

Recombinant Mouse TNFSF15 (carrier-free)

Catalog# / Size	753002 / 10 µg 753004 / 25 µg 753006 / 100 µg
Regulatory Status	RUO
Other Names	TNF ligand-related molecule 1 (TL1), TL1A, vascular endothelial cell growth inhibitor (VEGI)
Description	TNFSF15 is member 15 of the tumor necrosis factor (ligand) superfamily and also is a type II transmembrane protein. It is expressed as a membrane-bound protein and later released as a soluble protein via the ectodomain shedding by TNF- α converting enzyme (TACE). TNFSF15 exhibits approximately 20-30% homology to other TNFSF members. The functional receptor of TNFSF15 is the death receptor 3 (DR3). The engagement of this receptor on T cells by TNFSF15 expressed on dendritic cells (DCs) triggers a costimulatory signal in the T cells that induces IFN- γ production via NF- κ B. DR3 ⁺ tumor cell lines treated with soluble TNFSF15 in the presence of cycloheximide results in caspase-dependent apoptosis. The TNFSF15-DR3 interaction is inhibited by the DcR3 decoy receptor. DcR3 also binds to LIGHT (TNFSF14) and FasL (TNFSF6). TNFSF15 in conjunction with IL-12, IL-15, and IL-18 induces the expression of co-stimulatory molecules CD40L (CD154) and OX40 (CD134) on activated CD4 T cells. The co-stimulatory process is associated with the expression of IL-2R α (CD25) and α -chain of LFA-1 (CD11a) on CD4 T cells. Also, the costimulation with TNFSF15 induces IL-22 and GM-CSF. In addition, TNFSF15, in concert with IL-12, IL-15, and IL-18, induces the production of IL-6 and TNF- α from leukocytes of healthy donors. TNFSF15 has been associated with inflammatory bowel disease (IBD), and its expression correlates with the severity of intestinal inflammation and increased IFN- γ production in intestinal lamina propria. In addition, TNFSF15 (produced by lamina propria macrophages) induces Th1 and Th17 immune responses in cooperation with IL-23 in patients with Crohn's disease. TNFSF15 is also related to rheumatoid arthritis (RA), ankylosing spondylitis, and psoriasis.

Product Details

Source	Mouse TNFSF15, amino acids Met-(Ile76-Leu252) (Accession# NM_177371), was expressed in <i>E. coli</i> .
Molecular Mass	The 178 amino acid recombinant protein has a predicted molecular mass of approximately 20 kD. The protein migrates at approximately 20 kD in both DTT-reducing and non-reducing conditions by SDS-PAGE. The predicted N-terminal amino acid is Met.
Purity	>95%, as determined by Coomassie stained SDS-PAGE.
Formulation	0.22 µm filtered protein solution is in PBS, pH 7.2.
Endotoxin Level	Less than 0.01 ng per µg cytokine as determined by the LAL method.
Concentration	10 and 25 µg sizes are bottled at 200 µg/mL. 100 µg size and larger sizes are lot-specific and bottled at the concentration indicated on the vial. To obtain lot-specific concentration, please enter the lot number in our Concentration and Expiration Lookup or Certificate of Analysis online tools.
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	Recombinant mouse TNFSF15 induces apoptotic death in human erythroleukemia TF-1 cells. The effect was measured with Deep Blue Cell Viability™ Kit (Cat. No. 424701). The ED ₅₀ for this effect is 7 - 35 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.

Product Citations

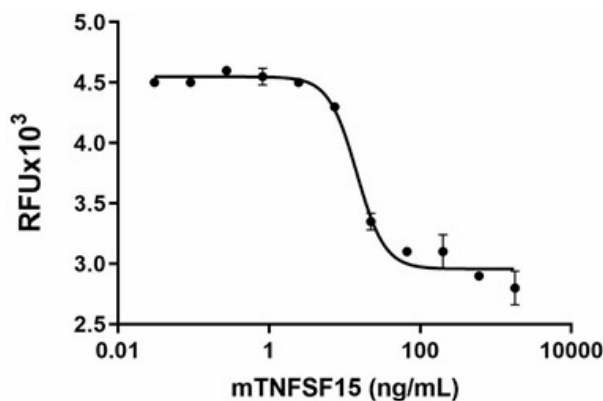
1. Malhotra N, *et al.* 2018. *Sci Immunol.* 3:. [PubMed](#)

Antigen Details

Structure	Homotrimer.
Distribution	Endothelial cells, endothelial progenitor cells, monocytes, monocyte-derived dendritic cells (DCs), synovial fibroblast-like cells, and CD4 and CD8 lymphocytes.
Function	TNFSF15 acts as a costimulatory signal inducing T cell proliferation and secretion of IFN- γ and GM-CSF. Its expression is induced by TNF- α , IL-1- α , and PMA.
Interaction	Activated T cells, natural killer (NK) cells, NKT cells, macrophages, and endothelial cells.
Ligand/Receptor	DR3 (TNFRSF25) and decoy receptor TR6/DcR3 (TNFRSF6B).
Biology Area	Immunology, Innate Immunity
Molecular Family	Cytokines/Chemokines
Antigen References	<ol style="list-style-type: none">1. Migone TS, <i>et al.</i> 2002. <i>Immunity</i> 16:479.2. Bamias G, <i>et al.</i> 2003. <i>J. Immunol.</i> 171:4868.3. Kamada N, <i>et al.</i> 2010. <i>Inflamm. Bowel Dis.</i> 16:568.4. Aiba Y, Nakamura M. 2013. <i>Mediators Inflamm.</i> 2013:258164.5. Reichwald K, <i>et al.</i> 2014. <i>PLoS One</i> 9(8):e105627.6. Reichwald K, <i>et al.</i> 2014. <i>PLoS One</i> 9(1):e85793.

Gene ID [326623](#)

Product Data



Recombinant mouse TNFSF15 induces apoptotic death in human erythroleukemia TF-1 cells. The effect was measured with Deep Blue Cell Viability™ Kit (Cat. No. 424701). ED₅₀

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