Stanford

Melissa Mavers

Instructor, Pediatrics - Stem Cell Transplantation

NIH Biosketch available Online

CLINICAL OFFICES

- **Pediatric Stem Cell Transplantation and Regenerative Medicine**

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Bio

BIO

I am a physician scientist at Stanford University/Lucile Packard Children's Hospital, with a clinical and research focus in stem cell transplantation. Prior training includes earning MD and PhD degrees through the combined program at Saint Louis University School of Medicine, where I investigated the role of the cyclin dependent kinase inhibitor p21 in suppression of inflammatory cytokine production and treating inflammatory diseases. This project led to the publication of two first-author peer-reviewed articles, several middle-author publications, and a significant review article. I subsequently completed Pediatrics residency at the University of California Los Angeles/Mattel Children's Hospital and Pediatric Hematology/Oncology Fellowship at Stanford. Currently I'm an Instructor of Pediatrics in the division of Stem Cell Transplantation and Regenerative Medicine.

My long-term career goal is to develop a research program focusing on immune tolerance in stem cell transplantation and become a leader in the development of improved therapies for preventing or treating graft-versus-host disease. As such, I am excited about my ongoing work in the laboratory of Dr. Robert Negrin, focusing on the expansion and functional enhancement of regulatory T cells and invariant natural killer T cells. This work is currently supported by a St. Baldrick's Foundation Fellowship, and has previously received funding from the Stanford Child Health Research Institute.

CLINICAL FOCUS

- Pediatric Hematology-Oncology
- Pediatric Stem Cell Transplantation

ACADEMIC APPOINTMENTS

- Instructor, Pediatrics - Stem Cell Transplantation
- Member, Maternal & Child Health Research Institute (MCHRI)

PROFESSIONAL EDUCATION

- Board Certification: Pediatric Hematology-Oncology, American Board of Pediatrics (2019)
- Medical Education: St Louis University School of Medicine (2011) MO
- Fellowship: Stanford University Pediatric Hematology Oncology Fellowship (2017) CA

- Board Certification: Pediatrics, American Board of Pediatrics (2015)
- Residency: University of California - Los Angeles (2014) CA
- PhD, Saint Louis University School of Medicine , Molecular Microbiology and Immunology (2009)

Teaching

GRADUATE AND FELLOWSHIP PROGRAM AFFILIATIONS

- Pediatric Hem/Onc (Fellowship Program)

Publications

PUBLICATIONS

- **Invariant Natural Killer T Cell Subsets Have Diverse Graft-Versus-Host-Disease-Preventing and Anti-Tumor Effects.** *Blood*
  Maas-Bauer, K., Lohmeyer, J. K., Hirai, T., Lopes Ramos, T., Fazal, F. M., Litzenburger, U. M., Yost, K. E., Ribado, J. V., Kambham, N., Wenokur, A., Lin, P., Alvarez, M., Mavers, et al
  2021
- **Selective expansion of regulatory T cells using an orthogonal IL-2/IL-2 receptor system facilitates transplantation tolerance.** *The Journal of clinical investigation*
  Hirai, T., Ramos, T. L., Lin, P., Simonetta, F., Su, L. L., Picton, L. K., Baker, J., Lin, J., Li, P., Seo, K., Lohmeyer, J. K., Wagers, S. B., Mavers, et al
  2021; 131 (8)
- **Broad spectrum antibiotics and risk of graft-versus-host disease in pediatric patients transplanted for acute leukemia: association of carbapenem use with risk of acute GVHD.** *Transplantation and cellular therapy*
  Elgarten, C. W., Li, Y., Getz, K. D., Hemmer, M., Huang, Y. V., Hall, M., Wang, T., Kitko, C. L., Jagasia, M. H., Nishihori, T., Murthy, H. S., Hashem, H., Cairo, et al
  2021; 27 (2)
- **Activation of natural killer T cells enhances the function of regulatory T-cell therapy in suppressing murine GVHD.** *Blood advances*
  Hirai, T., Lin, P. Y., Simonetta, F., Maas-Bauer, K., Turkoz, M., Mavers, M., Baker, J., Negrin, R. S.
  2021; 5 (11): 2528-2538
- **Engineered IL-2 Cytokine-Cytokine Receptor Complex Enables Selective Expansion of Regulatory T Cells and Facilitates Establishment of Organ Transplantation Tolerance**
  Hirai, T., Simonetta, F., Su, L. L., Picton, L., Baker, J., Seo, K., Lohmeyer, J., Mavers, M., Blazar, B. R., Garcia, C., Negrin, R. S.
  ELSEVIER SCIENCE INC.2020: S59–S60
- **Experience with Ruxolitinib (Jakafi (R)) As a Salvage Therapy for Graft-Versus-Host Disease in Children and Young Adults**
  Mavers, M., Klinger, E., Shyr, D. C., Shah, A. J., Bertaina, A., Soni, S.
  ELSEVIER SCIENCE INC.2020: S179
- **Brentuximab Vedotin as Consolidation Therapy After Autologous Stem Cell Transplantation in Children and Adolescents (<18y) With Early Relapse Hodgkin Lymphoma.** *Journal of pediatric hematology/oncology*
  Fernandez, K. S., Mavers, M., Marks, L. J., Agarwal, R.
  2019
- **Distinct Immune Regulatory Potential of Invariant Natural Killer T (iNKT) Cell Subsets: iNKT2 and iNKT17, but Not iNKT1, Protect from Graft-Versus-Host-Disease**
  Simonetta, F., Maas-Bauer, K., Hirai, T., Wenokur, A., Fazal, F. M., Kambham, N., Ribado, J., Mavers, M., Baker, J., Bhatt, A. S., Chang, H. Y., Negrin, R. S.
  ELSEVIER SCIENCE INC.2019
- **Activation of the DR3-TL1A Axis in Donor Mice Leads to Regulatory T Cell Expansion and Activation With Reduction in Graft-Versus-Host Disease.** *Frontiers in immunology*
  Mavers, M. n., Simonetta, F. n., Nishikii, H. n., Ribado, J. V., Maas-Bauer, K. n., Alvarez, M. n., Hirai, T. n., Turkoz, M. n., Baker, J. n., Negrin, R. S.
  2019; 10: 1624
- **Invariant Natural Killer T Cell Subsets Have Diverse Functions: iNKT2 and iNKT17 Protect from Graft-Versus-Host-Disease, Whereas iNKT1 Have Antitumor Potential**

Maas-Bauer, K., Simonetta, F., Hirai, T., Wenokur, A., Fazal, F., Kambham, N., Ribado, J., Mavers, M., Baker, J., Bhatt, A. S., Chang, H. Y., Negrin, R. S.
AMER SOC HEMATOLOGY.2018

- **High-Risk Leukemia: Past, Present, and Future Role of NK Cells** *JOURNAL OF IMMUNOLOGY RESEARCH*
  Mavers, M., Bertaina, A.
  2018: 1586905

- **Invariant Natural Killer T Cells As Suppressors of Graft-versus-Host Disease in Allogeneic Hematopoietic Stem Cell Transplantation.** *Frontiers in immunology*
  Mavers, M., Maas-Bauer, K., Negrin, R. S.
  2017; 8: 900

- **DR3 Signaling Modulates the Function of Foxp3(+) regulatory T Cells and the Severity of Acute Graft and Host Disease**
  Nishikii, H., Byung-Su, K., Chen, Y., Baker, J., Pierini, A., Alvarez, M., Mavers, M., Maas-Bauer, K., Negrin, R. S.
  AMER SOC HEMATOLOGY.2016

- **DR3 signaling modulates the function of Foxp3+ regulatory T cells and the severity of acute graft versus host disease.** *Blood*
  Nishikii, H., Kim, B., Yokoyama, Y., Chen, Y., Baker, J., Pierini, A., Alvarez, M., Mavers, M., Maas-Bauer, K., Pan, Y., Chiba, S., Negrin, R. S.
  2016

- **Cyclin-dependent kinase inhibitor p21, via its C-terminal domain, is essential for resolution of murine inflammatory arthritis** *ARTHRITIS AND RHEUMATISM*
  Mavers, M., Cuda, C. M., Misharin, A. V., Gierut, A. K., Agrawal, H., Weber, E., Novack, D. V., Haines, G. K., Balomenos, D., Perlman, H.
  2012; 64 (1): 141-152

- **Quality of life and depression assessment in nevoid basal cell carcinoma syndrome** *INTERNATIONAL JOURNAL OF DERMATOLOGY*
  Shah, M., Mavers, M., Bree, A., Fosko, S., Lents, N. H.
  2011; 50 (3): 268-276

- **Bim-Bcl-2 Homology 3 Mimetic Therapy Is Effective at Suppressing Inflammatory Arthritis Through the Activation of Myeloid Cell Apoptosis** *ARTHRITIS AND RHEUMATISM*
  Scatizzi, J. C., Hutcheson, J., Pope, R. M., Firestein, G. S., Koch, A. E., Mavers, M., Smason, A., Agrawal, H., Haines, G. K., Chandel, N. S., Hotchkiss, R. S., Perlman, H.
  2010; 62 (2): 441-451

- **Intracellular signal pathways: potential for therapies.** *Current rheumatology reports*
  Mavers, M., Ruderman, E. M., Perlman, H.
  2009; 11 (5): 378-385

- **The CDK domain of p21 is a suppressor of IL-1 beta-mediated inflammation in activated macrophages** *EUROPEAN JOURNAL OF IMMUNOLOGY*
  Scatizzi, J. C., Mavers, M., Hutcheson, J., Young, B., Shi, B., Richard, M. P., Eric, M. R., Samways, D. S., Corbett, J. A., Egan, T. M., Perlman, H.
  2009; 39 (3): 820-825

- **Cardiac conduction abnormalities and congenital immunodeficiency in a child with Kabuki syndrome: Case report** *BMC MEDICAL GENETICS*
  Shah, M., Bogucki, B., Mavers, M., deMello, D. E., Knutsen, A.
  2005; 6