PRODUCT INFORMATION

TNFSF8/CD30 Ligand Extracellular Domain (human, recombinant)

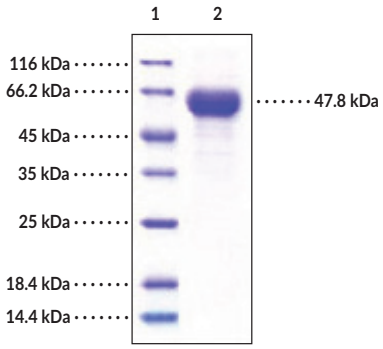
Item No. 40213

Overview and Properties

Synonyms:	CD153, CD30L, TNFSF8, Tumor Necrosis Factor Ligand Superfamily Member 8
Source:	Active recombinant N-terminal human IgG1 Fc-tagged CD30L expressed in HEK293 cells
Amino Acids:	63-234
Uniprot No.:	P32971
Molecular Weight:	47.8 kDa
Storage:	-80°C (as supplied)
Stability:	≥1 year
Purity:	≥95% 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

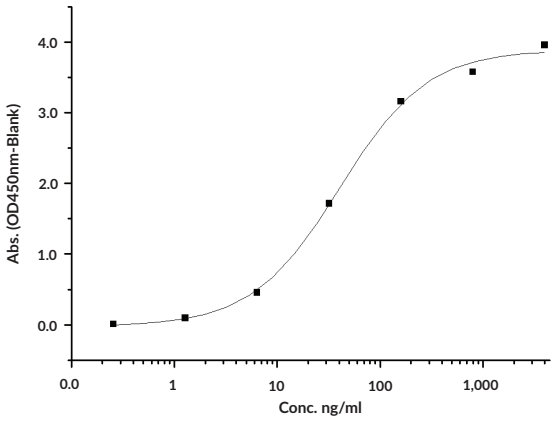
Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Images



Lane 1: MW Markers
Lane 2: TNFSF8/CD30 Ligand Extracellular Domain

SDS-PAGE Analysis of TNFSF8/CD30 Ligand Extracellular Domain. This protein has a calculated molecular weight of 47.8 kDa.



Measured by its binding ability in a functional ELISA. Immobilized TNFSF8/CD30 Ligand Extracellular Domain (human, recombinant) (Item No. 40213) at 2 µg/ml (100 µl/well) can bind human CD30/TNFRSF8-Fch the EC_{50} of TNFSF8/CD30 Ligand Extracellular Domain (human, recombinant) (Item No. 40213) is 15-60 ng/ml.

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Description

CD30 ligand (CD30L), also known as TNF superfamily member 8 (TNFSF8), is a single-pass type II membrane glycoprotein and member of the TNF and TNF receptor cytokine superfamily.[1] It is composed of a cytoplasmic, transmembrane, and extracellular domain and forms non-covalent homotrimers.[1,2] CD30L is expressed on activated T cells, as well as on B cells, macrophages, and granulocytes.[1,3] It binds to CD30, inducing NF-κB- or ERK/MAPK-dependent downstream signaling that is involved in cell proliferation, cell activation, and the T cell-dependent immune response in a cell type- and cell activation status-dependent manner.[1,3-6] CD30L can bind to both membrane-associated and soluble CD30, but binding to soluble CD30 prevents its binding to the membrane-bound form.[1] CD30L is found on cells of various hematological cancers, including Hodgkin lymphoma and anaplastic large cell lymphoma, and expression of *TNFSF8* is increased in leukocytes in autoimmune and inflammatory diseases, such as systemic lupus erythematosus (SLE) and asthma.[4] Cayman's TNFSF8/CD30 Ligand Extracellular Domain (human, recombinant; Fc-tagged) protein can be used for binding assays. This protein is a disulfide-linked homodimer. The reduced monomer, composed of CD30L (amino acids 63-234) fused to human IgG1 Fc at its N-terminus, consists of 429 amino acids, has a calculated molecular weight of 47.8 kDa, and a predicted N-terminus of Arg23 after signal peptide cleavage. As a result of glycosylation, the monomer migrates at approximately 60-65 kDa by SDS-PAGE under reducing conditions.

References

1. Hargreaves, P.G. and Al-Shamkhani, A. Soluble CD30 binds to CD153 with high affinity and blocks transmembrane signaling by CD30. *Eur. J. Immunol.* **32(1)**, 163-173 (2002).
2. Horie, R. and Watanabe, T. CD30: Expression and function in health and disease. *Semin. Immunol.* **10(6)**, 457-470 (1998).
3. Blazar, B.R., Levy, R.B., Mak, T.W., *et al.* CD30/CD30 ligand (CD153) interaction regulates $CD4^+$ T cell-mediated graft-versus-host disease. *J. Immunol.* **173(5)**, 2933-2941 (2004).
4. Oflazoglu, E., Grewal, I.S., and Gerber, H. Targeting CD30/CD30L in oncology and autoimmune and inflammatory diseases. *Adv. Exp. Med. Biol.* **647**, 174-185 (2009).
5. Gottesman, S.R.S. CD30: Receptor, marker, target. *Pathol. Lab. Med. Int.* **8(1)**, 27-36 (2016).
6. van de Weyden, C.A., Pileri, S.A., Feldman, A.L., *et al.* Understanding CD30 biology and therapeutic targeting: A historical perspective providing insight into future directions. *Blood Cancer J.* **7(9)**, e603 (2017).

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