

Product

Cell Therapy

Indication

Chronic Inflammatory Disease
Autoimmune Disorders

Value Propositions

- ▶ Generate Tregs from conventional CD4 T-cells
- ▶ Sustained Treg suppressive function in-vitro and in-vivo
- ▶ Improved ex-vivo expansion

Market

- ▶ Chronic Inflammatory Disease
- ▶ Autoimmune Disease
- ▶ Cell Therapy

Intellectual Property

- ▶ PCT stage: Application Published

Key Documents

- ▶ Expression of IL-37 Induces a Regulatory T-cell-like Phenotype and Function in Jurkat Cells. (Cells 2022) [link](#)

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Adoptive Cell Therapies for Chronic Inflammatory and Autoimmune Disorders

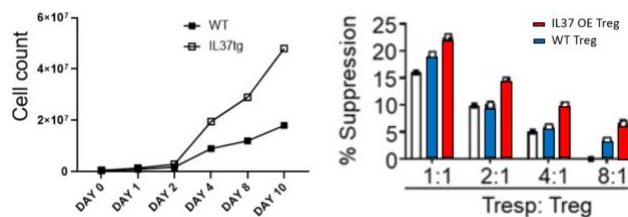
Chronic inflammatory and autoimmune disorders affect over 3% of the US population with no treatment options available that sustainably reverses symptoms or cures patients. Adoptive Treg cell therapies are promising treatment options due to their ability to persistently induce tissue homeostasis – effectively reversing the effects of autoimmune and chronic inflammatory disorders. However, efficacy of adoptive Treg therapies are limited by (1) Tregs switching to pro-inflammatory CD4 T-cells (CD4Tconv cells) ex-vivo and in-vivo, and (2) low functional Treg abundance in patient source material.

Innovation: IL37 Overexpressing T-cells

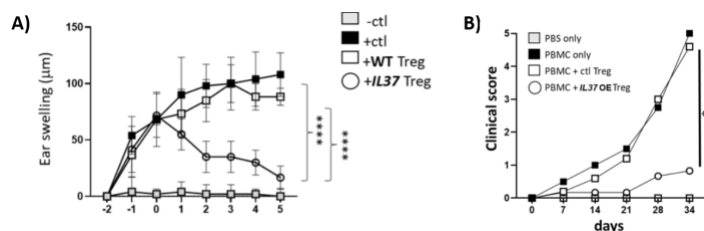
Genetically engineering CD4 T-cells to overexpress IL-37 stabilizes a Treg phenotype for the purpose of adoptive cell therapy for chronic inflammatory and autoimmune diseases (IL37 OE T-cells). Furthermore, IL37 OE T-cells maintain high expansion and suppression properties ex-vivo and in-vivo – thereby (1) preventing Tregs from switching to CD4 Tconv-cells and (2) increasing the source material options for adoptive T-cell therapy. IL-37 OE T-cell therapy has yielded beneficial results in pre-clinical mouse models of psoriasis, traumatic brain injury, and GvHD.

Advantages:

- IL37 OE Tregs display improved expansion and suppressive function ex-vivo.



- IL37 OE Tregs reduces inflammation in mouse models for psoriasis (A) and GvHD (B).



- CD4 Tconv cells overexpressing IL37 improves clinical score in GvHD mouse model.

