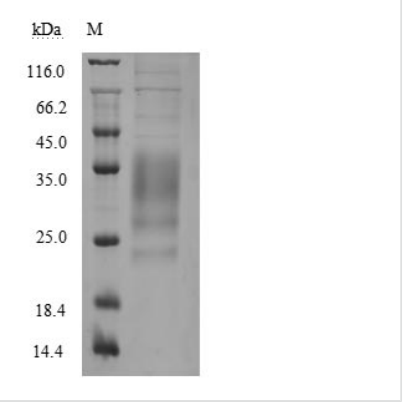
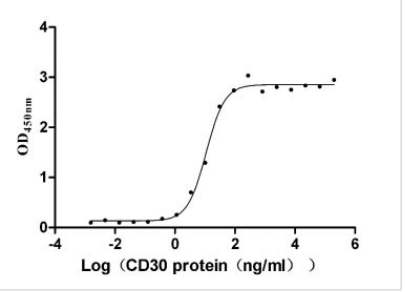
Recombinant Human Tumor necrosis factor ligand superfamily member 8 (TNFSF8), partial (Active)

Product Code	CSB-MP023996HU1
Abbreviation	Recombinant Human TNFSF8 protein, partial (Active)
Storage	The shelf life is related to many factors, storage state, buffer ingredients, storage temperature and the stability of the protein itself. Generally, the shelf life of liquid form is 6 months at -20°C/-80°C. The shelf life of lyophilized form is 12 months at -20°C/-80°C.
Uniprot No.	P32971
Form	Lyophilized powder
Storage Buffer	Lyophilized from a 0.2 μm filtered 20 mM Tris-HCl, 0.5 M NaCl, 6% Trehalose, pH 8.0
Product Type	Recombinant Protein
Immunogen Species	Homo sapiens (Human)
Biological Activity	Measured by its binding ability in a functional ELISA. Immobilized CD30(CSB-MP023983HU1h6) at 5 μg/ml can bind human CD30L, the EC_{50} is 9.531-12.49 ng/ml.
Purity	Greater than 85% as determined by SDS-PAGE.
Sequence	QRTDSIPNSPDNVPLKGGNCSEDLLCILKRAPFKKSWAYLQVAKHLNKTKLSW NKDGILHGVRYQDGNLVIQFPGLYFIICQLQFLVQCPNNSVDLKLELLINKHIKK QALVTVCESGMQTKHVYQNLSQFLLDYLQVNTTISVNVDTFQYIDTSTFPLENV LSIFLYSNSD
Source	Mammalian cell
Target Names	TNFSF8
Expression Region	63-234aa
Notes	Repeated freezing and thawing is not recommended. Store working aliquots at 4°C for up to one week.
Tag Info	N-terminal 6xHis-tagged
Mol. Weight	21.8 kDa
Protein Length	Partial
Image	



(Tris-Glycine gel) Discontinuous SDS-PAGE (reduced) with 5% enrichment gel and 15% separation gel.



Activity
Measured by its binding ability in a functional ELISA. Immobilized CD30(CSB-MP023983HU1h6) at 5 μg/ml can bind human CD30L, the EC_{50} is 9.531-12.49 ng/ml.

Description

The recombinant human TNFSF8 protein (CD30L) represents a biologically active form of this important immune signaling molecule, comprising the extracellular domain (63-234aa) of the TNFSF8 protein. Produced in mammalian cell expression systems with an N-terminal 6×His tag, this recombinant TNFSF8 protein demonstrates >85% purity by SDS-PAGE analysis and contains minimal endotoxin contamination (<1.0 EU/μg by LAL method), making it suitable for sensitive immunological studies. Functional validation through ELISA demonstrates specific, high-affinity binding to immobilized CD30 (CSB-MP023983HU1h6) with an EC_{50} range of 9.531-12.49 ng/ml, confirming its biological activity in receptor- ligand interactions. The N-terminal 6×His tag facilitates efficient purification while maintaining the protein's native conformation and functionality.

Presented as lyophilized powder, this recombinant TNFSF8 preparation offers excellent stability and convenient handling properties. The mammalian expression system ensures proper protein folding and post-translational modifications critical for maintaining the structural and functional integrity of this TNF superfamily member. This reagent is particularly valuable for investigating CD30-CD30L signaling pathways in immune regulation, lymphoma biology, and therapeutic development. Its demonstrated binding activity makes it suitable for functional studies of this important costimulatory pathway in both physiological and pathological contexts.

The TNFSF8 protein, also known as CD30L, is a member of the TNF superfamily that plays a significant role in immune regulation and apoptosis. Its primary function involves interaction with the CD30 receptor, which is predominantly expressed on activated T cells and B cells. This interaction is critical for promoting cell differentiation and regulating immune responses [1][2],

and it has been implicated in various inflammatory and autoimmune diseases, such as rheumatoid arthritis and inflammatory bowel disease [3].

Functionally, TNFSF8 is particularly notable for inducing apoptosis in CD30+ cells. This process helps regulate immune inflammation, thus maintaining the balance required for effective immune responses [1][4]. The expression of TNFSF8 on various immune cells—including activated T cells, B cells, mast cells, and monocytes—highlights its pivotal role in orchestrating the immune response [2][5].

In addition to its immune regulatory functions, TNFSF8 has emerged as an important biomarker in certain cancers. For instance, its expression levels have been associated with patient responses to therapies such as immunotherapy and chemotherapy in conditions like pancreatic cancer and lung cancer, where alterations in TNFSF8 expression can predict therapeutic outcomes [6][7]. Specifically, higher levels of TNFSF8 have been linked to better responses to PD-1 inhibitors, indicating its significance in cancer prognosis [6].

Furthermore, genetic variations within the TNFSF8 gene have been associated with susceptibility to various diseases, reinforcing its relevance in both therapeutic and diagnostic contexts. These polymorphisms may modulate the gene's expression, consequently affecting individual responses to inflammatory conditions and cancers [3][8]. Studies have highlighted the complex interplay between TNFSF8 and other immune-related genes, illustrating its centrality in both innate and adaptive immune responses [9].

References:
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[3] Z. Fu, W. Cai, et al. Genetic variants in tnfsf4 and tnfsf8 are associated with the risk of hcv infection among chinese high-risk population. Frontiers in Genetics, vol. 12, 2021. https://doi.org/10.3389/fgene.2021.630310
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[9] J. Joo, Y. Omae, et al. The association of integration patterns of human papilloma virus and single nucleotide polymorphisms on immune- or dna repair-related genes in cervical cancer patients. Scientific Reports, vol. 9, no. 1, 2019. https://doi.org/10.1038/s41598-019-49523-0

Endotoxin	Less than 1.0 EU/ug as determined by LAL method.
Reconstitution	We recommend that this vial be briefly centrifuged prior to opening to bring the contents to the bottom. Please reconstitute protein in deionized sterile water to a concentration of 0.1-1.0 mg/mL.We recommend to add 5-50% of glycerol (final concentration) and aliquot for long-term storage at -20°C/-80°C. Our default final concentration of glycerol is 50%. Customers could use it as reference.
Shelf Life	The shelf life is related to many factors, storage state, buffer ingredients, storage temperature and the stability of the protein itself. Generally, the shelf life of liquid form is 6 months at -20°C/-80°C. The shelf life of lyophilized form is 12 months at -20°C/-80°C.