

Human GITR/TNFRSF18 Antibody

Monoclonal Mouse IgG₁ Clone # 110416 Catalog Number: MAB689

DESCRIPTION			
Species Reactivity	Human		
Specificity	Detects human GITR in direct ELISAs and Western blots. Does not cross-react with recombinant human (rh) 4-1BB, recombinant mouse (rm) 4-1BB, rhCD27, rmCD27, rhCD30, rmCD30, rhCD40, rmCD40, rhDR3, rhDR6, rhEDAR, rmEDAR, rhFas, rmFAS, rmGITR, rhHVEM, rhLymphotoxin Rβ, rmLymphotoxin Rβ, rhNGF R, rhOPG, rmOPG, rhRANK, rmRANK, rhTAJ, rhTNF RI, rmTNF RI, rhTNF RII, or rmTNF RII.		
Source	Monoclonal Mouse IgG ₁ Clone # 110416		
Purification	Protein A or G purified from hybridoma culture supernatant		
Immunogen	Mouse myeloma cell line NS0-derived recombinant human GITR/TNFRSF18 Gln26-Glu161 (Thr43Ala) Accession # Q9Y5U5		
Endotoxin Level	<0.10 EU per 1 µg of the antibody by the LAL method.		
Formulation	tion 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				
Western Blot	1 μg/mL	Recombinant Human GITR/TNFRSF18 Fc Chimera (Catalog # 689-GR) under non-reducing conditions only				
Flow Cytometry	2.5 µg/10 ⁶ cells	- Human peripheral blood CD4 ⁺ T cells treated with PHA				
		- RPMI8226 cells				
Human GITR/TNFRSF18 Sandwich Immunoassay		Reagent				
ELISA Capture	2-8 µg/mL	Human GITR/TNFRSF18 Antibody (Catalog # MAB689)				
ELISA Detection	0.1-0.4 µg/mL	Human GITR/TNFRSF18 Biotinylated Antibody (Catalog # BAF689)				
Standard		Recombinant Human GITR/TNFRSF18 Fc Chimera (Catalog # 689-GR)				
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, 1-2 µg/mL of this antibody will block 50% of the binding of 10 ng/mL of Recombinant Human GITR Ligand/TNFSF18 (Catalog # 694-GL) to immobilized Recombinant Human GITR/TNFRSF18 Fc Chimera (Catalog # 689-GR) coated at 2 µg/mL (100 µL/well). At 5 µg/mL, this antibody will block >90% of the binding.					

DATA



Detection of GITR/TNFRSF18 in RPMI8226 (positive cells) vs. Jurkat (negative cells) by Flow Cytometry RPMI8226 cells (filled histogram) vs. Jurkat cells (open histogram) were stained with Mouse Anti-Human GITR/TNFRSF18 Monoclonal Antibody (Catalog # MAB689) followed by Phycoerythrinconjugated Anti-Mouse IgG Secondary Antibody (Catalog # F0102B). View our protocol for Staining Membrane-associated Proteins.

Reconstitution	Reconstitute at 0.5 mg/mL in sterile PBS. For liquid material, refer to CoA for concentration.			
Shipping	Lyophilized product is shipped at ambient temperature. Liquid small pack size (-SP) is shipped with polar packs. Upon receipt, stor immediately at the temperature recommended below.			
Stability & Storage	Use a manual defrost freezer and avoid repeated freeze-thaw cycles.			
	 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. 			

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BACKGROUND

GITR (glucocorticoid-induced tumor necrosis factor receptor, also named AITR, activation-inducible TNF R family member), is a 228 amino acid (aa) type I transmembrane protein belonging to the TNF R family and has been designated TNFRSF18. The GITR cytoplasmic domain has striking homology with the cytoplasmic domain of 4-1BB and CD27. Human GITR shares 55% homology with murine GITR. GITR 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 stimulation or by treatment with anti-CD3 plus anti-CD28, or PMA plus ionomycin. Human GITR ligand was identified from human umbilical vein endothelial cells and is a 177 aa polypeptide belonging to the TNF superfamily (TNFSF18). Ligation of GITR can activate NF-kB through TRAF2, and protect T cells from TCR activation-induced cell death. It has been proposed that GITR ligand and GITR may modulate T lymphocyte functions.

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.