GITR Protein, Mouse (HEK293, His)

Cat. No.:	HY-P75164
Synonyms:	Tumor necrosis factor receptor superfamily member 18; CD357; TNFRSF18; AITR; GITR
Species:	Mouse
Source:	HEK293
Accession:	O35714/NP_033426.1 (S22-Q150)
Gene ID:	21936
Molecular Weight:	Approximately 28-33 kDa due to the glycosylation

PROPERTIES

AA Sequence	S V V E E P G C G P G K V Q N G S G N N T R C C S L Y A P G K E D C P K E R C I C V T P E Y H C G D P Q C K I C K H Y P C Q P G Q R V E S Q G D I V F G F R C V A C A M G T F S A G R D G H C R L W T N C S Q F G F L T M F P G N K T H N A V C I P E P L P T E Q
Biological Activity	Measured by its binding ability in a functional ELISA. Immobilized Mouse GITR at 2 μg/mL (100 μL/well) can bind Biotinylated Human GITR Ligand. The ED_{50} for this effect is 16.44 ng/mL.
Appearance	Lyophilized powder.
Formulation	Lyophilized from a 0.2 μm filtered solution of PBS, pH 7.4.
Endotoxin Level	<1 EU/μg, determined by LAL method.
Reconsititution	It is not recommended to reconstitute to a concentration less than 100 μg/mL in ddH_2O. For long term storage it is recommended to add a carrier protein (0.1% BSA, 5% HSA, 10% FBS or 5% Trehalose).
Storage & Stability	Stored at -20°C for 2 years. After reconstitution, it is stable at 4°C for 1 week or -20°C for longer (with carrier protein). It is recommended to freeze aliquots at -20°C or -80°C for extended storage.
Shipping	Room temperature in continental US; may vary elsewhere.

DESCRIPTION

Background	GITR is expressed on regulatory T cells (Tregs) and some activated immune cells, including effector T lymphocytes, nature killer (NK) cells, and neutrophils[1]. The amino acid sequence of human GITR protein has low homology for mouse GITR protein. GITR does not have any enzymatic activity and signaling is propagated via recruiting TRAF-family members, specifically TRAF1, TRAF2 and TRAF5, to the GITR-signaling complex. The signaling is then mediated through NF-kB and MAPK

pathways. GITR does not have any enzymatic activity and signaling is propagated via recruiting TRAF-family members, specifically TRAF1, TRAF2 and TRAF5, to the GITR-signaling complex. The signaling is then mediated through NF-kB and MAPK pathways, protecting T cells from TCR activation-induced cell death[2].
GITR (Glucocorticoid-induced TNFR-related protein, also known as TNFRSF18) is a type I transmembrane protein. GITR stimulates the proliferation of effector T-lymphocytes and partially reverses the immunosuppressive function of CD4+CD25+ Tregs[1]. GITR is activated by its ligand GITRL (TNFSF18). GITR induces NOS in murine macrophage in a time and dose-dependent manner[3]. GITR inhibits Multiple Myeloma (MM) cell proliferation in vitro and in vivo and induces apoptosis[4].

REFERENCES

[1]. Tian J, et al. The Role of GITR/GITRL Interaction in Autoimmune Diseases. Front Immunol. 2020 Oct 9;11:588682.

[2]. Krausz LT, et al. GITR-GITRL system, a novel player in shock and inflammation. ScientificWorldJournal. 2007 May 1;7:533-66.

[3]. Shin HH, et al. Recombinant glucocorticoid induced tumor necrosis factor receptor (rGITR) induces NOS in murine macrophage. FEBS Lett. 2002 Mar 13;514(2-3):275-80.

[4]. Liu Y, et al. Novel tumor suppressor function of glucocorticoid-induced TNF receptor GITR in multiple myeloma. PLoS One. 2013 Jun 13;8(6):e66982.

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