



FOR IMMEDIATE RELEASE

Benaroya Research Institute Receives \$2.2 Million to Study Critical Factor in Autoimmune Diseases

SEATTLE - (August 31, 2010) – Benaroya Research Institute at Virginia Mason (BRI) received a \$2.2 million federal research grant from the National Institute of Allergy and Infectious Diseases at the National Institutes of Health to investigate a key factor that plays a critical role in preventing autoimmunity and limiting immune-mediated inflammation. If scientists can find a way to manipulate or program this factor, it can be used in cellular therapy to help eliminate these diseases. This particular grant focuses on diseases such as a persistent mycobacterium tuberculosis infection, psoriasis, rheumatoid arthritis, Type 1 diabetes and multiple sclerosis.

“Autoimmune and immune-mediated diseases are a major public health challenge,” says Daniel Campbell, PhD, Associate Member at BRI and Principal Investigator for the grant. “The immune system is like a finely-tuned engine. It works to eliminate bacteria, viruses and other infectious threats to our bodies. But sometimes it overreacts or underreacts. In this grant, I’m studying a particular type of cells that help maintain this balance and turn off the immune system when it overreacts. If we can understand how these cells put the brakes on the immune system, and how their activity is controlled during infection and autoimmunity, we may be able to develop individual therapies to help each patient with his or her specific disease situation.”

Dr. Campbell is studying regulatory T cells, a group of white blood cells that regulate the immune system. Some regulatory T cells express a transcription factor, T-bet, that works with another factor called Foxp3 to maintain a balanced immune system. Dr. Campbell and his colleagues discovered that T-bet was critical for regulatory T cell function in certain immunological contexts. This finding was published in *Nature Immunology* in June 2009 and led to the recently awarded grant. With the new funding, Dr. Campbell is investigating more closely how T-bet and Foxp3 function together so their activities can be manipulated therapeutically to prevent or treat immune-mediated diseases.

Nearly 23.5 million Americans have an autoimmune disease. According to the National Institutes of Health, the annual health care costs for autoimmune diseases are \$100 billion in the U.S. Autoimmune diseases are a top 10 cause of death for women and children. BRI’s overall research aims to block autoimmunity before damage occurs and to develop therapies to reverse disease by redirecting faulty immune systems so they won’t attack healthy tissues.

About Benaroya Research Institute at Virginia Mason

Benaroya Research Institute at Virginia Mason (BRI), founded in 1956, is an international leader in immune system and autoimmune disease research, translating discoveries to real-life applications. Autoimmune diseases happen when the immune system, designed to protect the body, attacks it instead. BRI is one of the few research institutes in the world dedicated to discovering causes and cures to eliminate autoimmune diseases such as Type 1 diabetes, multiple sclerosis, arthritis and many others. Visit BenaroyaResearch.org or Facebook/BenaroyaResearch for more information about BRI, clinical studies and the more than 80 different types of autoimmune diseases.

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