rachel.bhaskar@gmail.com
/rachelbhaskar

RACHEL BHASKAR

Emeryville, CA | 415-580-5962

OBJECTIVE

Improve CAR-T therapy via exploratory research projects to enhance patient outcomes in cancer immunotherapy

WORK EXPERIENCE

Senior Research Associate, Kite Pharma Jan 2018- present
Building CAR Lentiviral Vectors for Cancer Immunotherapy
- Produced lentiviral vectors using transient transfection
- Quantified vector copy number of lentiviral constructs using droplet digital PCR to verify the quality of produced lentivirus
- Quantified transgene expression of vectors and total viral capsid protein to verify the quality of produced lentivirus
- Participated in a company-wide literary research challenge program.

Scientist-I, Thermo Fisher Scientific Aug 2017- Jan 2018
Developing Rapid Diagnostics for the Identification of Sepsis-Causing Microorganisms in Patient Blood
- Validated target assays using various bacterial and fungal strains to determine assay specificity and sensitivity in detecting microorganisms
- Performed digital PCR to quantify genome concentration in lab-extracted strains to verify accuracy of genome concentration used in assay testing
- Involved in development of rapid diagnosis of microbes present in sepsis patients' blood samples

Research Associate, Pliant Therapeutics July 2017-Aug 2017
Developing a Small Molecule Inhibitor for Pulmonary Fibrosis that Modulates αvβ6 Integrin on Epithelial Cells
- Performed co-culture assays to test compounds' efficacy against collagen production in pulmonary fibrosis
- Extracted RNA from mouse lungs to identify specific genes involved in αvβ6 production
- Assisted scientists with assays and cell culture, and organized digital freezer inventory log for users' in-vitro and in-vivo samples

Graduate Researcher, Fuse Lab, San Francisco State University Oct 2015- May 2017
Characterizing the Regenerative Capability of Insect Cells
- Characterized immune cells in irradiated *Manduca sexta* blood by specific immunolabeling of cell-surface protein, quantified via flow cytometry
- Detected rates of cellular proliferation in insect progenitor tissue by BrdU and FITC/AF staining and analyzed via Z-stack confocal microscopy
- Developed a qRT-PCR protocol for measuring hemocyte expression levels.

Research Assistant, Prakash Lab, University of California San Francisco Jan 2015- Sept 2015
Characterizing the Microbiome Effects in Acute Lung Ischemia-Reperfusion Injury
- Dissected mice to collect plasma and harvest organs after inducing acute lung injury.
- Evaluated cytokine levels upon bacterial induction in injured lung via multiplex ELISA.

Undergraduate Researcher, de la Torre Lab, SFSU Jan 2013- Dec 2014
Identifying the Localization of Respiratory Proteins in Soil-Nitrifying Microorganisms
- Measured colorimetric growth of archaea cell cultures by amount of nitrite produced.
- Compared protein levels in soluble and membrane cellular fractions using gel electrophoresis.
- Quantified bacterial levels in archaea culture with DAPI nuclear stain and visualized via fluorescence microscopy.

LABORATORY SKILLS

- Flow Cytometry-Thermo Attune, BD A5 Symphony, BD Guava
- Cell Culture- Jurkats, HEKs
- SandwichELISA, ProteinSimple ELLA- p24, multiplex cytokine assay
- Protein Gel Electrophoresis
- Confocal Microscopy (LSM 710 with Fiji software)
- Fluorescence Microscopy (Nikon 80i, TE 2000S)
- qPCR (QStudio-V7)
- Lentivirus transfections with s293T
- Biomek FX Liquid Handler: Lentivirus titrations
- Droplet digital PCR for VCN quantification of Jurkat/T-cell lysates
- Statistical Analyses (MS Excel, GraphPad Prism, R)

EDUCATION

Master of Science, Microbiology | GPA 3.97 San Francisco State University, California Jan 21, 2015- May 23, 2017
Master Thesis: "Immune Responses During Tissue Regeneration of Imaginal Discs in *Manduca sexta*".

Bachelor of Science, Microbiology | GPA 3.30 San Francisco State University, California Aug 23, 2012- Jan 6, 2015
Research Project: "Identifying Hydroxylamine Oxidizing Proteins in Thermophilic Microorganisms".

TEACHING EXPERIENCE

Teaching Assistant, Immunology Lecture, SFSU Aug 21, 2015- May 25, 2017
Assisted professor in grading assignments, exams, and in incorporating teaching logistics management.

Teaching Assistant, Microbiology Laboratory, SFSU Aug 21, 2015- May 25, 2017
Supervised students in BSL-2 lab; evaluated student work by lab notebook records.