

LIGHT/TNFSF14 Protein, Human, Recombinant (rFc)

General Information

Synonyms:	CD258;tumor necrosis factor (ligand) superfamily, member 14;HVEM;LTg;TR2;LIGHT
Protein Construction:	A DNA sequence encoding the human TNFSF14 (AAK26160.1) (Asp74-Val240) was expressed with the Fc region of rabbit IgG at the N-terminus.. Predicted N terminal: Ser
Species:	Human
Expression Host:	HEK293 Cells
Accession:	AAK26160.1
Molecular Weight:	45.7 kDa (predicted)

QC Testing

Biological Activity:	Measured in a cell proliferation assay using human umbilical vein endothelial cells (HUVEC). The ED50 for this effect is typically 5-25 ng/mL.
Purity:	> 90 % as determined by SDS-PAGE
Endotoxin:	< 1.0 EU/μg of the protein as determined by the LAL method.
Formulation:	Lyophilized from a solution filtered through a 0.22 μm filter, containing 50 mM Tris, 100 mM NaCl, pH 8.5. 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.

Actual storage temperature shall be subject to the COA.

Shipping:

In general, lyophilized powders are shipped with blue ice, while solutions are shipped with dry ice.

Protein Background

LIGHT, also known as TNFSF14 or CD258, is a newly identified member of the TNF superfamily (TNFSF14) that is expressed by activated T lymphocytes, monocytes, granulocytes, spleen cells, and immature dendritic cells. TNFSF14 / LIGHT / CD258 is a type II transmembrane protein that is known to bind 2 membrane-bound TNFSF signaling receptors: HVEM, which is predominantly expressed by T cells, and lymphotoxin β receptor (LTβR), which is expressed by stromal cells and nonlymphoid hematopoietic cells. TNFSF14 / LIGHT / CD258 also binds to a

soluble non-signaling receptor, decoy receptor 3 (DcR3), which can modulate the function of LIGHT in vivo. TNFSF14 / LIGHT / CD258 can also costimulate T cell responses via HVEM, which is constitutively expressed in most lymphocyte subpopulations, including CD4+and CD8+T cells. In addition, TNFSF14 / LIGHT / CD258 has been shown to suppress tumor formation in vivo and to induce tumor cell apoptosis via the up-regulation of intercellular adhesion molecule 1 and an increased lymphocyte adhesion to cancer cells. Thus, TNFSF14 / LIGHT / CD258 is being actively investigated as a possible basis for cancer treatment. Cancer Immunotherapy Co-stimulatory Immune Checkpoint Targets Immune Checkpoint Immune Checkpoint Proteins Immune Checkpoint Targets Immunotherapy Targeted Therapy

Reference

Ogawa T, et al. (2010) CXCR3 binding chemokine and TNFSF14 over expression in bladder urothelium of patients with ulcerative interstitial cystitis. J Urol. 183(3): 1206-12.
Kanodia S, et al. (2010) Expression of LIGHT/TNFSF14 combined with vaccination against human papillomavirus Type 16 E7 induces significant tumor regression. Cancer Res. 70(10): 3955-64.
Hosokawa Y, et al. (2010) TNFSF14 coordinately enhances CXCL10 and CXCL11 productions from IFN-gamma-stimulated human gingival fibroblasts. Mol Immunol. 47(4): 666-70.

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Tel: 781-999-4286 E_mail: info@targetmol.com Address: 34 Washington Street, Wellesley Hills, MA 02481