PRODUCT INFORMATION

LIGHT/CD258 Extracellular Domain (human, recombinant)

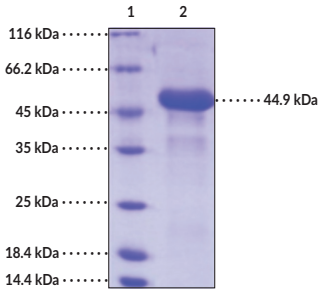
Item No. 31841

Overview and Properties

Synonyms:	HVEML, TNFSF14, TR2, Tumor Necrosis Factor Ligand Superfamily Member 14
Source:	Active recombinant N-terminal human IgG1 Fc-tagged LIGHT expressed in HEK293 cells
Amino Acids:	74-240
Uniprot No.:	O43557
Molecular Weight:	44.9 kDa
Storage:	-80°C (as supplied)
Stability:	≥1 year
Purity:	≥90% estimated by SDS-PAGE
Supplied in:	Lyophilized from sterile PBS, pH 7.4
Endotoxin Testing:	<1.0 EU/µg, determined by the LAL endotoxin assay
Bioactivity:	See figures for details

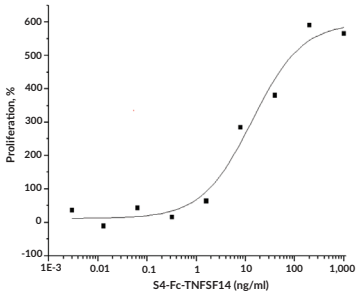
Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Images



Lane 1: MW Markers
Lane 2: LIGHT Extracellular Domain

SDS-PAGE Analysis of LIGHT Extracellular Domain. This protein has a calculated molecular weight of 44.9 kDa.



Measured in a cell proliferation assay using human umbilical vein endothelial cells (HUVECs). The EC_{50} for this effect is 12-50 ng/ml.

WARNING
THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA
This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent *via* email to your institution.

WARRANTY AND LIMITATION OF REMEDY
Buyer agrees to purchase the material subject to Cayman's Terms and Conditions. Complete Terms and Conditions including Warranty and Limitation of Liability information can be found on our website.

Copyright Cayman Chemical Company, 04/02/2025

CAYMAN CHEMICAL
1180 EAST ELLSWORTH RD
ANN ARBOR, MI 48108 · USA
PHONE: [800] 364-9897
[734] 971-3335
FAX: [734] 971-3640
CUSTSERV@CAYMANCHEM.COM
WWW.CAYMANCHEM.COM

PRODUCT INFORMATION

Description

LIGHT, also known as CD258, is a type II transmembrane glycoprotein encoded by *TNFSF14* in humans.[1] Alternative splicing of the *TNFSF14* pre-mRNA produces a cytosolic isoform, as well as a membrane-bound isoform, which can be proteolytically cleaved by metalloproteinases to produce a soluble form.[2,3] It exists as a homotrimer and is constitutively expressed on immature dendritic cells and transiently expressed on activated T cells.[1,3] LIGHT is also expressed by other hematopoietic cells, including natural killer (NK) cells, monocytes, and granulocytes.[2,4] It binds to herpes virus entry mediator (HVEM) (Item No. 31840), also known as CD270, as well as the lymphotoxin β receptor (LTβR), where it acts as a costimulatory molecule for T, B, and dendritic cells by promoting cytokine secretion, leading to cell differentiation and activation.[2,5] *Tnfsf14*$^{-/-}$ mice have increased mortality in a model of experimental autoimmune encephalomyelitis (EAE), whereas *Tnfsf14*$^{-/-}$ mice have reduced inflammation in a model of graft versus host disease (GVHD), indicating additional roles in immune regulation.[1,6] Cayman's LIGHT/CD258 Extracellular Domain (human, recombinant) protein can be used for enzyme activity assays. This protein is a disulfide-linked homodimer. The reduced monomer, comprised of LIGHT/CD258 (amino acids 74-240) fused to human IgG1 Fc at its N-terminus, consists of 404 amino acids, and has a calculated molecular weight of 44.9 kDa.

References

1. Ware, C.F. Targeting the LIGHT-HVEM pathway. *Therapeutic Targets of the TNF Superfamily*. Grewal, I.S. editor, 1st edition., Springer, New York (2009).
2. del Rio, M.-L., Lucas, C.L., Buhler, L., *et al*. HVEM/LIGHT/BTLA/CD160 cosignaling pathways as targets for immune regulation. *J. Leukoc. Biol*. **87(2)**, 223-235 (2009).
3. del Rio, M.-L., Fernandez-Renedo, C., Chaloin, O., *et al*. Immunotherapeutic targeting of LIGHT/LTβR/HVEM pathway fully recapitulates the reduced cytotoxic phenotype of LIGHT-deficient T cells. *MAbs* **8(3)**, 478-490 (2016).
4. Shui, J.-W. and Kronenberg, M. HVEM: An unusual TNF receptor family member important for mucosal innate immune responses to microbes. *Gut Microbes* **4(2)**, 146-151 (2013).
5. Shui, J.-W., Steinberg, M.W., and Kronenberg, M. Regulation of inflammation, autoimmunity, and infection immunity by HVEM-BTLA signaling. *J. Leukoc. Biol*. **89(4)**, 517-523 (2011).
6. Maña, P., Liñares, D., Silva, D.G., *et al*. LIGHT (TNFSF14/CD258) is a decisive factor for recovery from experimental autoimmune encephalomyelitis. *J. Immunol*. **191(1)**, 154-163 (2013).

CAYMAN CHEMICAL
1180 EAST ELLSWORTH RD
ANN ARBOR, MI 48108 · USA
PHONE: [800] 364-9897
[734] 971-3335
FAX: [734] 971-3640
CUSTSERV@CAYMANCHEM.COM
WWW.CAYMANCHEM.COM