“Protection Against Bacterial Infection: Making Good Memories”

Research

Protective memory responses emerge following the successful resolution of a primary infection. The cellular basis of this protection is a memory lymphocyte pool that resides in previously infected tissues or recirculates through blood and lymphatic systems. Our laboratory is interested in examining naturally generated memory lymphocytes with a long-term goal of generating these cells during vaccination. We study mouse models of infection with Salmonella and Chlamydia and focus largely on the specificity and functionality of CD4 T cell responses in protective immunity. Recent data suggest that these mucosal infections generate very different memory responses which may explain the difficulty in generating effective vaccines.

Publications

Oanh H. Pham1, Hope O’Donnell1, Aymen Al-Shamkhani2, Tobias Kerrinnes3, Rene´e M. Tsolis3, Stephen J. McSorley1. T cell expression of IL-18R and DR3 is essential for non-cognate stimulation of Th1 cells and optimal clearance of intracellular bacteria

Seung-Joo Lee, Joseph Benoun, Brian S. Sheridan, Zachary Fogassy, Oanh Pham, Quynh-Mai Pham, Lynn Puddington and Stephen J. McSorley
Dual Immunization with SseB/Flagellin Provides Enhanced Protection against Salmonella Infection Mediated by Circulating Memory Cells

Joseph M. Benouna,b,1, Newton G. Peresc,1, Nancy Wangc,1, Oanh H. Phama,b, Victoria L. Rudisilla,b, Zachary N. Fogassya,b, Paul G. Whitneye,c, Daniel Fernandez-Ruizc , Thomas Gebhardtac , Quynh-Mai Phamd , Lynn Puddingtond , Sammy Bedouic,1, Richard A. Strugnellc,1, and Stephen J. McSorleya,b,1,2. Optimal protection against Salmonella infection requires noncirculating memory