

**DESCRIPTION**

<b>Source</b>	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

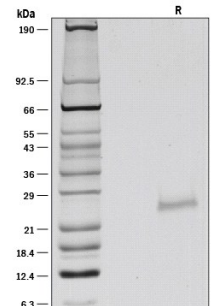
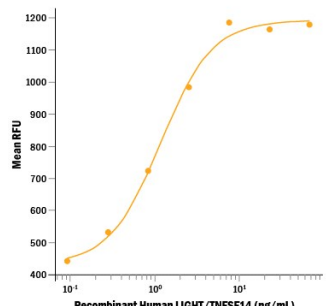
**SPECIFICATIONS**

<b>SDS-PAGE</b>	25 kDa, reducing conditions
<b>Activity</b>	Measured in a cytotoxicity assay using HT-29 human colon adenocarcinoma cells Yu, K.Y. <i>et al.</i> (1999) J. Biol. Chem. <b>274</b> :13733; Harrop, J.A. <i>et al.</i> (1998) J. Biol. Chem. <b>273</b> :27548; Zhai, Y. <i>et al.</i> (1998) J. Clin. Invest. <b>102</b> :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- $\gamma$ (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 <b>87</b> :1323. The ED <sub>50</sub> for this effect is typically 1-4 ng/mL.
<b>Endotoxin Level</b>	<0.10 EU per 1 $\mu$ g of the protein by the LAL method.
<b>Purity</b>	>95%, by SDS-PAGE visualized with Silver Staining and quantitative densitometry by Coomassie® Blue Staining.
<b>Formulation</b>	Lyophilized from a 0.2 $\mu$ m filtered solution in PBS with BSA as a carrier protein. See Certificate of Analysis for details.

**PREPARATION AND STORAGE**

<b>Reconstitution</b>	Reconstitute at 10 $\mu$ g/mL in sterile PBS containing at least 0.1% human or bovine serum albumin.
<b>Shipping</b>	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below.
<b>Stability &amp; Storage</b>	Use a manual defrost freezer and avoid repeated freeze-thaw cycles. <ul style="list-style-type: none"> <li>● 12 months from date of receipt, -20 to -70 °C as supplied.</li> <li>● 1 month, 2 to 8 °C under sterile conditions after reconstitution.</li> <li>● 3 months, -20 to -70 °C under sterile conditions after reconstitution.</li> </ul>

**DATA**

<p><b>SDS-PAGE</b></p>  <p>1 <math>\mu</math>g/lane of Recombinant Human LIGHT/TNFSF14 (Catalog # 664-LI) was resolved with SDS-PAGE under reducing (R) conditions and visualized by silver staining, showing a band at 25 kDa.</p>	<p><b>Bioactivity</b></p>  <p>Recombinant Human LIGHT/TNFSF14 (Catalog # 664-LI) stimulates cell proliferation in HUVEC human umbilical vein endothelial cells. The ED<sub>50</sub> is typically 1-4 ng/mL.</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- $\gamma$ . 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 $\beta$ R) and the decoy receptor (DcR3/TR6). LIGHT overexpression in tumor cells induces apoptosis, which can be enhanced by IFN- $\gamma$ . 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.