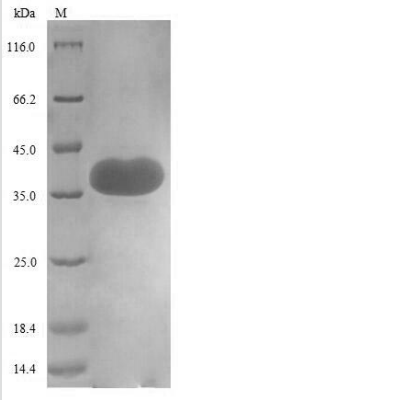
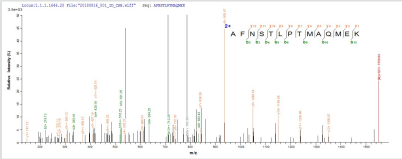
Recombinant Human CD44 antigen (CD44), partial

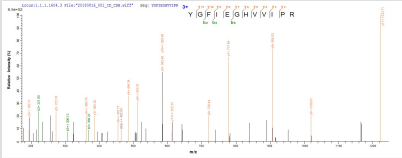
Product Code	CSB-EP004938HU(F1)
Relevance	Receptor for hyaluronic acid (HA). Mediates cell-cell and cell-matrix interactions through its affinity for HA, and possibly also through its affinity for other ligands such as osteopontin, collagens, and matrix metalloproteinases (MMPs). Adhesion with HA plays an important role in cell migration, tumor growth and progression. In cancer cells, may play an important role in invadopodia formation. Also involved in lymphocyte activation, recirculation and homing, and in hematopoiesis. Altered expression or dysfunction causes numerous pathogenic phenotypes. Great protein heterogeneity due to numerous alternative splicing and post-translational modification events. Receptor for LGALS9; the interaction enhances binding of SMAD3 to the FOXP3 promoter, leading to up-regulation of FOXP3 expression and increased induced regulatory T (iTreg) cell stability and suppressive function
Abbreviation	Recombinant Human CD44 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.	P16070
Product Type	Recombinant Protein
Immunogen Species	Homo sapiens (Human)
Purity	Greater than 85% as determined by SDS-PAGE.
Sequence	QIDLNITCRFAGVFHVEKNGRYSISRTEAADLCKAFNSTLPTMAQMEKALSIGF ETCRYGFIEGHVVIPRIHPNSICAANNTGVYILTSNTSQYDTYCFNASAPPEEDC TSVTDLPNAFDGPITITIVNRDGTRYVQKGEYRTNPEDIYPSNPTDDDVSSGSS SERSSTSGGYIFYTFSTVHPIPDEDSPWITDSTDRIP
Research Area	Immunology
Source	E.coli
Target Names	CD44
Protein Names	CDw44EpicanExtracellular matrix receptor III
Expression Region	21-220aa
Notes	Repeated freezing and thawing is not recommended. Store working aliquots at 4°C for up to one week.
Tag Info	N-terminal 6xHis-SUMO-tagged
Mol. Weight	38.1 kDa
Protein Length	Partial
Image	



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



Based on the SEQUEST from database of E.coli host and target protein, the LC-MS/MS Analysis result of CSB-EP004938HU(F1) could indicate that this peptide derived from E.coli-expressed Homo sapiens (Human) CD44.



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Description

The production of recombinant human CD44 antigen involves synthesizing the human CD44 (21-220aa)-encoding gene. This gene is co-cloned into an expression vector with an N-terminal 6xHis-SUMO-tag gene and introduced into E. coli cells via transfection. The positive E. coli cells are selected and cultured to express the recombinant protein. After that, these cells are lysed to release the recombinant CD44 protein, which is purified by affinity chromatography. The recombinant CD44 protein's purity is assessed by SDS-PAGE, exceeding 85%.

CD44 antigen is involved in multiple biological activities such as lymphocyte activation, matrix adhesion, and facilitating the attachment of lymphocytes to lymph node high endothelial venules (HEVs) [1]. CD44 functions as a lymph node-homing receptor on circulating lymphocytes [2]. CD44 is also a receptor for hyaluronan (HA) and is crucial for cell-extracellular matrix interactions [3].

Furthermore, CD44 has been associated with various medical conditions. Evidence has revealed that up-regulation of CD44 is found in fibrous astrocytes in demyelinating diseases like multiple sclerosis [4]. CD44 expression has been detected along with other antigens like CD10 and alkaline phosphatase in osteoblasts present in human bone tissue sections [5]. Studies have shown that CD44 is involved in colorectal carcinomas and adenomatous polyps [6].

References:
[1] I. Stamenkovic, A. Aruffo, M. Amiot, & B. Seed, The hematopoietic and epithelial forms of cd44 are distinct polypeptides with different adhesion potentials for hyaluronate-bearing cells., The Embo Journal, vol. 10, no. 2, p. 343-348, 1991. https://doi.org/10.1002/j.1460-2075.1991.tb07955.x

[2] G. Screaton, M. Bell, D. Jackson, F. Cornelis, U. Gerth, & J. Bell, Genomic structure of dna encoding the lymphocyte homing receptor cd44 reveals at least 12 alternatively spliced exons., Proceedings of the National Academy of Sciences, vol. 89, no. 24, p. 12160-12164, 1992. https://doi.org/10.1073/pnas.89.24.12160
[3] M. Telen, M. Udani, M. Washington, M. Levesque, E. Lloyd, & N. Rao, A blood group-related polymorphism of cd44 abolishes a hyaluronan-binding consensus sequence without preventing hyaluronan binding, Journal of Biological Chemistry, vol. 271, no. 12, p. 7147-7153, 1996. https://doi.org/10.1074/jbc.271.12.7147
[4] S. Alldinger, S. Fonfara, E. Kremmer, & W. Baumgärtner, Up-regulation of the hyaluronate receptor cd44 in canine distemper demyelinated plaques, Acta Neuropathologica, vol. 99, no. 2, p. 138-146, 2000. https://doi.org/10.1007/pl00007417
[5] L. Díaz-Rodríguez, O. García-Martínez, M. Arroyo-Morales, C. Reyes-Botella, & C. Ruiz, Antigenic phenotype and phagocytic capacity of mg?63 osteosarcoma line, Annals of the New York Academy of Sciences, vol. 1173, no. s1, 2009. https://doi.org/10.1111/j.1749-6632.2009.04950.x
[6] K. Heider, M. Hofmann, E. Hors, F. Berg, H. Ponta, P. Herrlichet al., A human homologue of the rat metastasis-associated variant of cd44 is expressed in colorectal carcinomas and adenomatous polyps., The Journal of Cell Biology, vol. 120, no. 1, p. 227-233, 1993. https://doi.org/10.1083/jcb.120.1.227

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

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