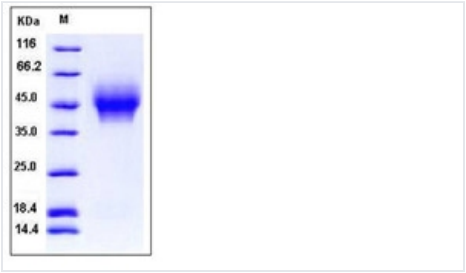
CD44 Recombinant Protein

PRODUCT OVERVIEW

Product Name	CD44, Recombinant Protein
Full Product Name	CD44 Protein, Human, Recombinant (His Tag)
Product Gene Name	CD44 recombinant protein
Product Synonym Names	Human CD44 Protein (His Tag); CDW44 Protein, Human; CSPG8 Protein, Human; ECMR-III Protein, Human; HCELL Protein, Human; HUTCH-I Protein, Human; IN Protein, Human; LHR Protein, Human; MC56 Protein, Human; MDU2 Protein, Human; MDU3 Protein, Human; MIC4 Protein, Human; Pgp1 Protein, Human; CD44 molecule (Indian blood group)
Sequence	Met1-Pro22 0
Host	HEK293 Cells
Form/Format	Lyophilized from sterile PBS, pH7.4. Normally 5%-8% trehalose, mannitol and 0.01% Tween80 are added as protectants before lyophilization. Please refer to the specific buffer information in the hard copy of CoA.
Purity/Purification	>95% as determined by SDS-PAGE
Preparation and Storage	Samples are stable for up to twelve months from date of receipt at -20 degree C to -80 degree C. Store it under sterile conditions at -20 degree C to -80 degree C. It is recommended that the protein be aliquoted for optimal storage. Avoid repeated freeze-thaw cycles. In general, recombinant proteins are provided as lyophilized powder which are shipped at ambient temperature. Bulk packages of recombinant proteins are provided as frozen liquid. They are shipped out with blue ice.
Molecular Weight	81,538 Da
Chromosome Location	Chromosome: 11; NC_000011.9 (35160417..35253949). Location: 11p13
OMIM	107269
3D Structure	ModBase 3D Structure for P16070
Species	Human
Endotoxin	<1.0EU per ug of the protein as determined by the LAL method
Predicted N Terminal	Gln 21
Tag	C-His
Protein Construction	A DNA sequence encoding the N-terminal fragment (Met 1-Pro 220) of human CD44 (P16070-1) extracellular domain was fused with a polyhistidine tag at the C-terminus.
Reconstitution	A hardcopy of COA with reconstitution instruction is sent along with the products. Please refer to it for detailed information.

Related Product Information for CD44 recombinant protein	Background: CD44 is a type I transmembrane protein and a member of the cartilage link protein family. It is involved in cell-cell and cell-matrix interactions and signal transduction. Several CD44 ligands have been identified. The most extensively characterized ligand for CD44 is hyaluronan, a component of the extracellular matrix. CD44 protein is expressed on the majority of immune cells. The binding of CD44 to hyaluronan is induced on T lymphocytes after activation by antigen and on monocytes after stimulation by inflammatory agents. Under inflammatory conditions, CD44 on endothelial cells presents hyaluronan to CD44 on activated T lymphocytes and mediates a rolling interaction under flow conditions. Perturbations of the hyaluronan-CD44 interaction at the plasma membrane by various antagonists result in attenuation of receptor tyrosine kinase and transporter activities and inhibition of tumor progression in vivo. CD44 is known to interact with the ezrin family (ERM family) members and form a complex that plays diverse roles within both normal and abnormal cells, particularly cancer cells. CD44 and ezrin and their respective complex have properties suggesting that they may be important in the process of tumour-endothelium interactions, cell migrations, cell adhesion, tumour progression and metastasis.
Product References and Citations for CD44 recombinant protein	Bajorath J. (2000) Molecular organization, structural features, and ligand binding characteristics of CD44, a highly variable cell surface glycoprotein with multiple functions. Proteins. 39(2): 103-11.Johnson P, et al. (2000) A role for the cell adhesion molecule CD44 and sulfation in leukocyte-endothelial cell adhesion during an inflammatory response Biochem Pharmacol. 59(5): 455-65.Martin TA, et al. (2003) The role of the CD44/ezrin complex in cancer metastasis. Crit Rev Oncol Hematol. 46(2): 165-86.Toole BP, et al. (2008) Hyaluronan, CD44 and Emmprin: partners in cancer cell chemoresistance. Drug Resist Updat. 11(3): 110-21.Johnson P, et al. (2009) CD44 and its role in inflammation and inflammatory diseases. Inflamm Allergy Drug Targets. 8(3): 208-20.
Other Notes	Small volumes of CD44 recombinant protein vial(s) may occasionally become entrapped in the seal of the product vial during shipment and storage. If necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the container`s cap. Certain products may require to ship with dry ice and additional dry ice fee may apply.
Searchable Terms for CD44 purchase	MBS8121122 is a recombinant protein targeting CD44. Also known as CD44 Protein, Human, Recombinant (His Tag). Host: HEK293 Cells.



SDS-Page of CD44 recombinant protein

ADDITIONAL DETAILS

NCBI/Uniprot data below describe general gene information for CD44. It may not necessarily be applicable to this product.

NCBI GI #	48255935
NCBI GeneID	960
NCBI Accession #	NP_000601.3
UniProt Primary Accession #	P16070
UniProt Secondary Accession #	O95370; P22511; Q04858; Q13419; Q13957; Q13958; Q13959; A5YRN9; B6EAT9; D3DR12; D3DR13
UniProt Related Accession #	P16070
GenBank Nucleotide #	NM_000610.3
NCBI Official Full Name	CD44 antigen isoform 1
NCBI Official Synonym Full Names	CD44 molecule (Indian blood group)
NCBI Official Symbol	CD44
NCBI Official Synonym Symbols	IN; LHR; MC56; MDU2; MDU3; MIC4; Pgp1; CDW44; CSPG8; HCELL; HUTCH-I; ECMR-III
UniProt Protein Name	CD44 antigen

UniProt Synonym Protein Names	CDw44; Epican; Extracellular matrix receptor III; ECMR-III; GP90 lymphocyte homing/adhesion receptor; HUTCH-I; Heparan sulfate proteoglycan; Hermes antigen; Hyaluronate receptor; Phagocytic glycoprotein 1; PGP-1; Phagocytic glycoprotein I
Protein Family	CD44 antigen
UniProt Gene Name	CD44
UniProt Synonym Gene Names	LHR; MDU2; MDU3; MIC4; ECMR-III; PGP-1; PGP-I
UniProt Entry Name	CD44_HUMAN
NCBI Protein Information	CD44 antigen; epican; Hermes antigen; hyaluronate receptor; phagocytic glycoprotein 1; heparan sulfate proteoglycan; cell surface glycoprotein CD44; extracellular matrix receptor III; chondroitin sulfate proteoglycan 8; GP90 lymphocyte homing/adhesion rec
NCBI Summary for CD44	The protein encoded by this gene is a cell-surface glycoprotein involved in cell-cell interactions, cell adhesion and migration. It is a receptor for hyaluronic acid (HA) and can also interact with other ligands, such as osteopontin, collagens, and matrix metalloproteinases (MMPs). This protein participates in a wide variety of cellular functions including lymphocyte activation, recirculation and homing, hematopoiesis, and tumor metastasis. Transcripts for this gene undergo complex alternative splicing that results in many functionally distinct isoforms, however, the full length nature of some of these variants has not been determined. Alternative splicing is the basis for the structural and functional diversity of this protein, and may be related to tumor metastasis. [provided by RefSeq, Jul 2008]
UniProt Comments for CD44	CD44: 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. 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. Interacts with PKN2. Interacts with HA, as well as other glycosaminoglycans, collagen, laminin, and fibronectin via its N-terminal segment. Interacts with ANK, the ERM proteins (VIL2, RDX and MSN), and NF2 via its C-terminal segment. Isoform 10 (epithelial isoform) is expressed by cells of epithelium and highly expressed by carcinomas. Expression is repressed in neuroblastoma cells. 19 isoforms of the human protein are produced by alternative splicing. Protein type: Motility/polarity/chemotaxis; Membrane protein, integral; Cell adhesion; Receptor, misc. Chromosomal Location of Human Ortholog: 11p13 Cellular Component: Golgi apparatus; focal adhesion; cell surface; basolateral plasma membrane; integral to plasma membrane; cytoplasm; plasma membrane; external side of plasma membrane Molecular Function: collagen binding; hematopoietin/interferon-class (D200-domain) cytokine receptor activity; protein binding; hyaluronic acid binding; hyaluronoglucosaminidase activity Biological Process: extracellular matrix organization and biogenesis; positive regulation of heterotypic cell-cell adhesion; Wnt receptor signaling pathway; glycosaminoglycan metabolic process; cytokine and chemokine mediated signaling pathway; cell-matrix adhesion; pathogenesis; negative regulation of caspase activity; positive regulation of peptidyl-serine phosphorylation; hyaluronan catabolic process; extracellular matrix disassembly; negative regulation of DNA damage response, signal transduction by p53 class mediator; positive regulation of peptidyl-tyrosine phosphorylation; cell-cell adhesion; ureteric bud branching; cartilage development; carbohydrate metabolic process; blood coagulation; leukocyte migration; hyaluronan metabolic process; healing during inflammatory response; negative regulation of apoptosis Disease: Blood Group, Indian System
Research Articles on CD44	**1.** Combination of CD29 and CD44 can be used as markers to enrich cancer stem cells in human squamous cell carcinoma with epithelial-mesenchymal transition.
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