

Recombinant Mouse TIGIT-Fc Chimera (carrier-free)

Catalog# / Size 771802 / 10 µg
771804 / 25 µg
771806 / 100 µg
771808 / 500 µg

Regulatory Status RUO

Other Names T-Cell Immunoreceptor with Ig and ITIM domains, T cell Ig, Immunoglobulin Domain-Containing Protein 9, V-Set, Transmembrane Domain-Containing Protein 3, WUCAM

Description TIGIT (T-cell immunoreceptor with Ig and ITIM domains precursor), containing an immunoglobulin variable domain, a transmembrane domain and an immunoreceptor tyrosine-based inhibitory motif. TIGIT is an inhibitory receptor expressed on the surface of natural killer (NK) cells. TIGIT recognizes nectin and nectin-like adhesion molecules and thus plays a critical role in the innate immune response to malignant transformation. TIGIT in conjunction CD226 forms a pathway that has prominent similarities to the costimulatory CD28/CTLA-4 pathway. CD226 and TIGIT bind the same set of ligands (CD155 and CD112) and CD226 is a positive regulator of T cell responses, while TIGIT inhibits them. Knockdown of TIGIT expression in human CD4⁺ T cells results in an increase of both T-bet and IFN γ mRNA and protein expression. These effects are overcome by blocking CD226 signaling indicating that TIGIT exerts immunosuppressive effects by competing with CD226 for the same ligand CD155. The binding of CD155 to TIGIT on human dendritic cells enhanced the production of interleukin 10 and diminished the production of interleukin 12p40. TIGIT shows inhibitory effect in cell-signaling pathway in murine models of experimental autoimmune encephalomyelitis (EAE). Loss of TIGIT expression in mice results in hyperproliferative T cell responses and increased susceptibility to EAE.

Product Details

Source Mouse TIGIT amino acids (Thr29-Gly148) (Accession # P86176) was expressed in 293E cells. The carboxy terminus contains a linker-Fc-6His tag.

Molecular Mass The 363 amino acid recombinant protein has a predicted molecular mass of approximately 40.7kD. The DTT-reduced and non-reduced protein migrate at approximately 50 kD and 100 kD by SDS-PAGE respectively. The predicted N-terminal amino acid is Thr.

Purity > 95% by SDS-PAGE gel as determined by Coomassie stained SDS-PAGE.

Formulation 0.22 µm filtered protein solution is in PBS pH 7.2.

Concentration 10-25 µg sizes are bottled at 200 µg/mL. 100 µg and larger sizes are bottled at the concentration indicated on the vial.

Storage & Handling Unopened vial can be stored between 2°C and 8°C for up to 2 weeks, at -20°C for up to six months, or at -70°C or colder until the expiration date. For maximum results, quick spin vial prior to opening. The protein can be aliquoted and stored at -20°C or colder. Stock solutions can also be prepared at 50 - 100 µg/mL in appropriate sterile buffer, carrier protein such as 0.2 - 1% BSA or HSA can be added when preparing the stock solution. Aliquots can be stored between 2°C and 8°C for up to one week and stored at -20°C or colder for up to 3 months. **Avoid repeated freeze/thaw cycles.**

Activity Mouse TIGIT was tested by functional ELISA. Immobilized mouse TIGIT at 0.25 µg/ml binds mouse CD155 in a dose dependent manner. The ED₅₀ is 5 - 25 ng/ml.

Application [Bioassay](#)

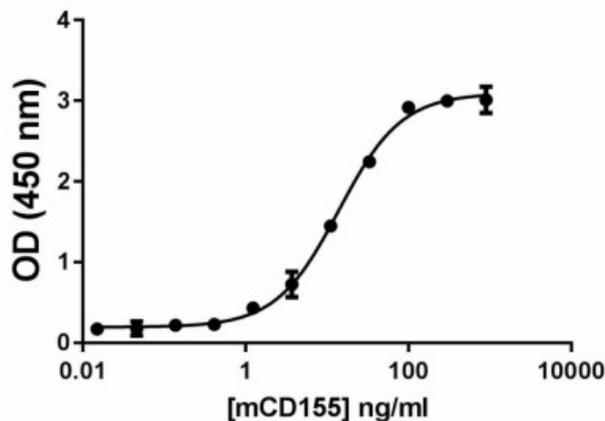
Application Notes BioLegend carrier-free recombinant proteins provided in liquid format are shipped on blue-ice. Our comparison testing data indicates that when handled and stored as recommended, the liquid format has equal or better stability and shelf-life compared to commercially available lyophilized proteins after reconstitution. Our liquid proteins are verified in-house to maintain activity after shipping on blue ice and are backed by our [100% satisfaction guarantee](#). If you have any concerns, contact us at tech@biolegend.com.

Antigen Details

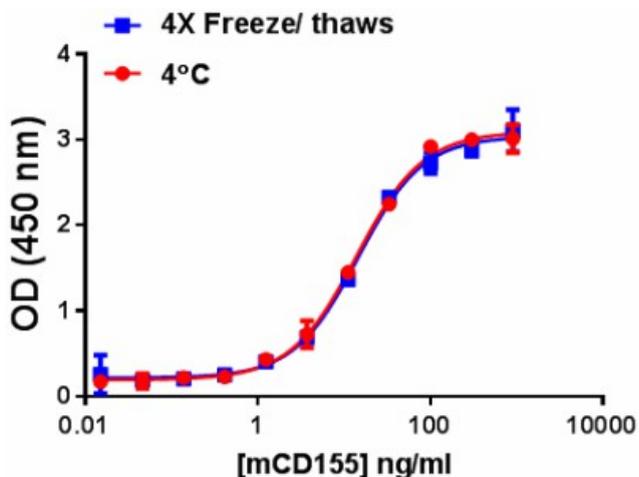
Structure	Homodimer
Distribution	Human follicular B helper T cells (TFH), regulatory, memory and activated T cells, NK cells.
Function	Immunosuppressive effects by binding CD155 and modulating cytokine production by DC. Inhibits NK cell cytotoxicity. Inhibits T cell functions by competing with CD226. Tregs TIGIT ⁺ cells suppress proinflammatory Th1 and Th17 cell, but not Th2 cell responses.
Interaction	Dendritic cells, monocytes.
Ligand/Receptor	Poliovirus receptor (PVR /CD155) and nectin-2 (PRR-2/CD112).
Biology Area	Cell Adhesion, Cell Biology, Immunology, Signal Transduction, Inhibitory Molecules
Molecular Family	Adhesion Molecules, Soluble Receptors, Immune Checkpoint Receptors
Antigen References	<ol style="list-style-type: none">1. Yu X, et al. Nat. Immunol. 2009. 10:48.2. Stanietsky N, et al. 2009. Proc. Natl. Acad. Sci. U S A. 106:17858.3. Joller N, et al. 2011. J. Immunol. 186:1338.4. Tahara-Hanaoka S, et al. 2004. Int. Immunol. 16:533.5. Lozano E, et Al. 2012. J. Immunol. 188:3869.6. Joller N, et al. 2014. Immunity. 40:569.7. Deuss FA, et al. 2017. J. Biol. Chem. 292:11413.

Gene ID [100043314](#)

Product Data



Immobilized mouse TIGIT at 0.25 µg/ml binds to recombinant mouse CD155 in a dose dependent manner. The ED₅₀ is 5 - 25ng/ml.



Stability testing for mouse TIGIT. Mouse TIGIT was aliquoted in PBS, pH 7.2 at 0.2 mg/ml. One aliquot was freeze and thawed four times (4x freeze/thaws), and compared to a control kept at 4°C (control). After that procedure, the samples were tested for their ability to bind recombinant mouse CD155.

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