

Faculty Spotlight:

Michael Khodadoust, MD, PhD



Michael Khodadoust, MD, PhD
Instructor, Medicine, Division of Oncology

Summary of Work

As a hematologist, Dr. Michael Khodadoust studies blood, the blood-forming organs, and blood diseases. As an oncologist, his interest has been captured by the study and clinical treatment of lymphomas, which are cancers of the immune system.

While earning his MD and PhD in immunology and working in the laboratory of Dr. David Markovitz at the University of Michigan, he studied the role of the DEK oncogene in the development of melanoma. This gene, in humans, is often overexpressed and can be amplified in cancer. As a researcher, he developed a strong interest in the genesis of tumors and in immune system-based strategies to defeat them.

After completing his residency in internal medicine at Stanford, Dr. Khodadoust was mentored by Dr. Ash Alizadeh and Dr. Ron Levy. Both eminent researchers use genetics, bioinformatics, and immunologic approaches to pinpoint the interplay of cancer and the immune system.

Dr. Khodadoust's goal is to develop new immune-based therapies for lymphoma. He seeks to develop a clearer understanding of how the human immune system recognizes and deals with potent malignant invaders. He is especially interested in identifying cancer proteins (neoantigens) that may be recognized as foreign. "I am fascinated by how immune system evasion works in the development of cancer and by how we can improve our ability to discover effective new treatments." In this effort, he is collaborating with Dr. Josh Elias of Stanford to define the role of specific peptides as antigens and with Dr. Mark Davis, also of Stanford, to uncover the interactions between the immune system and lymphoma.

He is also an investigator on numerous clinical trials of novel immunotherapies in treating lymphoma and has been working to better understand mechanisms of resistance to immunotherapy.

Biography

Dr. Khodadoust graduated from Rice University in Houston Texas with an undergraduate degree in biochemistry. He earned his MD and a PhD in immunology from the University of Michigan in 2010. After completing his internship and a residency in internal medicine at Stanford in 2012, Dr. Khodadoust joined the Divisions of Hematology and Oncology. In 2015, he became an Instructor in the Division of Oncology focusing on treatment of patients with lymphoma.

Dr. Khodadoust received a Predoctoral Fellowship Award from the National Science Foundation in 2002. In 2009, he was inducted into Alpha Omega Alpha Honor Medical Society. He received a William Dodd Robinson Award from the University of Michigan in 2010 and, as well, was recognized for distinction in academics and research. He received a Dean's Postdoctoral Fellowship at Stanford in 2014 and also a Fellow Award from the Leukemia and Lymphoma Society. In 2015, he was honored with a Conquer Cancer Foundation of America Society of Clinical Oncology (ASCO) Young Investigator Award for his research entitled "Tumor Antigen Identification in a Study of Therapeutic Tumor Vaccination in Mantle Cell Lymphoma."



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