UCDAVIS HEALTH | SCHOOL OF MEDICINE

Medical Microbiology & Immunology
MMI 291 Seminar Series
Emerging Challenges in Microbiology and Immunology

MMI 291 Seminar Series

Current Theme: Interdisciplinary Research
Winter Quarter 2020 – CRN 65452 **Friday Seminar – 12:10-1 p.m.**

"Natural Killer Cells in Viral Immunity and Transplantation"

Research

Natural killer (NK) cells are a type of white blood cell that provides protection against microbial pathogens and tumors. Since the early 1980's, our lab has investigated how NK cells distinguish between normal healthy cells and cells that are transformed or infected with viruses. NK cells express a diverse array of inhibitory and activating receptors on their cells surface that bind to ligands expressed on the cell surface of potential target cells. When encountering healthy cells, signals transmitted by inhibitory NK receptors dominate and prevent autoimmunity, whereas the loss of ligands for the inhibitory receptors or the upregulation of ligands for the activating NK receptors on infected or transformed cells allows NK cells to kill these abnormal cells and secrete cytokine that influence the subsequent response by T cells and B cells. We have developed mouse models systems in which key signaling molecules have been ablated to explore the physiological role of these NK receptors in resistance to viral infections (cytomegalovirus, poxviruses, and influenza) and primary tumorigenesis.

Publications

Hypoimmunogenic derivatives of induced pluripotent stem cells evade immune rejection in fully immunocompetent allogeneic recipients. Deuse T, Hu X, Gravina A, Wang D, Tediashvili G, De C, Thayer WO, Wahl A, Garcia JV, Reichenspurner H, Davis MM, **Lanier LL**, Schrepfer S. Nat Biotechnol. 2019 Mar;37(3):252-258. doi: 10.1038/s41587-019-0016-3. Epub 2019 Feb 18.

Tracking the fate of antigen-specific versus cytokine-activated natural killer cells after cytomegalovirus infection. Nabekura T, **Lanier LL**. J Exp Med. 2016 Nov 14;213(12):2745-2758. Epub 2016 Oct 24.

Natural killer cell memory in infection, inflammation and cancer. Cerwenka A, **Lanier LL**. Nat Rev Immunol. 2016 Feb;16(2):112-23. doi: 10.1038/nri.2015.9. Epub 2016 Jan 25. Review

February 7

Lewis Lanier, Ph.D.
J Michael Bishop MD Distinguished Professor
Chair, Microbiology and Immunology
Director, Parker Institute for Cancer Immunotherapy
University of California

February 7, 2020
12:10 – 1 p.m.
GBSF 1005

Medical Microbiology & Immunology
School of Medicine

Seminar Contact:
Veronica Keys
530-752-9401
vlkeys@ucdavis.edu

We hope to see you there!