EVAN S. MASSI
Oakland, CA 94608 | evan.massi@gmail.com

SUMMARY

Senior scientist with 12+ years across translational cancer research, immuno-oncology (IO), and autologous cell therapy, with recent focus on CAR-T process development for solid tumor indications. Pairs wet-lab depth (assay development, multi-color flow cytometry, potency and cytotoxicity characterization) with builder instincts: designed and shipped full-stack internal lab software using AI-assisted development tools, contributed to automated manufacturing platform design, and authored sections of an FDA Advanced Manufacturing Technologies (AMT) designation submission. Mentored junior scientists and co-authored peer-reviewed publications in *Clin Cancer Res*, *Blood*, and *Cancer Discov*.

CORE COMPETENCIES

Cell & Gene Therapy • CAR-T Process Development • Autologous Cell Therapy • Immuno-Oncology (IO) • Translational Research • Solid Tumor & Hematologic Malignancies • Tumor Microenvironment (TME) • Assay Development & Optimization • Multi-Color Flow Cytometry • Potency & Cytotoxicity Assays • Design of Experiments (DoE) • FDA Regulatory Submissions • SOP Authorship • Cross-Functional Collaboration • Scientific Mentorship

---

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 under chronic antigen exposure; adopted as a group-standard readout across multiple CAR constructs and refined for both suspension and adherent tumor lines
- Identified hypoxia and pressure culture conditions that drove 1.5–2× increases in CAR-T expansion and sustained cytotoxicity across repeated tumor challenges; reproducible across 20+ donors and 3 CAR constructs targeting solid tumor antigens (STEAP1, ROR1) and hematologic malignancy target CD19
- Designed and executed hypoxia and pressure matrix studies using Design of Experiments (DoE) approaches to systematically characterize optimal environmental growth conditions for T cells and CAR-T cells
- Modeled tumor microenvironment (TME) conditions — hypoxia, hyperbaric pressure, low pH — to develop CAR-T products with enhanced function in solid tumor settings
- Ran and optimized automated CAR-T manufacturing platform workflows (cell expansion, multi-color flow phenotype, cytotoxicity/potency); contributed to method development by defining operator-driven parameters (flow rates, cell densities, vessel selection, environmental variables) for reproducible autologous workflows; supported tech transfer between research and process development; lentiviral transduction of CAR constructs; platform processed billions of CAR-T cells across weekly runs supporting up to 4 simultaneous donor/condition arms

- Authored 2 sections of the FDA Advanced Manufacturing Technologies (AMT) designation submission for the AVATAR Foundry cell therapy manufacturing system, covering methods, data, and conclusions for 3 process characterization experiments
- Authored 2 SOPs: a cleaning protocol under peer-reviewed controlled document system, and a potency assay protocol shared with external collaborators; contributed experimental data and analytical input to additional SOPs authored by team members
- Characterized CAR-T cell phenotype using multi-color flow cytometry panels assessing memory, exhaustion, and activation markers
- Designed, built, and deployed a full-stack internal web application using AI-assisted development tools (React/TypeScript, Express/PostgreSQL, real-time updates) for sample tracking, LN2 inventory, donor management, and general supply, equipment and reagent tracking; serves ~8 lab users, saves multiple hours/week of manual record-keeping; architected for multi-tenant extension with active interest from another lab
- 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
- Directly managed a junior scientist: scoped projects, set experimental priorities, conducted 1:1s, reviewed data and supported professional development
- Provided technical mentorship to a second junior scientist on an adjacent team across full tenure, guiding assay design and data interpretation

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 anti-CD3/Collagen I PBMC assay:* stimulated PBMCs (from whole blood or leukopaks) with plate-bound αCD3 and collagen I to evaluate ~12 LAIR1 blocking antibodies by IFN-gamma 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 hIFN-gamma 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 IFN-gamma 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; became team SOP for acidic-environment assays, adapted to a cell line-based format (BW-hCTLA4 blocking assay), and used to screen dozens of CTLA-4 compound variants in support of IO drug discovery and lead optimization
- Developed in vitro biochemical assays to screen inhibitory compounds on early discovery targets

- Supported IND-enabling studies, lead identification and optimization of checkpoint inhibitor programs through functional screening across multiple immune targets (CEACAM1, LAIR1, PD-L1, CTLA-4) for preclinical IO drug discovery
- Performed multi-color flow cytometry (BD Fortessa, Canto II), ELISAs, ELISpot, and AlphaLISA for cytokine and immune activation readouts across human and mouse systems

Assistant Specialist — Shah Lab, Hematology/Oncology
University of California, San Francisco | February 2014 – December 2015

- Investigated on- and off-target resistance to tyrosine kinase inhibitors (TKIs) in hematologic malignancies (AML/CML), focusing on FLT3 and BCR-ABL; co-author on 3 publications (Clin Cancer Res, Blood, Cancer Discov)
- Generated TKI-resistant cell lines via transfection/transduction of mutant oncogenes; cultured patient-derived hematopoietic cancer cell lines and assessed dose-response in AML/CML lines
- Performed PCR of patient gDNA, western blots of RTK signaling (MAPK/PI3K/STAT5), immunoprecipitation, colony forming assays, and MACS sorting of patient blasts

Research Laboratory Technician
Weill Cornell Medical College | New York, NY | August 2009 – August 2012

- **Moore Lab (Microbiology, 2011 – 2012)**: Developed stable recombinant HIV-1 envelope glycoprotein trimers for crystallographic structural studies; protein purification and biochemical characterization (co-author, J Biol Chem 2012)
- **Vartanian Lab (Neurology, 2009 – 2011)**: Mouse models of neurodegenerative disease (MS, ALS, Parkinson's); studied demyelination/remyelination and innate immune mechanisms

SKILLS

- *Cell Therapy*: autologous CAR-T cell culture and expansion, serial challenge/potency assays, cytotoxicity assays, manufacturing platform workflows; solid tumor and hematologic targets
- *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 (IL-2, TNF, IFN-gamma readouts), ELISpot, AlphaLISA, western blot, immunoprecipitation, protein purification, BCA assay, MACS
- *Drug Discovery*: Lead identification, lead optimization, functional screening, IO target validation, preclinical assay support
- *Cell Culture*: CAR-T cells, PBMCs, mammalian cell lines (CHO, cancer lines)
- *Technical Environment*: GMP-adjacent R&D, IND-enabling studies, tech transfer support, lentiviral transduction, cryopreservation
- *Molecular Biology*: PCR, site-directed mutagenesis, transfection/transduction
- *Regulatory & Quality*: SOP authorship (controlled document system and internal R&D), FDA submission contribution (AMT designation), process characterization documentation
- *Data Analysis & Documentation*: GraphPad Prism, FlowJo, SoftMax Pro, Microsoft Excel (advanced functions, pivot tables), Electronic Lab Notebook (ELN), Confluence, Design of Experiments (DoE), dose-response/EC50 analysis, donor-variability analysis

Evan S. Massi | Oakland, CA 94608 | evan.massi@gmail.com

- *AI-Assisted Development*: Claude Code, Gemini, Codex; React/TypeScript, Express/PostgreSQL, Tailwind, Socket.IO, OAuth 2.0 / JWT auth; Clean Architecture/CQRS patterns
- *Lab Operations*: Inventory management, safety and compliance, vendor relations, record keeping

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 6

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