TRAIL/TNFSF10 Protein, Rhesus Macaque

Cat. No.:	HY-P77256
Synonyms:	Tumor Necrosis Factor Ligand Superfamily Member 10; Apo-2 Ligand; Apo-2L; TNF-Related Apoptosis-Inducing Ligand; Protein TRAIL; CD253; TNFSF10; APO2L; TRAIL
Species:	Rhesus Macaque
Source:	E. coli
Accession:	F6S9W7 (V114-G281)
Gene ID:	694451
Molecular Weight:	Approximately 19.6 kDa.

PROPERTIES

Biological Activity	Measured by its binding ability in a functional ELISA. Immobilized rhesus macaque TNFSF10 at 10 μg/mL (100 μL/well) can bind rhesus macaque TNFRSF10D-Fc and the EC_{50} is 7.8-18.1 ng/mL.
Appearance	Lyophilized powder.
Formulation	Lyophilized from a 0.2 μm filtered solution of PBS. Normally 5 % - 8 % trehalose, mannitol and 0.01% Tween 80 are added as protectants before lyophilization.
Endotoxin Level	<1 EU/μg, determined by LAL method.
Reconsititution	It is not recommended to reconstitute to a concentration less than 100 μg/mL in ddH_2O.
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

TRAIL Protein (TNFSF10), a member of the TNF superfamily, is a type II transmembrane protein. TRAIL Protein is expressed in various tissues, especially in the spleen, lung, and prostate. TRAIL protein is mainly expressed on surface of immune cells, such as cytotoxic T cells and natural killer (NK) cell. TRAIL proteins on NK and T cells is critical for controlling virus infections and tumor immune surveillance[1][2].

Human TRAIL consists of cytoplasmic domain (M1-V17), helical domain (L18-F38), and extracellular domain (T39-G281). Human TRAIL Protein shares < 70% common aa identity with mouse and rat. Mouse TRAIL Protein shares 86.94% common aa identity with rat.

TRAIL Protein mainly interacts with two agonistic TRAIL receptors (TRAIL-R1 and TRAIL-R2) and induces apoptosis in tumor or infected cells. TRAIL Protein also binds with DR4, DR5, and OPG. When binding to DR4 or DR5, TRAIL Protein can recruit FADD and further recruit and activates caspase-8. Besides, TRAIL may also trigger nonapoptotic signaling through activating pro-inflammatory pathways, such as NF-κB, PI3K/Akt, and MAPK pathway[1][2].

TRAIL induces apoptosis of tumor cells in a p53 independent manner. TRAIL-based therapies has high anti-tumor potential

[3].

REFERENCES

[1]. Cardoso Alves L, et al. The multifaceted role of TRAIL signaling in cancer and immunity. FEBS J. 2021 Oct;288(19):5530-5554.

[2]. Zhong HH, et al. TRAIL-based gene delivery and therapeutic strategies. Acta Pharmacol Sin. 2019 Nov;40(11):1373-1385.

[3]. Snajdauf M, et al. The TRAIL in the Treatment of Human Cancer: An Update on Clinical Trials. Front Mol Biosci. 2021 Mar 10;8:628332.

[4]. Ganten TM, et al. Preclinical differentiation between apparently safe and potentially hepatotoxic applications of TRAIL either alone or in combination with chemotherapeutic drugs. Clin Cancer Res. 2006 Apr 15;12(8):2640-6.

[5]. Weckmann M, et al. Critical link between TRAIL and CCL20 for the activation of TH2 cells and the expression of allergic airway disease. Nat Med. 2007 Nov;13(11):1308-15.

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