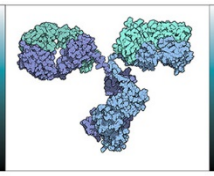

Research Highlight

Bio Cell

Regulatory T cells use lymphotoxin beta receptor to migrate from tissues to lymph nodes

Dr. Jonathan S. Bromberg's group from the University of Maryland School of Medicine have discovered that Tregs preferentially express and use lymphotoxin αβ for migration to lymph nodes. This marks the first demonstration of T cell lymphotoxin αβ playing a direct role in T cell migration.

The authors used a mouse model of pancreatic islet transplantation in diabetic mice to show that Tregs, which are essential to suppress unwanted immunity and promote acceptance of organ transplants, use lymphotoxin αβ to stimulate lymphotoxin beta receptor expressed by endothelial cells lining lymphatic vessels. Further, LTαβ binding to LTβR induced rapid growth of lamellipodia-like projections from lymphatic endothelial cells. These cytoplasmic membrane projections correlated with the movements and migration patterns of Tregs as they traveled across lymphatic endothelial cells.

The authors used Bio X Cells anti-CD62L antibody (clone MEL-14) to block T cells from entering or exiting lymph nodes via lymphatic endothelial cells. Using this technique, the authors concluded that lymphotoxin was not required for Tregs to exit lymph nodes.

These results demonstrate a novel form of Treg migration in tissues and may provide a unique target for modulating Treg-mediated suppression.

See the article in Nature Communications:
http://www.nature.com/ncomms/2016/160621/ncomms12021/full/ncomms12021.html