Overview

Synonyms	Tumor necrosis factor receptor superfamily member 18, TNFRSF18, Glucocorticoid-induced TNFR-related protein, CD357, TNFRSF18, AITR, GITR
Description	GITR (glucocorticoid-induced tumor necrosis factor receptor), also known as AITR and TNFRSF18, is a 40 kDa transmembrane glycoprotein that functions in immune regulation. Mature human GITR consists of a 137 amino acid extracellular domain (ECD) with three tandem TNFR cysteine-rich repeats, a 21 aa transmembrane segment, and a 58 aa cytoplasmic domain. Within the ECD, human GITR shares 55% and 60% aa sequence identity with mouse and rat GITR, respectively. Alternative splicing generates an isoform with a short deletion in the cytoplasmic domain and a potentially secreted isoform that is substituted within the third TNFR repeat and lacks the transmembrane and cytoplasmic regions. GITR is expressed on CD4+CD25+ regulatory T cells (Treg) as well as on subsets of thymocytes, lymph node cells, and splenocytes, and it is upregulated on antigen-activated conventional CD4+ and CD8+ T cells. GITR binding by GITR Ligand/TNFSF18 costimulates the proliferation and activation of CD4+ or CD8+ conventional T cells. It also induces the proliferation of Treg but inhibits the ability of Treg to suppress immune responses. This can result in the development of autoimmunity, increased tumor cell killing by effector T cells, and increased inflammation in arthritis, allergic asthma, and inflammatory bowel disease. GITR is also expressed on sympathetic neurons where it enhances NGF-induced neurite outgrowth and branching. Recombinant Human GITR Fc Chimera produced in HEK293 cells is a polypeptide chain containing 369 amino acids with the C-termimal human IgG1 Fc fragment. A fully biologically active molecule, rhGITR has a molecular mass of 50 kDa analyzed by reducing SDS-PAGE and is obtained by chromatographic techniques.
Source	HEK293
Biological Activity	Immobilized GITR Fc Chimera, Human at 5 μg/mL (100 μL/well) can bind Biotin-GITR Ligand Fc Chiemra, Human (Z03446) with a linear range of 48-390 ng/mL when detected by Streptavidin-HRP. Background was subtracted from data points before curve fitting.
Sequence	Gln^{26}-Glu^{161}(Accession #: Q9Y5U5-1), expressed with a C-terminal human IgG1 Fc fragment QRPTGGPG CGPGRLLL GTGTDARC CRVHTTRC CRDYPGEE CCSEWDCM CVQPEFHC GDPCCTTC RHHPCPPG QGVQSQGK FSFGFQCI DCASGTFS GGHEGHCK PWTDCTQF GFLTVFPG NKTHNAVC VPGSPPAE

Properties

Molecular Weight	50 kDa, observed by reducing SDS-PAGE.
Purity	> 95% as analyzed by reducing SDS-PAGE.
Formulation	Lyophilized from a 0.2 μm filtered solution in PBS, 5% trehalose and mannitol.
Reconstitution	Reconstituted in ddH2O or PBS at 100 μg/ml.
Endotoxin Level	< 0.1 EU/μg, determined by LAL method.
Usage	Lyophilized recombinant **GITR Fc Chimera, Human** remains stable up to 6 months at lower than -70°C from date of receipt. Upon reconstitution, Human GITR Fc Chimera should be stable up to 1 week at 4°C or up to 3 months at -20°C. For long term storage it is recommended that a carrier protein (example 0.1% BSA) be added. Avoid repeated freeze-thaw cycles.

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