

2005 Undergraduate Biochemical Sciences Honors Theses

Jonathan Abraham

Development of Ebola Zaire GP2 Variants for Inhibitor Design Studies
Dr. Stephen C. Harrison, Laboratory Sponsor

Joshua Adam Albrecht

V(D)J Joining in *Saccharomyces Cerevisiae*
Dr. Marjorie Oettinger, Laboratory Sponsor

Krishna G. Aragam

Matrix Metalloproteinases Provide a Caspase-1-Independent Mechanism For Interleukin-18 Activation
Dr. Peter Libby, Laboratory Sponsor

Jessica Bazick

The effect of HIV-1 glycoprotein 160 mutations on cell fusion and infectivity
Dr. Joseph Sodroski, Laboratory Sponsor

Katherine Cembrola

Regulation of Dendritic Cell CD1 Expression by Self Lipids
Dr. Michael B. Brenner, Laboratory Sponsor

Christopher R. Clearfield

A Quantitative Analysis of Cell-Cycle Timing in Budding Yeast
Dr. Andrew Murray, Laboratory Sponsor

Allison M. Colbert

The role of the *CART* gene (Cocaine and Amphetamine Regulated Transcript) in neovascular age-related macular degeneration, using an Extremely Discordant Sib-Pair study design
Dr. Margaret DeAngelis, Laboratory Sponsor

Ishani Ganguli

Single Nucleotide Polymorphisms in *Plasmodium vivax* Apical Membrane Antigen-1 from Sri Lankan Isolates Show Evidence of Host Selection Pressure
Dr. Dyann Wirth, Laboratory Sponsor

Michael D. George

The Importance of the Polyomavirus T Antigens in the Regulation of Viral Chromatin Modifications
Dr. Thomas L. Benjamin, Laboratory Sponsor

Sarah J. Hill

Characterization of a Novel Chromodomain Protein
Dr. David Livingston, Laboratory Sponsor

Tammy T. Hshieh

Quantitation of ApoE Domain Interactions in Alzheimer Disease Brain: Conformational Differences in APOE- ϵ 3/3, APOE- ϵ 4/4 Genotypes
Dr. Bradley T. Hyman, Laboratory Sponsor

Honor Hsin

Toward the Molecular Architecture of Neural Circuits Mediating Innate Aggressive Behavior in the Mammalian Brain
Dr. Catherine Dulac, Laboratory Sponsor

Crystal Hung

Positional cloning of *rad-2*, a member of an embryonic *C. elegans* DNA damage-induced checkpoint bypass pathway

Dr. W. Matthew Michael, Laboratory Sponsor

Scott L. Jones

FRET reveals the dominant form of CD39 to be a monomer in living cells

Dr. Guido Guidotti, Laboratory Sponsor

Jiyeon Kim

The Effects of Notch Signaling on the Chromatin State of Hematopoietic Stem Cells

Dr. Nadia Carlesso, Laboratory Sponsor

Fang S. Ko

Pax6 expression and lens development are regulated by Sox genes

Dr. Richard Maas, Laboratory Sponsor

Evgeniy Kreydin

Role of the Chemical Chaperone Trehalose in the Near-freezing Stress Response of *S. cerevisiae*

Dr. Alfred L. Goldberg, Laboratory Sponsor

Cambrian Liu

Role of Transcription Factor NF- κ B in Synaptic Plasticity

Dr. Venkatesh Murthy, Laboratory Sponsor

Kimberley S. Mak

Function of the Transcription Factors Dlx1 and Dlx2 in the Development of Schwann Cells from the Neural Crest

Dr. Charles D. Stiles, Laboratory Sponsor

Caitlin Matson

Mechanisms for Regulation of Novel Demethylase LSD1

Dr. Yang Shi, Laboratory Sponsor

Natalia Mendoza

Identification of an N-terminal Region That May Mediate Intra- and Intermolecular Interaction in the MAPK Scaffold Protein Ste5: Evidence of a Possible RING-H2 Binding Domain

Dr. Elaine A. Elion, Laboratory Sponsor

Vinod E. Nambudiri

Statins Exert Endothelial Atheroprotective Effects Via the KLF2 Transcription Factor

Dr. Guillermo García-Cardeña, Laboratory Sponsor

Melanie Napier

Identification of Novel Mouse Cytomegalovirus (MCMV) Immune Evasion Genes

Dr. Hidde L. Ploegh, Laboratory Sponsor

Onyinye Diane Offor

Mapping a novel translocation t(X,21) (q26;q22) in a patient with acute myeloid leukemia

Dr. Cynthia Morton, Laboratory Sponsor

Anthony Onah

A Neural Switch Controlling Phototactic Behavior in *Drosophila*

Dr. Samuel Kunes, Laboratory Sponsor

Do H. Park

Interspecies Variation and Subcellular Localization of Retroviral Restriction Factor TRIM5 α
Dr. Joseph Sodrosk , Laboratory Sponsor

Piotr P. Pilarski

The Specificity of HCMV Immuno-evasins for Class I versus Class II MHC Molecules and their Preference for Allelic Products of Class I MHC Loci
Dr. Hidde L. Ploegh, Laboratory Sponsor

Evan Rachlin

Recombinant Molecules For Structural And Functional Studies Of The Initiation of DNA Replication In Bacteria
Dr. David Jeruzalmi, Laboratory Sponsor

Diana E. Saville

Characterization of HS5-1, a putative insulator and *cis*-regulatory element of the α -Protocadherins gene cluster
Dr. Tom Maniatis, Laboratory Sponsor

David Antonio Solá-Del Valle

Structure-function studies of TRPA1, a thermo- and mechano-sensitive ion channel
Dr. Rachelle Gaudet, Laboratory Sponsor

Mona Stoicescu

Investigating the role of Pmd1 and Mds3 in the *S. cerevisiae* mating pathway
Dr. Elaine A. Elion, Laboratory Sponsor

Yan Xuan

Analysis of SUMO residues and interactions important for repression of Sp3 activity
Dr. Grace Gill, Laboratory Sponsor

Jessica Zhou

Genome-Wide Expression Profiling of Human Blood Reveals Biomarkers for Huntington's Disease
Dr. Dimitri Krainc, Laboratory Sponsor