Human TREM2 Protein, Mouse IgG2a Fc Tag

Catalog # TR2-H5256

Synonym

Triggering receptor expressed on myeloid cells 2,TREM2,TREM-2

Source

Human TREM2, Mouse IgG2a Fc Tag(TR2-H5256) is expressed from human 293 cells (HEK293). It contains AA His 19 - Ser 174 (Accession # Q9NZC2-1). Predicted N-terminus: His 19

Molecular Characterization

TREM2(His 19 - Ser 174) Q9NZC2-1	mFc(Glu 98 - Lys 330) P01863

This protein carries a mouse IgG2a Fc tag at the C-terminus.

The protein has a calculated MW of 44.3 kDa. The protein migrates as 55-65 kDa under reducing (R) condition (SDS-PAGE) due to glycosylation.

Endotoxin

Less than 0.1 EU per μg by the LAL method / rFC method.

Purity

>90% as determined by SDS-PAGE.

Formulation

Lyophilized from 0.22 μm filtered solution in 50 mM Tris, 100 mM Glycine, 25 mM Arginine, 150 mM NaCl, pH7.5 with trehalose as protectant.

Contact us for customized product form or formulation.

Reconstitution

Please see Certificate of Analysis for specific instructions.

For best performance, we strongly recommend you to follow the reconstitution protocol provided in the CoA.

Storage

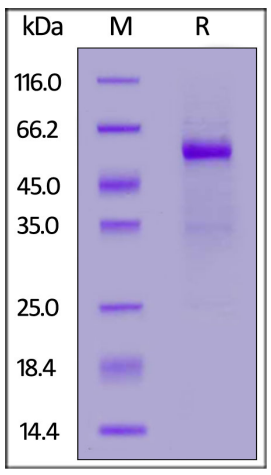
For long term storage, the product should be stored at lyophilized state at -20°C or lower.

Please avoid repeated freeze-thaw cycles.

This product is stable after storage at:

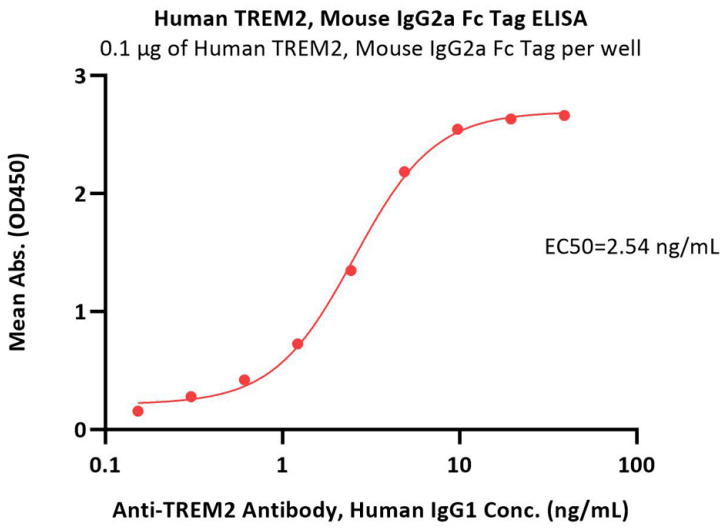
- -20°C to -70°C for 12 months in lyophilized state;
- -70°C for 3 months under sterile conditions after reconstitution.

SDS-PAGE



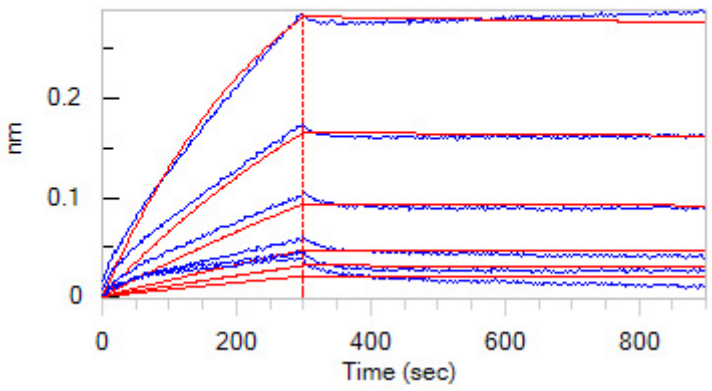
Human TREM2, Mouse IgG2a Fc Tag on SDS-PAGE under reducing (R) condition. The gel was stained with Coomassie Blue. The purity of the protein is greater than 90%.

Bioactivity-ELISA

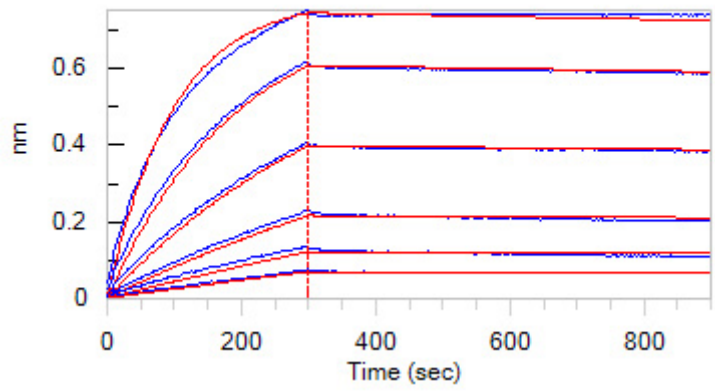


Immobilized Human TREM2, Mouse IgG2a Fc Tag (Cat. No. TR2-H5256) at 1 μg/mL (100 μL/well) can bind Anti-TREM2 Antibody, Human IgG1 with a linear range of 0.2-5 ng/mL (QC tested).

Bioactivity-BLI



Loaded Human TREM2, Mouse IgG2a Fc Tag (Cat. No. TR2-H5256) on Protein A Biosensor, can bind Human APOE3, His Tag (Cat. No. APE-H5246) with an affinity constant of 9.53 nM as determined in BLI assay (ForteBio Octet Red96e) (Routinely tested).



Loaded Human TREM2, Mouse IgG2a Fc Tag (Cat. No. TR2-H5256) on Protein A Biosensor, can bind Human APOE2 (R154S), His Tag (Cat. No. APE-H5256) with an affinity constant of 4.48 nM as determined in BLI assay (ForteBio Octet Red96e) (Routinely tested).

Background

Triggering receptor expressed on myeloid cells 2 (TREM2) is a cell surface receptor of the immunoglobulin superfamily. The TREM2 is found in various tissue macrophages, such as CNS microglia, bone osteoclasts, alveolar, peritoneal and intestinal macrophages. TREM2 is also present on cultured bone marrow-derived macrophages and monocyte-derived dendritic cells. Some research have identified a rare variant of TREM2 that is a risk factor for Alzheimer disease (AD), which is the most common form of late-onset dementia.The extracellular region of TREM2 contains a single immunoglobulin superfamily domain and binds polyanionic ligands, such as bacterial lipopolysaccharide (LPS) and phospholipids8. Upon ligand binding, TREM2 transmits intracellular signals through an adaptor, DAP12 (also known as TYRO protein tyrosine kinase-binding protein (TYROBP)), which is associated with the transmembrane region of TREM2 and which recruits the protein tyrosine kinase SYK through its cytosolic immunoreceptor tyrosine-based activation motifs (ITAMs). TREM2 is a pro-tumorigenic marker of tumor-infiltrating macrophages in mouse models and human tumors that can be targeted to curb tumor growth and improve the efficacy of checkpoint blockade therapy while remodeling the landscape of tumor-infiltrating macrophages.