

TL1A/TNFSF15 Protein, Mouse (HEK293, Fc)

Cat. No.:	HY-P77939
Synonyms:	TL1A; VEGI-251; TNFSF15; TL1; VEGI; VEGI192A
Species:	Mouse
Source:	HEK293
Accession:	Q5UBV8 (A61-L252)
Gene ID:	326623
Molecular Weight:	55-65 kDa

PROPERTIES

AA Sequence	<pre> AGQLRVPGKD CMLRAITEER SEPSPQQVYS PPRGKPR AHL TIKKQTPAPH LKNQLSALHW EHDLGMAFTK NGMKYINKSL VIPESGDYFI YSQITFRGTT SVCGDISRGR RPNKPDSITV VITKVADSY P EPARLLTGSK SVCEISNNWF QSLYLGAMFS LEEGDRLMVN VSDISLVDYT KEDKTFFGAF LL </pre>
Biological Activity	Mouse TNFSF15, hFc Tag captured on CM5 Chip via Protein A can bind Mouse DR3, His Tag with an affinity constant of 4.56 nM as determined in SPR assay
Appearance	Lyophilized powder.
Formulation	Lyophilized from 0.22 µm filtered solution in PBS (pH 7.4). Normally 8% trehalose is added as protectant before lyophilization.
Endotoxin Level	<1 EU/µg, determined by LAL method.
Reconstitution	It is not recommended to reconstitute to a concentration less than 100 µg/mL in ddH ₂ O. For long term storage it is recommended to add a carrier protein (0.1% BSA, 5% HSA, 10% FBS or 5% Trehalose).
Storage & Stability	Stored at -20°C for 2 years. After reconstitution, it is stable at 4°C for 1 week or -20°C for longer (with carrier protein). It is recommended to freeze aliquots at -20°C or -80°C for extended storage.
Shipping	Room temperature in continental US; may vary elsewhere.

DESCRIPTION

Background	TL1A (Tumor necrosis factor-like cytokine 1A), also known as TNF ligand-related molecule 1 and vascular endothelial cell growth inhibitor (VEGI), is the receptor for TNFRSF25 and TNFRSF6B, acts as a regulator of mucosal immunity and participates in immunological pathways involved in the inflammatory bowel diseases (IBD) pathogenesis ^[1] . TL1A belongs to
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the tumor necrosis factor family, derived from endothelial cell. It is a ligand for DR3 and decoy receptor TR6/DcR3, the interaction with DR3 promotes T cell expansion during an immune response, whereas TR6 has an opposing effect. Moreover, DR3 is the death domain-containing receptor, that is upregulated during T cell activation. TL1A shows an inducible expression by TNF and IL-1alpha, and induces NF-kappaB activation and apoptosis in DR3-expressing cell lines. Meanwhile, TL1A acts as a costimulator that increases IL-2 responsiveness and secretion of proinflammatory cytokines^[2]. In addition, TL1A activates c-Jun N-terminal kinase. TL1A also activates caspase-3 leading to PARP cleavage, and inhibits the proliferation of breast carcinoma, epithelial, and myeloid tumor cells. TL1A promotes proliferation of normal human fibroblast cells. These results suggest that VEGI, a new member of the TNF family, has a signaling pathway similar to TNF and is most likely a multifunctional cytokine^[3]. Mouse TL1A protein has two glycosylated domains and one transmembrane domain (36-56 a.a.), and can be cleaved into membrane-type peptide fragments and soluble peptide fragments. The protein sequence of mouse is much different from rat and human with similarities of 85.32% and 68.42%, respectively.

REFERENCES

- [1]. Furfaro F, et al. TL1A: A New Potential Target in the Treatment of Inflammatory Bowel Disease. *Curr Drug Targets*. 2021;22(7):760-769.
- [2]. Migone TS, et al. TL1A is a TNF-like ligand for DR3 and TR6/DcR3 and functions as a T cell costimulator. *Immunity*. 2002 Mar;16(3):479-92.
- [3]. Haridas V, et al. VEGI, a new member of the TNF family activates nuclear factor-kappa B and c-Jun N-terminal kinase and modulates cell growth. *Oncogene*. 1999 Nov 11;18(47):6496-504.
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Caution: Product has not been fully validated for medical applications. For research use only.

Tel: 609-228-6898

Fax: 609-228-5909

E-mail: tech@MedChemExpress.com

Address: 1 Deer Park Dr, Suite Q, Monmouth Junction, NJ 08852, USA