Sterile

#11946

Human TL1A/TNFSF15 (hTL1A)

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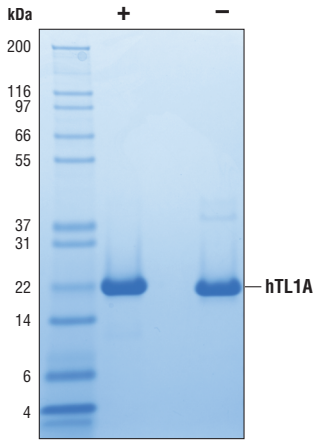
Source: Recombinant Human TL1A Leu72-Leu251 (Accession #NP_095150) was expressed in *E. coli* at Cell Signaling Technology.

Molecular Characterization: Recombinant hTL1A has a calculated MW of 20,473 Da. DTT-reduced protein migrates as a 21 kDa polypeptide. The nonreduced protein migrates as a 21 kDa monomer and 38 kDa cystine-linked homodimer. The expected amino terminus of recombinant hTL1A was verified by amino acid sequencing.

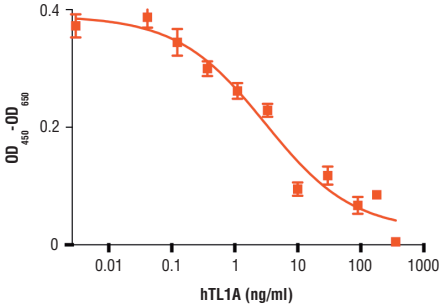
Endotoxin: Less than 0.01 ng endotoxin/1 µg hTL1A.

Purity: >95% as determined by SDS-PAGE of 6 µg reduced (+) and nonreduced (-) recombinant hTL1A. All lots are greater than 95% pure.



The purity of recombinant hTL1A was determined by SDS-PAGE of 6 µg reduced (+) and nonreduced (-) recombinant hTL1A and staining overnight with Coomassie Blue.

Bioactivity: The bioactivity of hTL1A was determined in a TF-1 cell viability assay. The ED_{50} of each lot is between 2-15 ng/ml.



The viability of TF-1 cells treated with increasing amounts of hTL1A in the presence of 10 µg/ml cyclohexamide was determined. After a 24 hr treatment with hTL1A, cells were incubated with tetrazolium salt and the OD_{450} - OD_{650} was determined.

Formulation: With carrier: Lyophilized from a 0.22 µm filtered solution of hTL1A in 20 mM Tris, pH 7.2 containing 20 µg BSA per 1 µg hTL1A.

Carrier free: Lyophilized from a 0.22 µm filtered solution of hTL1A in 20 mM Tris, pH 7.2.

Reconstitution:
With carrier: Add sterile 20 mM Tris, pH 7.2 or 20 mM Tris, pH 7.2 containing 1% bovine or human serum albumin or 5-10% FBS to a final hTL1A concentration of greater than 50 µg/ml. Solubilize for 30 minutes at room temperature with occasional gentle vortexing.

Carrier free: Add sterile 20 mM Tris, pH 7.2 or 20 mM Tris, pH 7.2 containing protein to minimize absorption of hTL1A to surfaces. Solubilize for 30 minutes at room temperature with occasional gentle vortexing. Stock hTL1A should be greater than 50 µg/ml.

Storage: Stable in lyophilized state at 4°C for 1 year after receipt. Sterile stock solutions reconstituted with carrier protein are stable at 4°C for 2 months and at -20°C for 6 months. Avoid repeated freeze-thaw cycles.

Maintain sterility. Storage at -20°C should be in a manual defrost freezer.

Applications: Optimal concentration for the desired application should be determined by the user.

Background: TL1A (TNFSF15), a member of the TNF superfamily of proteins, is a splice variant of the TL1/VEGI gene (1). Endothelial cells, monocytes, macrophages, and dendritic cells express TL1A, which is upregulated by proinflammatory cytokines, microorganisms, and AMPK activation (1-4). TL1A activates the NF-κB and JNK pathways through its receptor, DR3 (1,5). TL1A may function as a costimulatory signal for T cell activation, specifically regulating Th17 cell development and proliferation (1,2,6). Mouse models suggest a role for TL1A as a driver for the inflammation and pathogenesis associated with inflammatory bowel disease (7,8).

Background References:

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(3) Zhou, J. et al. (2011) *Oncogene* 30, 1892-900.
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