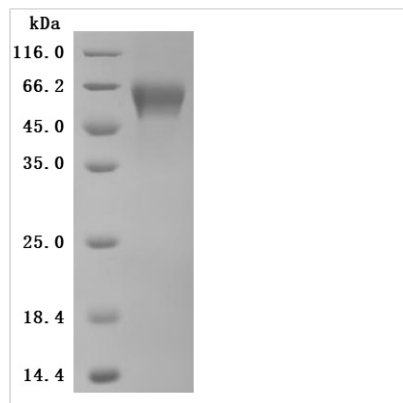


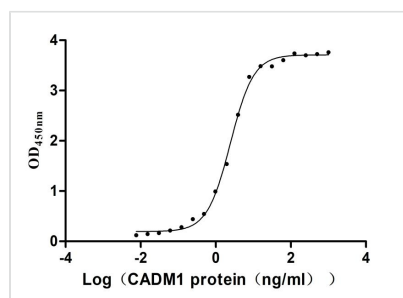


Recombinant Human Cytotoxic and regulatory T-cell molecule (CRTAM), partial (Active)

Product Code	CSB-MP005998HU1d7
Abbreviation	Recombinant Human CRTAM 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.	O95727
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
Alias	Class-I MHC-restricted T-cell-associated molecule;CD355
Product Type	Recombinant Protein
Immunogen Species	Homo sapiens (Human)
Biological Activity	Measured by its binding ability in a functional ELISA. Immobilized Human CRTAM at 2 µg/mL can bind Human CADM1(CSB-MP004425HUd9) , the EC50 is 2.277-2.649 ng/mL.
Purity	Greater than 95% as determined by SDS-PAGE.
Sequence	SLTNHTETITVEEGQTLTKCVTSLRKNSSLQWLTPSGFTIFLNEYPAKNSKY QLLHHSANQLSITVPNVTLQDEGVYKCLHYSDSVSTKEVKVIVLATPFKPILEAS VIRKQNGEEHVLMCSTMRSKPPPQITWLLGNSMEVSGGTLHEFETDGKKCN TTSTLIHTYGKNSTVDCIIRHRGLQGRKLVAPFRFEDLVTDDEETASDALERNL SSQDPQQPTSTVSVTEDSSTSEIDKEEKEQTTQDPDLTTEANPQYLGLARKKS G
Source	Mammalian cell
Target Names	CRTAM
Expression Region	18-287aa
Notes	Repeated freezing and thawing is not recommended. Store working aliquots at 4°C for up to one week.
Tag Info	C-terminal 10xHis-tagged
Mol. Weight	31.4KDa
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 Human CRTAM at 2μg/mL can bind Human CADM1(CSB-MP004425HUd9) the EC₅₀ is 2.277-2.649 ng/mL.

Description

The recombinant human CRTAM protein (amino acids 18-287) is expressed in mammalian cells with a C-terminal 10xHis tag, ensuring proper folding and post-translational modifications. This protein demonstrates high purity (>95% by SDS-PAGE) and low endotoxin levels (<1.0 EU/μg, LAL method), meeting stringent quality standards. Functional validation via ELISA confirms its specific interaction with human CADM1 (CSB-MP004425HUd9) (EC₅₀: 2.277–2.649 ng/mL at 2 μg/mL immobilization), highlighting its role in T-cell-mediated immune responses. The mammalian expression system preserves native structural features critical for studying CRTAM's involvement in cell adhesion, immune regulation, and cytotoxic activity. Provided as lyophilized powder, this recombinant CRTAM protein ensures stability and easy reconstitution, making it ideal for investigating CRTAM-CADM1 signaling in autoimmune diseases, cancer immunology, and lymphocyte activation studies. The His tag facilitates purification without compromising functional epitopes.

Human CRTAM is a type I transmembrane protein that plays a significant role in the immune system, particularly concerning T cell and natural killer (NK) cell activation and function. CRTAM is primarily expressed on activated CD8+ T cells and invariant natural killer T (iNKT) cells, where it mediates cell adhesion and cytotoxic responses. Its expression is notably higher in activated states, demonstrating its function in promoting T cell cytotoxicity and immune regulation [1][2][3].

The primary interaction partner identified for CRTAM is the cell adhesion molecule CADM1, which is expressed on dendritic cells and enhances the effector functions of CRTAM-expressing cells. The binding of CRTAM to CADM1 has been implicated in various immune processes, including tumor immune surveillance, where it aids in the immune system's ability to recognize



and eliminate malignant cells [4][5][6]. This interaction has been shown to promote IFN- γ secretion from T cells, further highlighting the importance of CRTAM in cytokine-mediated immune responses [4][5].

Beyond its role in T cells, CRTAM has been associated with cytotoxic functions in NK cells, indicating its broader importance in both adaptive and innate immune responses [7][8][9]. For instance, the increase in CRTAM expression on lymphocytes upon activation reflects its significance in enhancing cellular adhesion, which is crucial for effective immune responses against infected or tumorigenic cells [10][3]. Furthermore, CRTAM's role is not limited to T-cell cytotoxicity; it has also been demonstrated that the presence of CRTAM can influence tumor microenvironments by facilitating effective immune cell interactions critical in cancer immunoediting and metastasis [4][5][11].

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.