GITR/Fc CHIMERA
Human, Recombinant
Expressed in mouse NSO cells

Product Number G 1667

Synonyms: TNFRSF18, Glucocorticoid-induced tumor necrosis factor receptor, AITR, activation-inducible TNFR family member

Product Description
Recombinant human GITR/Fc chimera consists of amino acid residues 1-16 encoding the signal peptide from human CD33 joined to the extracellular domain (aa 26-161) of human GITR and fused by means of a polypeptide linker (IEGRMD) to the Fc portion of human IgG1. The chimeric protein is expressed in a mouse myeloma cell line, NSO. Recombinant GITR is a disulfide-linked homodimer. The calculated molecular mass of the reduced monomer is approximately 41 kDa, but as a result of glycosylation, the recombinant GITR/Fc chimera migrates as an approximately 50 kDa protein on reducing SDS-PAGE.

GITR, a member of the TNF receptor family, is a type I transmembrane protein and has been designated TNFRSF18. This receptor is typically expressed at low levels in several tissues including bone marrow, thymus, spleen, lymph nodes and peripheral blood T cells, but is preferentially expressed in activated T cells.

The GITR ligand (GITRL) is a 177 amino acid type II membrane protein belonging to the TNF super family (TNFSF18). The C-terminal extracellular domain displays a 21% sequence identity to TNF/TNFSF2, a 21% sequence identity to Fas ligand/TNFSF6, an 18% sequence identity to TRAIL/TNFSF10 and an 18% sequence homology to lymphotoxin a/TNFSF1. The GITR ligand is constitutively expressed in HUVECs but not expressed in resting or stimulated B and T cells or peripheral blood mononuclear cells (PBMC).

GITR seems to be involved in interactions between activated T lymphocytes and endothelial cells and in the regulation of T cell receptor (TCR)-mediated cell death. Evidence suggests that GITR is an inhibitor of apoptosis. It mediates NF-κB activation via the TRAF2/NIK pathway, protecting T cells from TCR activation-induced cell death.

Human GITR shares a 55% homology with mouse GITR.

Reagent
Recombinant human GITR/Fc chimera is supplied as approximately 100 µg of protein lyophilized from a sterile filtered phosphate-buffered saline (PBS) solution.

Precautions and Disclaimer
This product is for laboratory use only. Please consult the Material Data Safety Sheet for information regarding hazards and safe handling practices.

Preparation Instructions
Reconstitute the vial contents with sterile PBS containing at least 0.01% human or bovine serum albumin. Stock solutions should be at least 50 µg/ml.

Storage/Stability
Lyophilized samples are stable for at least six months at –20 °C. Upon reconstitution, store at 2 to 4 °C for up to one month. For extended storage, store in working aliquots at –20 °C. Repeated freeze-thaw cycles should be avoided. Do not store in a frost-free freezer.

Product Profile
GITR/Fc activity is measured by its ability to bind GITR ligand Fc in a functional ELISA assay. Immobilized recombinant human GITR/Fc (2 µg/ml, 100 µl/well) binds recombinant human GITR ligand with a linear range of 0.3 to 20 ng/ml. Optimal dilutions should be determined by each laboratory for each application.

Purity: >90% by SDS-PAGE, visualized by silver stain. Endotoxin level: < 0.1 ng/µg of protein as determined by the LAL (Limulus amebocyte lysate) method.

References


LCM 12/01