exposure
- Identified optimal hypoxia and pressure conditions that reproducibly increased CAR-T cell expansion and cytotoxic potency; findings were consistent across multiple donor-derived CAR-T systems and cell culture formats
- Designed and executed hypoxia and pressure matrix studies to systematically characterize optimal environmental growth conditions for T cells and CAR-T cells
- Ran and optimized manufacturing platform workflows with cell expansion, phenotype (multi-color flow cytometry), and cytotoxicity/potency as primary readouts
- Contributed to method development for an automated manufacturing platform, defining operator-driven parameters including flow rates, cell densities, culture vessel selection, and environmental variables to ensure reproducible and user-friendly workflows
- Characterized CAR-T cell phenotype using multi-color flow cytometry panels assessing memory, exhaustion, and activation markers
- Built an internal web application for lab management and liquid nitrogen inventory tracking, streamlining day-to-day operations and reducing manual record-keeping
- Managed lab operations including inventory, reagent stocks, safety and compliance, and vendor relationships
- Regularly presented experimental data and project updates to internal teams and external collaborators; consistently recognized for clear and effective communication of complex results

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Scientist II — Immunology/Oncology
Bristol Myers Squibb | Redwood City, CA | January 2016 – March 2022

- Developed and optimized a suite of primary cell-based screening assays to evaluate the functional activity of antibodies and small molecules targeting immune checkpoints, including:
- *Plate-bound αCD3/Collagen I PBMC assay:* stimulated PBMCs (from whole blood or leukopaks) with plate-bound αCD3 and collagen I to evaluate LAIR1 blocking antibodies by IFNγ production (ELISA and ELISpot); optimized against fresh and frozen donors to support lead identification
- *Human T cell/aAPC co-culture:* isolated Pan T cells, CD4+, or CD8+ T cells via negative selection from leukopak donors and co-cultured with CHO-based artificial APCs expressing checkpoint targets (e.g., PD-L1); readouts included hIFNγ production and proliferation (H3 incorporation or cell trace violet)
- *Superantigen (SEB/SEA) assay:* broadly stimulated PBMCs to evaluate checkpoint inhibitor activity and combination effects; readouts included IL-2 (AlphaLISA) and T cell activation markers (CD25, CD69) by flow cytometry; worked to identify predictive donor CD16 SNP profiles to improve assay consistency
- *CEF assay:* stimulated PBMCs with MHC class I restricted peptides to evaluate CPI effects on IFNγ production and CD8+ T cell proliferation; used as an alternative assay for lead identification
- Developed a novel in vitro method for measuring immunotherapy activity under low pH conditions (pH 6.2–6.4) using a pre-stimulation washout approach to prevent cell senescence; method became the team SOP for acidic environment assays and was adapted for cell line-based assays (BW-hCTLA4 blocking assay)
- Developed in vitro biochemical assays to screen inhibitory compounds on early discovery targets
- Supported lead identification and optimization of checkpoint inhibitor programs through functional screening across multiple immune targets (LAIR1, PD-L1, CTLA-4)
- Performed multi-color flow cytometry (BD Fortessa, Canto II), ELISAs, ELISpot, and AlphaLISA for cytokine and immune activation readouts across human and mouse systems
- Isolated PBMCs and primary immune cells from whole blood, leukopaks, and NHP samples

Assistant Specialist — Hematology/Oncology
University of California, San Francisco | February 2014 – December 2015
PI: Neil P. Shah, M.D., Ph.D.

- Investigated mechanisms of on- and off-target resistance to tyrosine kinase inhibitors (TKIs) in acute and chronic myeloid leukemia (AML/CML), focusing on FLT3 and BCR-ABL
- Isolated PBMCs from primary patient blood and bone marrow AML/CML samples
- Performed PCR of patient gDNA for detection of driver and resistance mutations
- Conducted western blots to assess RTK signaling pathway changes under TKI treatment (MAPK, PI3K, STAT5 pathways)

- Cultured patient-derived hematopoietic cancer cell lines; performed transfections and transductions of mutant oncogenes to generate resistant cell lines
- Ran colony forming assays to assess immunosuppressive activity of candidate drugs
- Measured dose-response effects on cellular proliferation in human AML/CML cell lines
- Performed immunoprecipitation of RTKs under TKI treatment to examine target specificity
- Used MACS to sort blasts from inhibitor trial patient blood and bone marrow samples

Research Laboratory Technician — Microbiology
Weill Cornell Medical College | New York, NY | June 2011 – August 2012
PI: John P. Moore, Ph.D.

- Examined HIV-1 glycoprotein (Env)-mediated cell fusion as a potential target for viral vaccine development
- Developed stable trimeric versions of HIV-1 envelope glycoproteins to support detailed crystallographic structural studies
- Performed protein purification and biochemical characterization of recombinant Env trimers

Research Laboratory Technician — Neurology
Weill Cornell Medical College | New York, NY | August 2009 – June 2011
PI: Timothy Vartanian, M.D., Ph.D.

- Used mouse models to study neurodegenerative diseases including multiple sclerosis (MS), ALS, and Parkinson's disease
- Investigated mechanisms of demyelination and remyelination and the role of innate immune defenses in disease progression

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SKILLS

- *Cell Therapy*: CAR-T cell culture and expansion, serial challenge/potency assays, cytotoxicity assays, manufacturing platform workflows
- *Assay Development*: Primary cell assays (PBMC, T cell, co-culture), cell line-based assays, biochemical screening assays, low-pH assay optimization
- *Flow Cytometry*: Multi-color panel design and analysis (BD Fortessa, Canto II, BC Cytoflex, FlowJo); phenotyping, activation, memory, and exhaustion markers
- *Biochemistry*: ELISA, ELISpot, AlphaLISA, western blot, immunoprecipitation, protein purification, BCA assay, MACS
- *Cell Culture*: CAR-T cells, PBMCs, mammalian cell lines (CHO, cancer lines), yeast, bacteria
- *Molecular Biology*: PCR, site-directed mutagenesis, transfection/transduction
- *Technical*: GraphPad Prism, FlowJo, SoftMax Pro, Microsoft Office (Excel emphasis), Web application development, AI-assisted tooling, laboratory information systems.
- *Lab Operations*: Inventory management, safety and compliance, vendor relations, SOP development, record keeping

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PRESENTATIONS

Culturing CAR-T cells under hypoxic and hyperbaric conditions yields increased proliferation and functional potency without changes in phenotype. **Massi E**, Garcia C, Lemar H, Bronevetsky Y, Eaker S, Lim J.
Poster presentation. International Society for Cell & Gene Therapy (ISCT) Annual Meeting, New Orleans, LA, 2025.

Modulating Environmental Conditions to Enhance Production of Potent Cell Therapies for the Solid Tumor Microenvironment. Garcia C, **Massi E,** Lemar H, Bronevetsky Y, Eaker S, Lim J.
Poster presentation. International Society for Cell & Gene Therapy (ISCT) Annual Meeting, Vancouver, Canada, 2024.

PUBLICATIONS

Recurrent Mutations in Cyclin D3 Confer Clinical Resistance to FLT3 Inhibitors in Acute Myeloid Leukemia.
Smith CC, Viny AD, **Massi E**, Kandoth C, Socci ND, Rapaport F, Najm M, Medina-Martinez JS, Papaemmanuil E, Tarver TC, Hsu HH, Le MH, West B, Bollag G, Taylor BS, Levine RL, Shah NP**.**
Clin Cancer Res. 2021 Jul 15;27(14):4003-4011. doi: 10.1158/1078-0432.CCR-20-3458. Epub 2021 Jun 8.

Heterogeneous resistance to quizartinib in acute myeloid leukemia revealed by single-cell analysis.
Smith CC, Paguirigan A, Jeschke GR, Lin KC, **Massi E**, Tarver T, Chin CS, Asthana S, Olshen A, Travers KJ, Wang S, Levis MJ, Perl AE, Radich JP, Shah NP.
Blood. 2017 Jul 6;130(1):48-58. doi: 10.1182/blood-2016-04-711820. Epub 2017 May 10.

Characterizing and Overriding the Structural Mechanism of the Quizartinib-Resistant FLT3 "Gatekeeper" F691L Mutation with PLX3397.
Smith CC, Zhang C, Lin KC, Lasater EA, Zhang Y, **Massi E**, Damon LE, Pendleton M, Bashir A, Sebra R, Perl A, Kasarskis A, Shellooe R, Tsang G, Carias H, Powell B, Burton EA, Matusow B, Zhang J, Spevak W, Ibrahim PN, Le MH, Hsu HH, Habets G, West BL, Bollag G, Shah NP.
Cancer Discov. 2015 Jun;5(6):668-79. doi: 10.1158/2159-8290.CD-15-0060. Epub 2015 Apr

Partial enzymatic deglycosylation preserves the structure of cleaved recombinant HIV-1 envelope glycoprotein trimers.
Depetris RS, Julien JP, Khayat R, Lee JH, Pejchal R, Katpally U, Cocco N, Kachare M, **Massi E**, David KB, Cupo A, Marozsan AJ, Olson WC, Ward AB, Wilson IA, Sanders RW, Moore JP.
J Biol Chem. 2012 Jul 13;287(29):24239-54. doi: 10.1074/jbc.M112.371898. Epub 2012 May 29.

EDUCATION

California Polytechnic State University, San Luis Obispo
B.S. Biology, *Cum Laude* | Emphasis: Molecular/Cellular Biology | 2009