

DESCRIPTION	
Species Reactivity	Human
Specificity	Detects human GITR Ligand/TNFSF18 in direct ELISAs.
Source	Monoclonal Mouse IgG ₁ Clone # 109101
Purification	Protein A or G purified from ascites
Immunogen	<i>S. frugiperda</i> insect ovarian cell line Sf 21-derived recombinant human GITR Ligand/TNFSF18 Glu52-Ser177 Accession # Q9UNG2
Endotoxin Level	<0.10 EU per 1 µg of the antibody by the LAL method.
Formulation	Lyophilized from a 0.2 µm filtered solution in PBS with Trehalose. See Certificate of Analysis for details. *Small pack size (-SP) is supplied either lyophilized or as a 0.2 µm filtered solution in PBS.

APPLICATIONS

Please Note: Optimal dilutions should be determined by each laboratory for each application. *General Protocols* are available in the *Technical Information* section on our website.

	Recommended Concentration	Sample
Flow Cytometry	2.5 µg/10 ⁶ cells	HUVEC human umbilical vein endothelial cells
CyTOF-ready	Ready to be labeled using established conjugation methods. No BSA or other carrier proteins that could interfere with conjugation.	
Blockade of Receptor-ligand Interaction	In a functional ELISA, 0.02-0.06 µg/mL of this antibody will block 50% of the binding of 10 ng/mL of biotinylated Recombinant Human GITR Ligand/TNFSF18 to immobilized Recombinant Human GITR/TNFRSF18 Fc Chimera (Catalog # 689-GR) coated at 2 µg/mL (100 µL/well). At 0.3 µg/mL, this antibody will block >90% of the binding.	

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 0.5 mg/mL in sterile PBS.
Shipping	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below. *Small pack size (-SP) is shipped with polar packs. Upon receipt, store it immediately at -20 to -70 °C
Stability & Storage	Use a manual defrost freezer and avoid repeated freeze-thaw cycles. <ul style="list-style-type: none"> ● 12 months from date of receipt, -20 to -70 °C as supplied. ● 1 month, 2 to 8 °C under sterile conditions after reconstitution. ● 6 months, -20 to -70 °C under sterile conditions after reconstitution.

BACKGROUND

GITR (glucocorticoid-induced TNF receptor superfamily-related protein, also named AITR, activation-inducible TNF receptor superfamily-related protein) and GITR ligand (GITRL) are novel members of the TNF receptor (TNFR) and TNF superfamilies (SF) that have been designated TNFRSF18 and TNFSF18, respectively. Human GITRL cDNA encodes a 177 amino acid residues type II membrane protein. The carboxy-terminal extracellular domain shows sequence identity to TNF/TNFSF2 (21%), Fas ligand/TNFSF6 (21%), TRAIL/TNFSF10 (18%), and lymphotoxin α/TNFSF1 (18%). GITRL is constitutively expressed in human umbilical vein endothelial cells but is not expressed in resting or stimulated T cell lines, B cell lines or peripheral blood mononuclear cells. GITR, the receptor for GITRL, is expressed at low levels in peripheral blood T cells, bone marrow, thymus, spleen and lymph nodes. In contrast to mouse GITR, expression of human GITR is not induced by treatment with dexamethasone, but is up-regulated by antigen-receptor stimulation or by treatment with soluble anti-CD3 plus anti-CD28 or PMA plus ionomycin. Ligation of GITR has been found to induce nuclear factor (NF)-κB activation via TNF receptor-associated factor 2 and protect cells from TCR activation-induced cell death. It has been proposed that GITRL and GITR may modulate T lymphocyte functions in peripheral tissues.

References:

1. Nocentini, G. *et al.* (1997) Proc. Natl. Acad. Sci. USA **94**:6216.
2. Kwon, B. *et al.* (1999) J. Biol. Chem. **274**:6056.
3. Gurney, A.L. *et al.* (1999) Current Biology **9**:215.
4. Kwon, B. *et al.* (1999) Current Opinion in Immunology **11**:340.