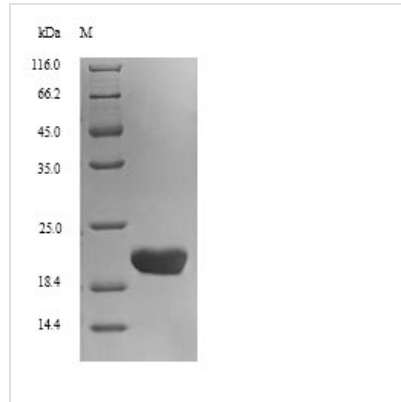




Recombinant Human C-type lectin domain family 4 member C (CLEC4C), partial

Product Code	CSB-YP855470HU
Relevance	Involved in antigen-capturing. Target ligand into antigen processing and peptide-loading compartments for presentation to T-cells. May mediate potent inhibition of induction of IFN-alpha/beta expression in plasmacytoid dendritic cells. May act as a signaling receptor that activates protein-tyrosine kinases and mobilizes intracellular calcium. Does not seem to bind mannose.
Abbreviation	Recombinant Human CLEC4C protein, partial
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.	Q8WTT0
Alias	Blood dendritic cell antigen 2 Short name: BDCA-2 C-type lectin superfamily member 7 Dendritic lectin CD_antigen: CD303
Product Type	Recombinant Protein
Immunogen Species	Homo sapiens (Human)
Purity	Greater than 90% as determined by SDS-PAGE.
Sequence	NFMYSKTVKRLSKLREYQQYHPSLTCVMEGKDIEDWSCCPTPWTSFQSSCYF ISTGMQSWTKSQKNCSVMGADLVVINTREEQDFIIQNLKRNSSYFLGLSDPGG RRHWQWVDQTPYNENVTFWHSGEPPNNLDERCAIINFRSSEEWGWNDIHCHV PQKSICKMKKIYI
Research Area	Others
Source	Yeast
Target Names	CLEC4C
Protein Names	Recommended name: C-type lectin domain family 4 member C Alternative name(s): Blood dendritic cell antigen 2 Short name= BDCA-2 C-type lectin superfamily member 7 Dendritic lectin CD_antigen= CD303
Expression Region	45-213aa
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	22.0kDa
Protein Length	Extracellular Domain
Image	



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

Description

Recombinant Human C-type lectin domain family 4 member C (CLEC4C) is produced using a yeast expression system and covers the extracellular domain from amino acids 45 to 213. The protein comes with an N-terminal 6xHis-tag and reaches purity levels above 90% based on SDS-PAGE analysis, which appears to provide high-quality material for research purposes. The recombinant protein seems well-suited for various applications given its consistent production and purity standards.

CLEC4C, which researchers also know as CD303, belongs to the C-type lectin family and likely plays a crucial role in immune system function. It's found mainly on plasmacytoid dendritic cells and is involved in recognizing glycan structures. The protein appears to participate in immune response modulation, making it particularly relevant for studies examining immune signaling pathways and how pathogens interact with host cells. Its role in innate immunity suggests it may be important for understanding how the immune system functions and regulates itself.

Potential Applications

Note: The applications listed below are based on what we know about this protein's biological functions, published research, and experience from experts in the field. However, we haven't fully tested all of these applications ourselves yet. We'd recommend running some preliminary tests first to make sure they work for your specific research goals.

1. Antibody Development and Validation Studies

This recombinant CLEC4C extracellular domain can work as an immunogen for creating specific antibodies against human CLEC4C. It might also serve as a standard protein for validating antibodies that already exist. The N-terminal 6xHis tag makes purification and immobilization straightforward for ELISA-based antibody screening and characterization assays. High purity levels (>90%) should provide reliable and reproducible results throughout antibody development workflows. The yeast expression system appears to maintain proper protein folding of the extracellular domain, which may make it suitable for generating antibodies that recognize native CLEC4C conformations.

2. Protein-Protein Interaction Studies



Researchers could use the purified CLEC4C extracellular domain in pull-down assays to identify potential binding partners or ligands that interact with this C-type lectin domain. The 6xHis tag makes immobilization on nickel-based resins easier for affinity purification experiments with cell lysates or purified protein libraries. Surface plasmon resonance (SPR) or bio-layer interferometry studies might employ this recombinant protein to characterize binding kinetics and affinities with known or suspected interaction partners. Such studies would likely contribute to understanding how CLEC4C recognizes molecules at the molecular level.

3. Structural and Biophysical Characterization

This recombinant protein could work well as a substrate for structural biology studies. These might include X-ray crystallography, NMR spectroscopy, or cryo-electron microscopy to determine the three-dimensional structure of the CLEC4C extracellular domain. The high purity and defined boundaries (45-213aa) appear to make it suitable for biophysical analyses like dynamic light scattering, circular dichroism spectroscopy, and thermal stability assays. Mass spectrometry analysis should confirm the protein's molecular weight and any post-translational modifications it acquires during yeast expression.

4. Lectin Activity and Carbohydrate Binding Assays

Since CLEC4C belongs to the C-type lectin family, this recombinant extracellular domain may be useful in glycan array screening or carbohydrate binding assays to identify specific sugar ligands. Researchers can immobilize the protein through its 6xHis tag on microplates or biosensor surfaces for systematic screening against carbohydrate libraries. These studies would likely help define CLEC4C's carbohydrate recognition specificity and binding preferences. The results might inform our understanding of how CLEC4C functions in glycan recognition pathways.

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.