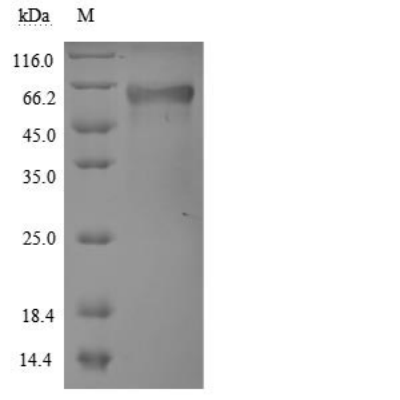
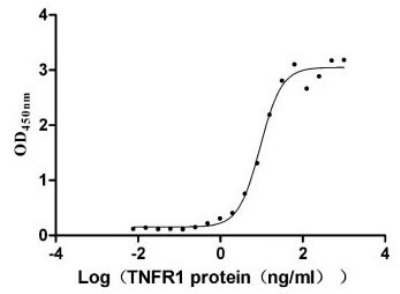
Recombinant Human Tumor necrosis factor receptor superfamily member 1A (TNFRSF1A), partial (Active)

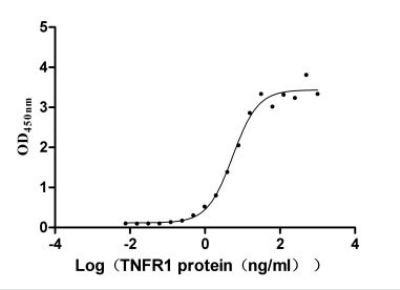
Product Code	CSB-MP023977HU1
Abbreviation	Recombinant Human TNFRSF1A protein, partial (Active)
Storage	The shelf life is related to many factors, storage state, buffer ingredients, storage temperature and the stability of the protein itself. Generally, the shelf life of liquid form is 6 months at -20°C/-80°C. The shelf life of lyophilized form is 12 months at -20°C/-80°C.
Uniprot No.	P19438
Form	Lyophilized powder
Storage Buffer	Lyophilized from a 0.2 μm filtered PBS, 6% Trehalose, pH 7.4
Product Type	Recombinant Protein
Immunogen Species	Homo sapiens (Human)
Biological Activity	①Measured by its binding ability in a functional ELISA. Immobilized TNF-α (CSB-YP023955HU) at 5 μg/ml can bind human TNFR1, the EC_{50} is 7.799-10.90 ng/ml.②Measured by its binding ability in a functional ELISA. Immobilized LTA(CSB-MP013218HU) at 5 μg/ml can bind human TNFR1, the EC_{50} is 4.409-6.797 ng/ml.
Purity	Greater than 90% as determined by SDS-PAGE.
Sequence	IYPSGVIGLVPHLGDREKRDSVCPQGKYIHPQNNSICCTKCHKGTYLYNDCPG PGQDTDCRECESGSFTASENHLRHCLSCSKCRKEMGQVEISSCTVDRDTVC GCRKNQYRHYWSENLFQCFNCSLCLNGTVHLSCQEKQNTVCTCHAGFFLRE NECVSCSNCKKSLECTKLCLPQIENVKGTEDSGTT
Source	Mammalian cell
Target Names	TNFR1
Expression Region	22-211aa
Notes	Repeated freezing and thawing is not recommended. Store working aliquots at 4°C for up to one week.
Tag Info	C-terminal hFc1-tagged
Mol. Weight	50.1 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 TNF-α (CSB-YP023955HU) at 5 μg/ml can bind human TNFR1, the EC_{50} is 7.799-10.90 ng/ml.



Activity
Measured by its binding ability in a functional ELISA. Immobilized LTA(CSB-MP013218HU) at 5 μg/ml can bind human TNFR1, the EC_{50} is 4.409-6.797 ng/ml.

Description

The recombinant human TNFRSF1A protein is expressed in mammalian cells through a plasmid construct containing the gene segment encoding the 22-211aa of the human TNFRSF1A. The TNFRSF1A protein carries a C-terminal hFc-tag. Its purity is greater than 90% as confirmed by SDS-PAGE. Its endotoxin levels, measured using the LAL method, are less than 1.0 EU/μg. ELISA verifies the biological activity of the TNFRSF1A protein through specific binding to the TNF-α (CSB-YP023955HU) and LTA(CSB-MP013218HU), yielding the EC_{50} of 7.799-10.90 ng/mL and 4.409-6.797 ng/mL, respectively.

Human TNFRSF1A, also known as TNFR1, is a transmembrane glycoprotein expressed in nearly all human cells except erythrocytes, with notable expression in immune cells, endothelial cells, and cells of the hematopoietic lineage [1]. TNFRSF1A mediates various biological processes, including inflammation, apoptosis, and immune responses, by binding to TNF-α and TNF-β [2][3].

Upon activation by TNF-α, TNFRSF1A initiates a cascade of intracellular signaling pathways, notably the NF-κB pathway, which is crucial for cell survival and proliferation [4]. TNFRSF1A also modulates inflammatory responses as it is

involved in several autoimmune and inflammatory diseases such as multiple sclerosis and ankylosing spondylitis [2][5]. Genetic variants in TNFRSF1A have been associated with susceptibility to these conditions [6][7]. Mutations in the TNFRSF1A gene have been identified in patients with tumor necrosis factor receptor-associated periodic syndrome (TRAPS), leading to dysfunctional receptor signaling and impaired apoptosis in immune cells [6][8][9].

In cancer biology, TNFRSF1A has been recognized as a potential biomarker for various malignancies, including gliomas and osteosarcoma [3][10]. Its expression levels can influence tumor behavior and patient prognosis, making it a target for therapeutic interventions [3][10]. Furthermore, the receptor's interaction with microRNAs, such as miR-29a, highlights its regulatory role in vascular smooth muscle cells and its potential implications in atherosclerosis and post-stroke depression [11][12].

References:

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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.