



MMI 291 Seminar Series

Current Theme: Interdisciplinary Research
Spring Quarter 2022 – **CRN 51421**

Friday Seminar – 12:10-1 p.m.

“Antiviral and antitumor activities of memory-like NK cells”

Research / Bio

Our research focuses on antiviral and antitumor responses of natural killer (NK) cells, the third major population of lymphocytes. Although NK cells are traditionally categorized as part of the innate immune system, our lab has recently discovered a distinct subset of human NK cells that display adaptive immune features, such as clonal-like expansion and long-term persistence. This NK cell subset, termed FcRγ-deficient NK cells, has been found in approximately one-third of healthy individuals and nearly all HIV patients. The presence of these NK cells is associated with prior infection by cytomegalovirus, a common herpesvirus that infects billions of people worldwide. Compared to conventional NK cells, FcRγ-deficient NK cells exhibit significantly heightened potential to mediate antibody-dependent protection against a broad spectrum of viral infections. Moreover, FcRγ-deficient NK cells display potent antibody-dependent antitumor activity. The goals of our current research are to understand how FcRγ-deficient NK cells function better than conventional NK cells and what role these NK cells play in immune responses to viral infections and malignancy.

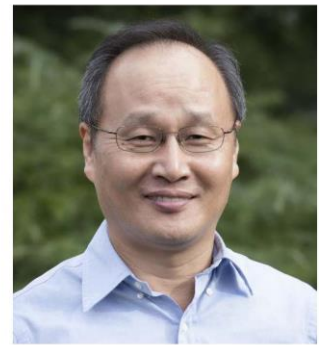
Publications

Kim S. Cytomegalovirus mediates expansion of IL-15-responsive innate-memory cells with SIV killing function. *J Clin Invest.* 2021 Aug 2;131(15). doi: 10.1172/JCI148542. PubMed PMID: 34153005

Kim S. *FcRγ gene editing reprograms conventional NK cells to display key features of adaptive human NK cells.* *iScience.* 2020 Nov 20;23(11):101709. doi: 10.1016/j.isci.2020.101709. PubMed PMID: 33205022

Kim S. *Epigenetic modification and antibody-dependent expansion of memory-like NK cells in human cytomegalovirus-infected individuals.* *Immunity.* 2015 Mar 17;42(3):431-42. doi: 10.1016/j.immuni.2015.02.013. PubMed PMID: 25786175

May
20



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**May 20, 2022
12:10 – 1 p.m.
ZOOM Meeting**

Medical Microbiology
& Immunology
School of Medicine

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We hope to see you there!