



Recombinant Human GITR/TNFRSF18 Fc

20191029DS



FOR RESEARCH ONLY! NOT FOR HUMAN USE!

Cat.-no.:	SFC-001S
Size:	20 µg
Lot. No.:	According to product label

Scientific Background

Gene-ID (NCBI):	8784
Synonyms:	Tumor necrosis factor receptor superfamily member 18, Activation-inducible TNFR family receptor, Glucocorticoidinduced TNFR-related protein

GITR, also known as tumor necrosis factor receptor superfamily 18 (TNFRSF18), is a member of the receptor family bearing the same name that is expressed on the surfaces of cells involved in both adaptive and innate immunity, including CD4+ T cells, CD8+ T cells, natural killer cells, B cells, macrophages, and dendritic cells. Like all other TNFRSF members, GITR regulates the duration, phenotype, and degree by which the immune system responds to antigens. The National Cancer Institute regards GITR as the 12th most important molecule involved in immunotherapy, as it plays a major role in modulating both inflammatory and immune responses. The receptor has attracted the attention of immunologists for its potential as a costimulatory immune checkpoint molecule in immunotherapy. Expressed in peripheral tissues as well as endothelial cells, GITR inhibits T cell receptor-induced apoptosis via its cross-linking mechanism, thereby creating an environment that promotes T cell longevity and survival. To accomplish this task, GITR initiates signal transduction by activating nuclear factor κB (NF-κB) along with the following specific mitogen-activated protein kinase (MAPK) pathways: extracellular signal-related kinases (ERKs), c-Jun N-terminal kinase (JNK), and p38. Several bone disorders, such as familial expansive osteolysis, autosomal recessive osteopetrosis and Paget's disease, have been attributed to GITR mutations due to its key role in regulating osteoclast and lymph node development. The CHO cell-derived Recombinant Human GITR/TNFRSF18 Fc is a glycosylated, disulfide-linked homodimer of 738 amino-acid-residues whose monomer consists of a 136-amino-acid extracellular domain fused to the 231-amino-acid length Fc portion of human IgG by two glycine residues. The calculated molecular weight of monomeric CHO cell-derived Recombinant Human GITR/TNFRSF18 Fc is 40.6 kDa; however, due to glycosylation, it migrates at an apparent molecular weight of approximately 45-50 kDa by SDS-PAGE analysis under reducing conditions.

Sequence

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QRPTGGPGCG  PGRLLLTGT  DARCCRVHTT  RCCRDYPGEE
CCSEWDQMCV  QPEFHCGDPC  CTTCRHHPCP  PGQGVQSQGK
FSFGFQCIDC  ASGTFSGGHE  GHCKPWTDC  QFGFLTVFPG
NKTHNAVCPV  GSPPAEGGPK  SCDKTHTCPP  CPAPELLGGP
SVFLFPPKPK  DTLMISRTP  VTCVVVDVSH  EDPEVKFNWY
VDGVEVHNAK  TKPREEQYNS  TYRVVSVLTV  LHQDWLNGKE
YKCKVSNKAL  PAPIEKTISK  AKGQPREPQV  YTLPPSRDEL
TKNQVSLTCL  VKGFYPSDIA  VEWESNGQPE  NNYKTTTPVL
DSDGSFFLYS  KLTVDKSRWQ  QGNVFCFSVM  HEALHNHYTQ
KSLSLSPGK

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Database References

Protein RefSeq:	NP_004186.1
Uniprot ID:	Q9Y5U5
mRNA RefSeq:	NM_004195.2

Product Specifications

Expressed in	CHO cells
Purity	≥ 95% by SDS-PAGE gel and HPLC analyses.
Endotoxin level	< 0.1 ng/µg of protein (<1EU/µg)
Formulation	lyophilized
Label	Fc-Tag
Length (aa):	369
MW:	40.6 kDa calculated



AVOID REPEATED FREEZE AND THAW CYCLES!

Biological Activity: Determined by its ability to bind recombinant human GITR Ligand/TNFRSF18 in a functional ELISA.