Office for Training, Research & Education in the Sciences

Fall 2014

The role of T Helper cells and cytokines in regulating the growth of Cryptococcus neoformans:

A spotlight on Research and Educational Opportunities at UT Southwestern Medical Center

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My lab has focused on understanding the role of T helper cells, and the cytokines they secrete, in regulating infection by Cryptococcus neoformans (Cne). Cryptococcosis is an opportunistic infection caused by the encapsulated yeastlike fungus Cne. In humans, the infection is acquired by inhalation , and results in a primary pulmonary infection that usually remains subclinical; however, the pulmonary infection may disseminate to cause cryptococcal meningitis, particularly in immunocompromised patients. A mouse model was established to assess the role of cytokines in initiating protective T-cell-mediated immunity in the lung. In the present study we showed that monoclonal anti-interferon-γ (IFN-γ) and anti-interleukin-12 (IL-12) antibody administration prior to infection of resistant C.B-17 mice inhibited lung clearance of Cne. These studies clearly demonstrate that both IFN-γ and IL-12 are required for initiation of a Th1 response in resistant C.B-17 mice.

UT Southwestern provides world class opportunities to prepare for careers in the biomedical sciences through study and research leading to the Ph.D. degree through the Division of Basic Science and the M.D./Ph.D. degree through the Medical Scientist Training Program. Over 290 faculty offer training in genomics, cancer biology, computational biology, developmental biology, biomedical engineering, molecular genetics, structural biology, cell biology, chemical biology, systems biology, pharmacology, microbiology, neurosciences and immunology. Our NIH-sponsored MSTP contains a highly integrated curriculum, premiere teaching hospitals and renowned clinical faculty. The essence of education at UT Southwestern is an exciting research experience in an active, productive and critical scientific environment.

Thursday, November 6, 2014

4:00-5:30

Commons 206

Seminars are mandatory for all OTRES Students

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Maximazing Access to Research Careers (MARC) Program, Research Initiative for Scientific Enhancement (RISE) Program, Louis Stokes Alliance for Minority Participation Program (LSAMP) & Bridges to the Future Program.