

DESCRIPTION

Source	Mouse myeloma cell line, NS0-derived			
	Met	10-His tag	GGSGGGSGGSIEGR	Human Light (Asp74-Val240) Accession # O43557
	N-terminus			C-terminus

N-terminal Sequence Met

Analysis

Predicted Molecular Mass 20.9 kDa

SPECIFICATIONS

SDS-PAGE	25 kDa, reducing conditions
Activity	Measured in a cytotoxicity assay using HT-29 human colon adenocarcinoma cells Yu, K.Y. <i>et al.</i> (1999) J. Biol. Chem. 274 :13733; Harrop, J.A. <i>et al.</i> (1998) J. Biol. Chem. 273 :27548; Zhai, Y. <i>et al.</i> (1998) J. Clin. Invest. 102 :1142. Recombinant Human LIGHT/TNFSF14 at 10 ng/mL causes a 2-4.5 fold inhibition of HT29 proliferation, in the presence of 10 U/mL (1 ng/mL) Recombinant Human IFN- γ (Catalog # 285-IF).
	Measured in a cell proliferation assay using HUVEC human umbilical vein endothelial cells. Conn, G. <i>et al.</i> (1990) Proc. Natl. Acad. Sci. USA 87 :1323. The ED ₅₀ for this effect is 1-4 ng/mL.
Endotoxin Level	<0.10 EU per 1 μ g of the protein by the LAL method.
Purity	>95%, by SDS-PAGE visualized with Silver Staining and quantitative densitometry by Coomassie® Blue Staining.
Formulation	Lyophilized from a 0.2 μ m filtered solution in PBS with Trehalose. See Certificate of Analysis for details.

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 100 μ g/mL in sterile PBS.
Shipping	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below.
Stability & Storage	Use a manual defrost freezer and avoid repeated freeze-thaw cycles. <ul style="list-style-type: none"> • 12 months from date of receipt, -20 to -70 °C as supplied. • 1 month, 2 to 8 °C under sterile conditions after reconstitution. • 3 months, -20 to -70 °C under sterile conditions after reconstitution.

DATA

<p>Bioactivity</p> <p>Recombinant Human LIGHT/TNFSF14 (Catalog # 664-LI/CF) stimulates cell proliferation in HUVEC human umbilical vein endothelial cells. The ED₅₀ is 1-4 ng/mL.</p>	<p>SDS-PAGE</p> <p>1 μg/lane of Recombinant Human LIGHT/TNFSF14 (Catalog # 664-LI/CF) was resolved with SDS-PAGE under reducing (R) conditions and visualized by silver staining, showing a band at 25 kDa.</p>
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BACKGROUND

Human LIGHT is a type II membrane protein that is a member of the TNF superfamily. LIGHT is an acronym which stands for "is homologous to lymphotoxins, exhibits inducible expression, and competes with HSV glycoprotein D for HVEM, a receptor expressed by T lymphocytes". LIGHT has also been called HVEM-L and LT- γ . Under the new TNF nomenclature, it is called TNFSF14. LIGHT is a 240 amino acid (aa) protein that contains a 37 aa cytoplasmic domain, a 22 aa transmembrane region, and a 181 aa extracellular domain. Similar to other TNF ligand family members, LIGHT is predicted to assemble as a homotrimer. LIGHT is produced by activated T cells and was first identified by its ability to compete with HSV glycoprotein D for HVEM binding. LIGHT has also been shown to bind to the lymphotoxin beta receptor (LT β R) and the decoy receptor (DcR3/TR6). LIGHT overexpression in tumor cells induces apoptosis, which can be enhanced by IFN- γ . The full roles of LIGHT remain to be elucidated.

References:

1. Mauri, D.N. *et al.* (1998) *Immunity* **8**:21.
2. Zhai, Y. *et al.* (1998) *J. Clin. Invest.* **102**:1142.
3. Harrop, J.A. *et al.* (1998) *J. Biol. Chem.* **273**:27548.
4. Yu, K-Y. *et al.* (1999) *J. Biol. Chem.* **274**:13733.