

CD34 Protein, Human, Recombinant (hFc)

General Information

Synonyms:	CD34 molecule
Protein Construction:	A DNA sequence encoding the extracellular domain of human CD34 precursor (NP_001020280.1) (Met 1-Thr 290) was fused with the Fc region of human IgG1 at the C-terminus. Predicted N terminal: Ser 32
Species:	Human
Expression Host:	HEK293 Cells
Accession:	P28906-1
Molecular Weight:	54 kDa (predicted); 116 and 96 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:
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

Cluster of Differentiation 34 (CD34) is a member of a family of single-pass transmembrane sialomucin proteins, and may function as a cell-cell adhesion factor. CD34 protein is selectively expressed on hematopoietic progenitor cells and the small vessel endothelium of a variety of tissues. It has been widely used as a stem and progenitor cell marker, and clinical CD34+ stem cell transplantation (CD34+SCT) has been performed for tumor purging. CD34

monoclonal antibodies are widely used to identify and isolate hemopoietic progenitors and to classify acute and chronic leukemias.

Reference

Hogan CJ, et al. (2002) Differential long-term and multilineage engraftment potential from subfractions of human CD34+ cord blood cells transplanted into NOD/SCID mice. *Proc Nat Acad Sci USA*. 99 (1): 413-8.

Nielsen JS, et al. (2009) CD34 is a key regulator of hematopoietic stem cell trafficking to bone marrow and mast cell progenitor trafficking in the periphery. *Microcirculation*. 16(6): 487-96.

Mastrandrea F, et al. (2009) CD34+ hemopoietic precursor and stem cells traffic in peripheral blood of celiac patients is significantly increased but not directly related to epithelial damage severity. *Eur Ann Allergy Clin Immunol*. 40(3): 90-103.

Pasquet S, et al. (2009) Long-term benefit of intracardiac delivery of autologous granulocyte-colony-stimulating factor-mobilized blood CD34+ cells containing cardiac progenitors on regional heart structure and function after myocardial infarct. *Cytotherapy*. 11(8): 1002-15.

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