INTRODUCTION

The immune system is critical for tumor eradication. T-cell rejection of tumors is associated with higher overall survival rates. To tackle this challenge, we aimed to develop an anti-TIGIT agent to improve T-cell function and antitumor activity.

We used 313R12 (a murine IgG2a monoclonal antibody against TIGIT) to inhibit TIGIT expression in tumor and immune cells in mouse models.

MATERIALS AND METHODS

313R12 is a murine IgG2a (FcγRIIIb) monoclonal antibody recognizing TIGIT. The efficacy of 313R12 was evaluated in vivo using murine tumor models.

RESULTS

Anti-TIGIT treatment shows anti-tumor efficacy in CT26.WT colon model

Anti-TIGIT decreases T reg frequency in the tumor

Anti-TIGIT induces CD262 and cytokine expression in T reg cells, T cells and NK cells

CONCLUSIONS

By using a surrogate anti-TIGIT antibody, potent single agent dose-dependent antitumor efficacy was demonstrated in large established CT26.WT tumors.

• Biomarker analysis demonstrated reduction of Tregs and activation of Tcells:and NK cells as part of the mechanism of action of anti-TIGIT.

• Tregs in the tumor decreased starting at 24 hours and the reduction was sustained at 7 and 14 days.

• Markers of immune cell activation and exhaustion such as intracellular cytokines and LAG3 were increased, suggesting a more cytokine-mediated expansion of anti-TIGIT treated.