

CD44 Protein, Human, Recombinant (His)

General Information

Synonyms:	CD44 molecule (Indian blood group);IN;MC56;HUTCH-I;MIC4;CDW44;ECMR-III;Pgp1;CSPG8;HCELL;LHR;MDU2;MDU3
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. Predicted N terminal: Gln 21
Species:	Human
Expression Host:	HEK293 Cells
Accession:	P16070-1
Molecular Weight:	23.4 kDa (predicted); 43-48 kDa (reducing condition, due to glycosylation)

QC Testing

Biological Activity:	Activity testing is in progress. It is theoretically active, but we cannot guarantee it. If you require protein activity, we recommend choosing the eukaryotic expression version first.
Purity:	≥ 95 % as determined by SDS-PAGE. ≥ 90 % as determined by SEC-HPLC.
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:

Reconstituted with sterile deionized water to 0.25 mg/mL. Reconstitution conditions may vary depending on the lot.

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

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.

Reference

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- Johnson P, et al. (2009) CD44 and its role in inflammation and inflammatory diseases. *Inflamm Allergy Drug Targets*. 8(3): 208-20.
- Toole BP, et al. (2008) Hyaluronan, CD44 and Emmprin: partners in cancer cell chemoresistance. *Drug Resist Updat*. 11(3): 110-21.

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