

Hemojuvelin Protein, Human, Recombinant (His)

General Information

Synonyms:	JH;RGMC;HJV;HFE2A;hemochromatosis type 2 (juvenile)
Protein Construction:	A DNA sequence encoding the mature form of human HFE2 isoform a (Q6ZVN8-1) (Met 1-Ser 399) was fused with a polyhistidine tag at the C-terminus. Predicted N terminal: Gln 36
Species:	Human
Expression Host:	Baculovirus Insect Cells
Accession:	Q6ZVN8-1
Molecular Weight:	40 kDa (predicted); 20, 34 and 44 kDa (reducing conditions)

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
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, 500 mM NaCl, pH 7.0, 10% gly. 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

Hemojuvelin, also known as HFE2, is a membrane-bound and soluble protein that belongs to the repulsive guidance molecule (RGM) family. It is known that RGMs function through Neogenin, a homolog of the Netrin receptor deleted in colon cancer. In mammals, the RGM family consists of three glycoproteins that have discrete expression patterns and functions (RGM-A, RGM-B, and RGM-C). Hemojuvelin is expressed in adult and fetal liver, heart, and skeletal muscle. Hemojuvelin acts as a bone morphogenetic protein (BMP) coreceptor. Enhancement of

BMP signaling regulates hepcidin (HAMP) expression and iron metabolism. It plays a key role in iron metabolism. Hemojuvelin represents the cellular receptor for hepcidin. It may be a component of the signaling pathway that activates hepcidin or it may act as a modulator of hepcidin expression. Defects in hemojuvelin are the cause of hemochromatosis type 2A, also known as juvenile hemochromatosis (JH).

Reference

Papanikolaou G, et al. (2004) Mutations in HFE2 cause iron overload in chromosome 1q-linked juvenile hemochromatosis. *Nat Genet.* 36(1):77-82.

Babitt JL, et al. (2006) Bone morphogenetic protein signaling by hemojuvelin regulates hepcidin expression. *Nat Genet.* 38(5):531-9.

Zhang AS, et al. (2008) Neogenin-mediated hemojuvelin shedding occurs after hemojuvelin traffics to the plasma membrane. *J Biol Chem.* 283(25):17494-502.

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