B-Regulatory Cells for Autoimmune Diseases

Published date: Nov. 8, 2012

Technology description

Background

The importance of B cells to cellular immunity is underscored by studies in both humans and mice showing that B cell deficiency or depletion can actually improve autoimmune diseases primarily mediated by T cells, including type I diabetes, and rheumatoid and collagen induced arthritis. However, in a variety of other murine models, including EAE (a model for multiple sclerosis), inflammatory bowel disease (IBD), and allergic skin reactions (contact hypersensitivity B cell deficiency or depletion, worsens disease. Therefore, definitive identification of regulatory B cells (Breg) is crucial in the therapeutic setting and has been extremely challenging because BregΓÇÖs lack a specific marker and interleukin (IL)- 10 expression has only been detected ex vivo.TechnologyInvestigators have identified a novel biomarker on Breg cells that can be used to isolate IL10 expressing Bregs. Once isolated, these cells can then be expanded in vivo. Moreover, investigators have developed an antibody to the biomarker that can selectively activate this B-cell subpopulation to induce immune tolerance in animal models of multiple sclerosis and inflammatory bowel disease (IBD).Application* Therapeutic for multiple sclerosis, inflammatory bowel disease and contact dermatitis

Application area

* Promotes tolerance in various autoimmune diseases
* Reduces the need for immunosuppressive drugs by inhibiting transplant rejection
* Selective identification of IL10 expressing BregΓÇÖs
* Selective activation of BregΓÇÖs in vivoStage of Development
* Animals studies underway for IBD and MS

Institution

University of Pittsburgh

联系我们

叶先生

电 话：021-65679356

手 机：13414935137

邮 箱：yeyingsheng@zf-ym.com