

## TL1A/TNFSF15 Protein, Mouse

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| <b>Cat. No.:</b>         | HY-P72446   |
| <b>Synonyms:</b>         | Tumor Necrosis Factor Ligand Superfamily Member 15; TNF Ligand-Related Molecule 1; Vascular Endothelial Cell Growth Inhibitor; TNFSF15; TL1; VEGI |
| <b>Species:</b>          | Mouse   |
| <b>Source:</b>           | E. coli   |
| <b>Accession:</b>        | AAV33431.1 (I76-L252)   |
| <b>Gene ID:</b>          | 326623  |
| <b>Molecular Weight:</b> | 22 kDa  |

### PROPERTIES

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| <b>AA Sequence</b>             | <p>           I T E E R S E P S P    Q Q V Y S P P R G K    P R A H L T I K K Q    T P A P H L K N Q L<br/>           S A L H W E H D L G    M A F T K N G M K Y    I N K S L V I P E S    G D Y F I Y S Q I T<br/>           F R G T T S V C G D    I S R G R R P N K P    D S I T V V I T K V    A D S Y P E P A R L<br/>           L T G S K S V C E I    S N N W F Q S L Y L    G A M F S L E E G D    R L M V N V S D I S<br/>           L V D Y T K E D K T    F F G A F L L         </p> |
| <b>Appearance</b>              | Lyophilized powder.   |
| <b>Formulation</b>             | Lyophilized from a 0.2 µm filtered solution of 20 mM PB, 300 mM NaCl, pH 7.0.   |
| <b>Endotoxin Level</b>         | <1 EU/µg, determined by LAL method.   |
| <b>Reconstitution</b>          | It is not recommended to reconstitute to a concentration less than 100 µg/mL in ddH <sub>2</sub> O. For long term storage it is recommended to add a carrier protein (0.1% BSA, 5% HSA, 10% FBS or 5% Trehalose).   |
| <b>Storage &amp; Stability</b> | 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.  |
| <b>Shipping</b>                | Room temperature in continental US; may vary elsewhere.   |

### DESCRIPTION

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| <b>Background</b> | <p>           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<sup>[1]</sup>. TL1A belongs to 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,         </p> |
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TL1A acts as a costimulator that increases IL-2 responsiveness and secretion of proinflammatory cytokines<sup>[2]</sup>. 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<sup>[3]</sup>. 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.

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## REFERENCES

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- [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.**

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