

Introduction

Clinical Need There is no licensed therapy to halt or reverse new-onset Type 1 Diabetes.

- ✓ Rabbit anti-thymocyte globulin (rATG) slows the progression of T1D by preserving C-peptide and improving glycemic control.
- ✓ rATG it is limited by serum sickness and the formation of neutralizing antibodies.

Multi-specific antibody SAB-142 is a Fully Human, Multi-Specific, Targeted Anti-Thymocyte Globulin (hATG) for Delaying Onset and Progression of T1D

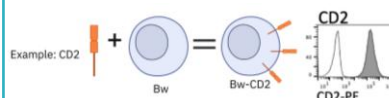
- ✓ SAB-142 is generated from a unique multi-specific antibody platform.
- ✓ Low immunogenicity with potential for redosing.

Aim of Study The aim of this study was to compare the binding profile of rATG and SAB-142 to T-cell surface proteins

- ✓ *In vitro* data suggested that SAB-142 and rabbit ATG both bind to T-cells.
- ✓ This work examined the binding of SAB-142 and rATG to specific T-cell surface proteins.

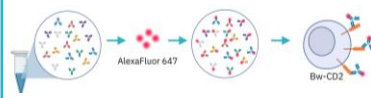
Methods

1. Express cell surface proteins on a mouse T cell line (Bw) and confirm expression by flow cytometry



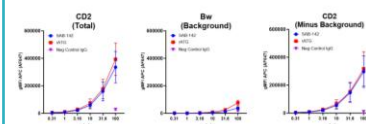
- Human T-cell surface proteins, such as CD2, were expressed in a mouse T-cell line.
- The expression was confirmed by flow cytometry analysis.

2.) Directly label antibodies, incubate with Bw-CD2 cells and analyze by flow cytometry



- To allow for a direct comparison of SAB-142 and rATG staining, they were each labeled with AlexaFluor 647 and confirmed to be equivalently labeled.
- The Bw-CD2 and the parental Bw cell lines were then incubated with either SAB-142, rATG, or a negative control IgG and analyzed by flow cytometry.

3.) Subtract background from total gMFI to report results



- The results are reported as geometric mean fluorescence intensity after subtracting the background from the parental Bw cell line.

Results

SAB-142 binds to T-cell surface proteins equivalent to rATG

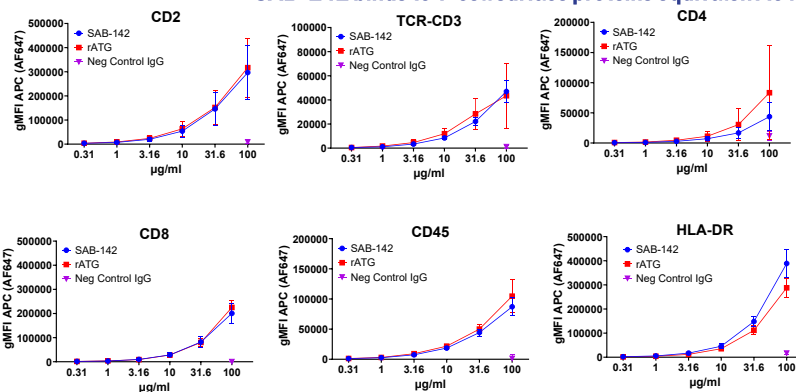


Figure 1. SAB-142 and rATG binding to CD3, CD4, CD8, CD2, CD45 and HLA-DR. Directly labeled SAB-142, rATG or negative control IgG was incubated with Bw cells expressing the indicated T-cell surface protein. The cells were analyzed by flow cytometry and data shown is the geometric mean fluorescent intensity with the background from the parental Bw cells subtracted. Results shown are from 3 independent experiments completed in duplicate. Error bars show SEM, N=6. The Y axis has been adjusted to optimize comparison between SAB-142 and rATG, not between T-cell surface proteins.

Conclusions

Summary

Comparison of SAB-142 and rATG binding to T-cell surface proteins.

- ✓ Multiple clinical studies have shown that rATG has efficacy at preserving C-peptide and improving glycemic control.
- ✓ SAB-142, a fully human ATG, has a similar multi-specific binding profile to T-cell surface proteins as rATG.
- ✓ Phase 1 data has shown SAB-142 to have a mechanism of action comparable to rATG, but with improved safety and potential for repeat dosing.
- ✓ Phase 2 Clinical Trial SAFEGUARD is ongoing in the U.S., Australia, New Zealand, UK, and 11 EU countries