MAJOR NIH RESEARCH AWARDS

Einstein scientists will study TB infection, the origins of obesity and more, thanks to recent grants from the National Institutes of Health.

Immune Evasion in TB Infection

Mycobacterium tuberculosis, the tuberculosis (TB) bacterium, is notorious for evading the body's immune response. John Chan, M.D., Steven Porcelli, M.D., and Michael Berney, Ph.D., have found evidence that *M. tuberculosis* evades anti-TB immunity by activating an immunosuppressive pathway controlled by the host enzyme indoleamine 2,3-dioxygenase (IDO). The National Institutes of Health (NIH) has awarded them a five-year, $4 million grant to study how immunosuppression mediated by IDO activation helps *M. tuberculosis* circumvent immune defenses. Their research could lead to interventions for better TB control. Dr. Chan is a professor of medicine and of microbiology & immunology and an attending physician in infectious disease at Montefiore; Dr. Porcelli is a professor and the chair of microbiology & immunology, a professor of medicine and the Murray and Evelyne Weinstock Chair in Microbiology & Immunology; and Dr. Berney is an assistant professor of microbiology & immunology.

Investigating Autoimmunity

The more than 70 types of autoimmune diseases occur when immune cells aberrantly attack the body's own cells or tissues. CD8 T cells strongly contribute to the pathology seen in type 1 diabetes and many other autoimmune diseases. The NIH has awarded Teresa DiLorenzo, Ph.D., and Steven C. Almo, Ph.D., a five-year, $3.6 million grant to study the molecular interactions that occur when CD8 T cells target and damage tissue. CD8 T cells attack disease-causing microbes and tumors too, so knowledge gained from studying them should reveal information about T-cell biology in general. Dr. DiLorenzo is a professor of microbiology & immunology and of medicine and the Diane Belfer, Cypres & Endelson Families Faculty Scholar in Diabetes Research at Einstein. Dr. Almo is a professor and the chair of biochemistry, a professor of physiology & biophysics and the Wollowick Family Foundation Chair in Multiple Sclerosis and Immunology at Einstein.