

## SLAMF7 Protein, Human, Recombinant (His), Biotinylated

### General Information

Synonyms:	CD319;19A;SLAMF7;SLAM family member 7;CS1;CRACC
Protein Construction:	A DNA sequence encoding the human SLAMF7 (NP_067004.3) extracellular domain (Met1-Met226) was expressed, fused with a polyhistidine tag at the C-terminus. The purified protein was biotinylated in vitro. Predicted N terminal: Ser 23
Species:	Human
Expression Host:	HEK293 Cells
Accession:	Q9NQ25-1
Molecular Weight:	23.8 kDa (predicted)

### QC Testing

Biological Activity:	Immobilized Anti-CS1 (Elotuzumab Biosimilar) at 1 µg/mL (100 µL/well) can bind Recombinant Human SLAMF7/CRACC/CD319 Protein (His Tag), Biotinylated (Cat#TMPY-05548), the EC50 is 6.4 ng/mL (Routinely tested).
Purity:	> 93 % as determined by SDS-PAGE
Endotoxin:	< 1.0 EU/µg of the protein as determined by the LAL method.
Formulation:	Lyophilized from a solution filtered through a 0.22 µm filter, containing PBS, pH 7.4. Typically, a mixture containing 5% to 8% trehalose, mannitol, and 0.01% Tween 80 is incorporated as a protective agent before lyophilization.

### Preparation and Storage

**Reconstitution:**  
A Certificate of Analysis (CoA) containing reconstitution instructions is included with the products. Please refer to the CoA for detailed information.

**Stability & Storage:**

It is recommended to store recombinant proteins at -20°C to -80°C for future use. Lyophilized powders can be stably stored for over 12 months, while liquid products can be stored for 6-12 months at -80°C. For reconstituted protein solutions, the solution can be stored at -20°C to -80°C for at least 3 months. Please avoid multiple freeze-thaw cycles and store products in aliquots.

*Actual storage temperature shall be subject to the COA.*

**Shipping:**

In general, lyophilized powders are shipped with blue ice, while solutions are shipped with dry ice.

### Protein Background

SLAM family member 7 (SLAMF7), also known as CRACC, CD319, CD2-like receptor-activating cytotoxic cells, and CS1, is a single-pass type I membrane protein and a member of the CD2 family of cell surface receptors. SLAMF7 is expressed in NK cells, activated B-cells, NK-cell line but not in promyelocytic, B-cell lines, or T-cell lines. Although

the cytoplasmic domain of CS1 contains immunoreceptor tyrosine-based switch motifs (ITSM), which enables to recruit signaling lymphocyte activation molecule (SLAM)-associated protein (SAP/SH2D1A), it activates NK cells in the absence of a functional SAP. CS1 is a self ligand and homophilic interaction of CS1 regulates NK cell cytolytic activity. CRACC positively regulated natural killer cell functions by a mechanism dependent on the adaptor EAT-2 but not the related adaptor SAP. However, in the absence of EAT-2, CRACC potently inhibited natural killer cell function. It was also inhibitory in T cells, which are typically devoid of EAT-2. Thus, CRACC can exert activating or inhibitory influences on cells of the immune system depending on cellular context and the availability of effector proteins.

### Reference

- Lee JK, et al. (2004) Molecular and functional characterization of a CS1 (CRACC) splice variant expressed in human NK cells that does not contain immunoreceptor tyrosine-based switch motifs. *Eur J Immunol.* 34(10): 2791-9.
- Tassi I, et al. (2005) The cytotoxicity receptor CRACC (CS-1) recruits EAT-2 and activates the PI3K and phospholipase Cgamma signaling pathways in human NK cells. *J Immunol.* 175(12): 7996-8002.
- Lee JK, et al. (2007) CS1 (CRACC, CD319) induces proliferation and autocrine cytokine expression on human B lymphocytes. *J Immunol.* 179(7): 4672-8.
- Cruz-Munoz ME, et al. (2009) Influence of CRACC, a SLAM family receptor coupled to the adaptor EAT-2, on natural killer cell function. *Nat Immunol.* 10(3): 297-305.

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