463 OX40L-Jagged-1-Fc, for the In Vivo Expansion of Treg Cells

Asset Overview

Product Type	Chimeric Fusion Protein
Indication	Immunology
Current Stage	Preclinical
Target(MoA)	Targeting both Notch3 and OX40 receptors on Tregs
Brief Description	• Tregs downregulation has been implicated in the pathogenesis of many autoimmune diseases • Selectively expands functional Tregs *in vitro* and *in vivo*, and not pathogenic T effector cells (Teff) • Restores homeostatic balance to the immune system • Does not cause general immune suppression • Current research validates both OX40 and Notch3 as targets • Next plan: Determine pathway for product type (separate Notch3 and OX40 ligands, a linked Notch3-OX40 ligand, or Notch3-OX40 bi-specific antibody) and indication for the best regulatory path
Organization	University of Illinois at Chicago

Differentiation

□ **Tregs in autoimmune disease**

- Tregs down regulation causes the self-reactive lymphocytes to escape natural control, thereby triggering the immune system to attack self
- Current immunosuppressive therapies non-specifically suppress the body's defense/immune system, resulting in debilitating side effects and a very poor quality of life
- Currently available approaches are not curative, are nonspecific, are non-targeted, and have a narrow therapeutic window (efficacy–toxicity trade-off)
- There is a dire need for a more targeted, safe & accepted approach

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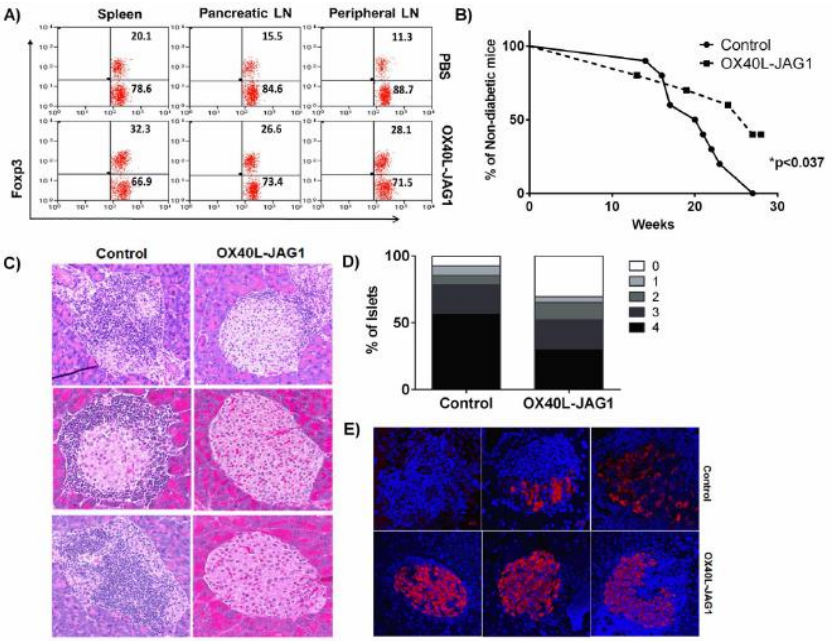
Key Data

Preliminary diabetes results by combination of OX40L and Jagged1

1-NOD mice treated with soluble OX40L and Jagged1



- ✓ Significantly delays the onset of diabetes
- ✓ Substantially reduces insulitis
- ✓ Arrests insulin producing islet beta cell destruction
- ✓ Increases anti-inflammatory cytokines (e.g., IL10, TGF-ß)
- ✓ Decreases pro-inflammatory cytokines (e.g., IL1ß, IFNγ)

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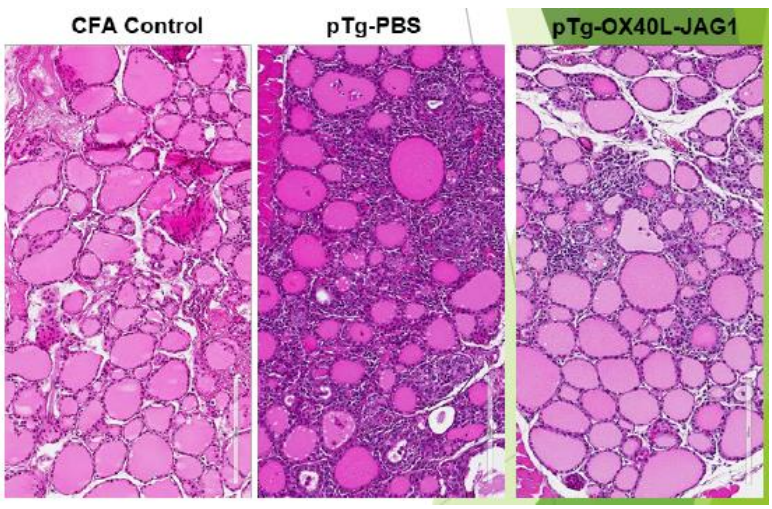

- ✓ Significantly delays the onset of Thyroiditis
- ✓ Arrests Thyroid hormone producing thyrocyte destruction

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Intellectual Property

Patent No.	PCT-US2016-060349
Application Date	2016.11.03
Status	Application Pending
Country	US, EP, IN

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