

PRODUCT INFORMATION



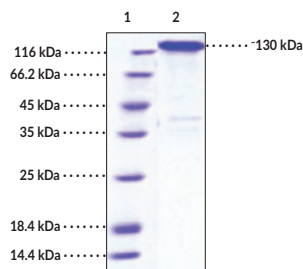
TNFRSF8/CD30 Long Isoform Extracellular Domain (human, recombinant)

Item No. 31829

Overview and Properties

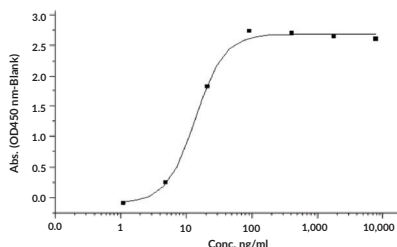
Synonyms: D1S166E, Ki-1, Tumor Necrosis Factor Receptor Superfamily Member 8
Source: Active recombinant C-terminal human IgG1 Fc-His-tagged CD30 expressed in HEK293 cells
Amino Acids: 19-379
Uniprot No.: P28908
Molecular Weight: 66.5 kDa
Storage: -80°C (as supplied)
Stability: ≥1 year
Purity: ≥90% estimated 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: CD30 Long Isoform

SDS-PAGE Analysis of CD30 Long Isoform. This protein has a calculated molecular weight of 66.5 kDa. It has an apparent molecular weight of approximately 130 kDa by SDS-PAGE under reducing conditions due to glycosylation.



Binding of CD30L to Biotinylated Human CD30. Measured by its binding ability in a binding assay, immobilized CD30L at 20 μg/ml (100 μl/well) can bind biotinylated human CD30 with a linear range of 0.31-20 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.

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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

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Description

CD30, also known as tumor necrosis factor receptor superfamily member 8 (TNFRSF8), is a type I transmembrane glycoprotein encoded by *TNFRSF8* in humans.^{1,2} Alternative splicing of the *TNFRSF8* pre-mRNA produces one full-length isoform, CD30 long, and two short isoforms that contain truncated transmembrane and/or extracellular domains.^{1,3} CD30 long exists as a transmembrane monomer and is composed of an extracellular domain containing three cysteine-rich repeats (CRDs), a transmembrane domain, and a cytoplasmic domain that facilitates intracellular signaling.² It is expressed on certain subsets of activated T- or B cells, as well as in a variety of lymphoid neoplasms, including Hodgkin lymphoma and anaplastic large cell lymphomas (ALCLs).¹ It can also exist in a soluble form, which is produced by proteolytic cleavage of CD30 at the cell surface and is found in the serum.¹ CD30 is upregulated by mitogens, such as phorbol 12-myristate 13-acetate (TPA; Item No. 10008014), or viral stimulation, including Epstein-Barr virus (EBV) or HIV, as well as by the transcription factor JunB.^{1,3} Upon interaction with its ligand, TNFSF8/CD30L, which is also expressed on certain subsets of activated lymphocytes, CD30 assembles into a trimer that recruits TNF receptor-associated factor 1 (TRAF1), TRAF2, and TRAF5 to induce NF- κ B- or ERK/MAPK-dependent downstream signaling, mediating a variety of cellular processes, including NF- κ B activation, cell proliferation and survival, as well as apoptosis.^{1,2} Neutralization of CD30 with a monoclonal antibody reduces tumor growth in an ALCL patient-derived xenograft (PDX) mouse model.⁴ Serum levels of soluble CD30 (sCD30) are correlated with disease stage in patients with Hodgkin lymphoma or systemic lupus erythematosus (SLE).² Cayman's TNFRSF8/CD30 Long Isoform (human, recombinant) protein can be used for binding assay applications. This protein is a disulfide-linked homodimer. The reduced monomer, comprised of CD30 (amino acids 19-379) fused to His-tagged human IgG1 Fc at its C-terminus, consists of 609 amino acids, has a calculated molecular weight of 66.5 kDa, and a predicted N-terminus of Phe19 after signal peptide cleavage. As a result of glycosylation, the monomer migrates at approximately 130 kDa by SDS-PAGE under reducing conditions.

References

1. Gottesman, S.R.S. CD30: Receptor, marker, target. *Pathology and Laboratory Medicine International* **8**, 27-36 (2016).
2. 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).
3. Horie, R., Ito, K., Tatewaki, M., *et al.* A variant CD30 protein lacking extracellular and transmembrane domains is induced in HL-60 by tetradecanoylphorbol acetate and is expressed in alveolar macrophages. *Blood* **88(7)**, 2422-2432 (1996).
4. Pfeifer, W., Levi, E., Petrogiannis-Hailotis, T., *et al.* A murine xenograft model for human CD301+ anaplastic large cell lymphoma. *Am. J. Pathol.* **155(4)**, 1353-1359 (1999).

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