CHARACTERIZATION OF CHITINASE-LIKE PROTEINS IN THE MOUSE

Tiffany A. Reese, RM Locksley, D Voehringer
Howard Hughes Medical Institute, Departments of Medicine and Microbiology/Immunology, University of California San Francisco, California 94143.

Chitin is the second most abundant polysaccharide on earth. It stabilizes the exoskeleton of arthropods and crustaceae and is a component of fungal cell walls. Mammals cannot synthesize chitin, however they express chitinases and chitinase-like proteins, which might serve to digest ingested chitin and/or play a role as innate immune defense. We identified chitinase-like proteins in the mouse lung as being expressed in a Stat6-dependent manner after infection with the helminth parasite *N. brasiliensis*. The genes for these proteins cluster at Chr.1 and Chr.3 in the mouse. Most of these proteins have lost their enzymatic activity against chitin and their functions are largely unknown. To study their potential role in immune responses against parasites and fungi, we expressed two of these proteins in insect cells and generated transgenic mice overexpressing chitinase-like proteins in the lung.