Mouse GITR/TNFRSF18 Antibody

Monoclonal Rat IgG_1 Clone # 108626

Catalog Number: MAB524

DESCRIPTION

Species Reactivity	Mouse
Specificity	Detects mouse GITR/TNFRSF18 in ELISAs and Western blots. In direct ELISAs, no cross-reactivity with recombinant human (rh) 4-1BB, recombinant mouse (rm) 4-1 BB, rhCD27, rmCD27, rhCD30, rmCD30, rhCD40, rmCD40, rhDR3, rhDR6,rhEDAR, rmEDAR, rhFas, rmFas, rhGITR, rhHVEM, rhLTβR, rmLTβR, rhNGF R, rhOPG, rmOPG, rhRANK, rmRANK, rhTROY, rmTROY, rhTNF R1, rmTNF R1, rhTNF R2, or rmTNF R2 is observed.
Source	Monoclonal Rat IgG_1 Clone # 108626
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	Mouse myeloma cell line NS0-derived recombinant mouse GITR/TNFRSF18 Gln20-His153 (predicted) Accession # O35714
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
Western Blot	1 µg/mL	Recombinant Mouse GITR/TNFRSF18 Fc Chimera (Catalog # 524-GR)
Mouse GITR/TNFRSF18 Sandwich Immunoassay		**Reagent**
ELISA Capture	2-8 µg/mL	Mouse GITR/TNFRSF18 Antibody (Catalog # MAB524)
ELISA Detection	0.1-0.4 µg/mL	Mouse GITR/TNFRSF18 Biotinylated Antibody (Catalog # BAF524)
Standard		Recombinant Mouse GITR/TNFRSF18 Fc Chimera (Catalog # 524-GR)

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.** ● 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 tumor necrosis factor receptor; also named AITR) is a member of the co-stimulatory subset of the TNF receptor superfamily (1, 2). In mouse, the GITR gene is composed of five exons and encodes multiple length isoforms that arise from alternate splicing. The “standard”, or first reported isoform is a type I transmembrane protein, 228 amino acids (aa) in length that contains a 19 aa signal sequence, a 134 aa extracellular region, a 21 aa transmembrane segment, and a 54 aa cytoplasmic domain. The extracellular region contains four potential N-linked glycosylation sites plus three cysteine-rich pseudorepeats of about 40 aa each (3, 4). The extracellular regions of mouse and human are 57% aa identical. The cytoplasmic domain has a P-x-Q/E-E motif that is known to associate with TRAF2. This is a common characteristic of TNFRSF members with co-stimulatory functions (4). Three other mouse GITR isoforms (B, C and D) have been reported (5). All share the same N-terminal 101 of 134 aa in the extracellular region (including pseudorepeats #1, #2 and one-half of #3). Isoform D diverges at aa 101 and continues for another 12 aa for a total length of 113 aa. This is a naturally-occurring soluble form. Isoforms B and C show splicing in their cytoplasmic tails that creates cytoplasmic domains of 118 aa and 46 aa, respectively. In both the B and C isoforms, the TRAF2 binding site is spliced out, with a $p56^{lck}$ binding site inserted in isoform B (4). Given its membership in the TNFRSF, it likely functions as a trimer on the cell surface (2). GITR is predominantly expressed on $CD4^+CD25^+$ regulatory T cells (Treg) and naïve $CD8^+$ and $CD4^+$ $CD25^-$ T cells, where its expression is up-regulated after antigen-driven activation. GITR activation provides co-stimulatory signals for activated $CD4^+$ CD25- T cells to enhance cell proliferation and augment cytokine production (IL-2, IL-4, IFN-γ). On $CD4^+$ $CD25^+$ Treg cells, GITR activation provides co-stimulatory signals to induce proliferation, setting Treg cells in an active/hyperproliferactive state (6-8).

References:

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4. Nocentini, G. *et al.* (2000) DNA Cell Biol. **19**:205.
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