

## TRAIL/TNFSF10 Protein, Rhesus, Recombinant

### General Information

Synonyms:	tumor necrosis factor (ligand) superfamily, member 10
Protein Construction:	A DNA sequence encoding the rhesus TNFSF10 (NP_001252963.1) (Val114-Gly281) was expressed and purified with an initial Met. Predicted N terminal: Met
Species:	Rhesus
Expression Host:	E. coli
Accession:	F6S9W7
Molecular Weight:	19.6 kDa (predicted)

### QC Testing

Biological Activity:	Measured by its binding ability in a functional ELISA. Immobilized Rhesus TRAIL/TNFSF10 at 2 µg/ml (100 µl/well) can bind Rhesus DcR2/TRAIL R4 hFc, the EC50 of Rhesus DcR2/TRAIL R4 hFc is 3.5-18 ng/mL.
Purity:	> 95 % as determined by SDS-PAGE
Endotoxin:	Please contact us for more information.
Formulation:	Lyophilized from a solution filtered through a 0.22 µm filter, containing PBS. Typically, a mixture containing 5% to 8% trehalose, mannitol, and 0.01% Tween 80 is incorporated as a protective agent before lyophilization.

### Preparation and Storage

Reconstitution:	A Certificate of Analysis (CoA) containing reconstitution instructions is included with the products. Please refer to the CoA for detailed information.
Stability & Storage:	It is recommended to store recombinant proteins at -20°C to -80°C for future use. Lyophilized powders can be stably stored for over 12 months, while liquid products can be stored for 6-12 months at -80°C. For reconstituted protein solutions, the solution can be stored at -20°C to -80°C for at least 3 months. Please avoid multiple freeze-thaw cycles and store products in aliquots. <small>Actual storage temperature shall be subject to the COA.</small>
Shipping:	In general, lyophilized powders are shipped with blue ice, while solutions are shipped with dry ice.

### Protein Background

Tumor necrosis factor ligand superfamily member 10 (TNFSF10), also known as TNF-related apoptosis-inducing ligand (TRAIL), Apo-2 ligand, and CD253, is a cytokine that belongs to the tumor necrosis factor (TNF) ligand family. TNFSF10 / Apo-2L / CD253 functions as a ligand that induces the process of cell death called apoptosis. TNFSF10 / TRAIL shows homology to other members of the tumor necrosis factor superfamily. As one member of

the cluster of differentiation system, TNFSF10 / CD253 is commonly used as cell markers in Immunophenotyping. Different kinds of cells in the immune system can be identified through the surface CD molecules which associating with the immune function of the cell. There are more than 320 CD unique clusters and subclusters have been identified. Some of the CD molecules serve as receptors or ligands important to the cell through initiating a signal cascade which then alter the behavior of the cell. Some CD proteins do not take part in cell signal process but have other functions such as cell adhesion TNFSF10 / Apo-2L / CD253 / TRAIL binds to several members of TNF receptor superfamily including TNFRSF10A / TRAILR1, TNFRSF10B / TRAILR2, TNFRSF10C / TRAILR3, TNFRSF10D / TRAILR4, and possibly also to TNFRSF11B/OPG. The activity of TNFSF10 / TRAIL may be modulated by binding to the decoy receptors TNFRSF10C / TRAILR3, TNFRSF10D/TRAILR4, and TNFRSF11B/OPG that cannot induce apoptosis. The binding of this protein to its receptors has been shown to trigger the activation of MAPK8 / JNK, caspase 8, and caspase 3. Alternatively spliced transcript variants encoding different isoforms have been found for this gene. Cancer Immunotherapy Immune Checkpoint Immunotherapy Targeted Therapy

### Reference

- Song C, et al. (2005) TRAIL (CD253), a new member of the TNF superfamily. *J Biol Regul Homeost Agents*. 19(1-2): 73-7.
- Kuribayashi K, et al. (2008) TNFSF10 (TRAIL), a p53 target gene that mediates p53-dependent cell death. *Cancer Biol Ther*. 7(12): 2034-8.
- Wiley SR, et al. (1995) Identification and characterization of a new member of the TNF family that induces apoptosis. *Immunity*. 3(6): 673-82.

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