Protein (HFE) Antibody – Rabbit Polyclonal

PRODUCT OVERVIEW

Product Name	HFE Protein, Polyclonal Antibody
Full Product Name	Anti-HFE Protein (HLA-H)
Product Gene Name	anti-HFE antibody
Product Synonym Names	HLA-H
Clonality	Polyclonal
Isotype	IgG
Host	Rabbit
Species Reactivity	Human
Form/Format	Supplied as a liquid in PBS, pH 7.4 and 0.1% sodium azide, 40% glycerol.
Purity/Purification	Affinity Purified
Specificity	The human sequence is 100% conserved in human delE3 variant HFE (256 aa); 562-878 variant (242-aa); delE4 variant (334-aa), del#3-7 variant (161 aa), 495-2314del variants (145-aa) and delE3, intron3ins, intron4ins variant (175-aaa). Antibody reactivity with all human HFE variants or HFE from other species has not been studied. We recommend the use for mouse/rat HFE.
Preparation and Storage	May be stored at 4 degree C for short-term only. For long-term storage and to avoid repeated freezing and thawing, aliquot and add glycerol (40-50%). Freeze at -20 degree C. Aliquots are stable for at least 12 months at -20 degree C. For maximum recovery of product, centrifuge the original vial after thawing and prior to removing the cap. Further dilutions can be made in assay buffer. **Shipping Temperature:** Blue Ice
Molecular Weight	39,684 Da
Chromosome Location	Chromosome: 6; NC_000006.11 (26087448..26097059). Location: 6p21.3
3D Structure	ModBase 3D Structure for Q6B0J5
Immunogen	A 15-aa peptide sequence within the N-terminus of human HFE (1) was synthesized, coupled to KLH
Source Information	Human
Product Categories/Family for anti-HFE antibody	Abs to Proteins
Applications Tested/Suitable for anti-HFE antibody	ELISA; Western Blot
Application Notes for anti-HFE antibody	**Recommended Dilutions:** Western Blot: 1:1000-1:5000 for antiserum and 1-10ug/ml for aff. pure IgG using ECL. ELISA (1:100K using 50-100ng control peptide/well). Control peptides, because of the small size (2-3kD), is not recommended for Western. It should be used in ELISA or antibody blocking (use 5-10 ug control peptide per 1 ug of IgG or 1 ul of antiserum) experiments to demonstrate antibody specificity.

Related Product Information for anti-HFE antibody	Elemental iron is required for a variety of normal cellular functions and vital for proper growth and development. However, natural iron is quite insoluble and excess iron is harmful, since it can catalyze the formation of potentially damaging reactive oxygen species. Humans also have very limited capacity to excrete iron. Therefore, cells have developed mechanisms to improve solubility of iron and to control intracellular iron levels at the point of absorption in the intestine and other tissue. Several proteins including Ferritin, transferrin (Tf), transferrin receptors (TfRs), and iron regulatory proteins (IRPs), iron transporter (NRMAP2/DMT1/DCT1) etc play a key role in iron metabolism. Some genes involved in iron-metabolism are associated with genetic disorders such as Friedreich's Ataxia (Frataxin), genetic hemochromatosis (HFE), and Sex-linked anemia (Hephaestin). Hereditary hemochromatosis (HHC) is most common autosomal recessive disorder characterized by defective intestinal iron absorption, which lead to iron-overload in many tissues and toxic effects. The candidate gene for HHC encodes the HFE protein (formerly called HLA-H) resembling the major histocompatibility complex MHC class-1 molecule. HFE protein (mouse 359 aa, rat 360 aa, human 348 aa, ~48kD) is type I membrane protein. It is found in all tissues except brain. HFE protein binds too Tfr and reduces its affinity for iron-loaded Tf. The HFE Cys282-Tyr (C282Y) is homozygous in 83-100% of HHC subjects in the US and North Europe, and Australia. The C282Y mutation results in the loss of a structural disulfide bond in the alpha-3 domain of the protein, which prevents association with beta-2 microglobulin and proper presentation to the surface. Defects in HFE are also a cause of porphyria cutanes tarda (PCT), a disorder characterized by light-sensitive dermatitis and presence of large amounts of uroporphyrin in urine.
Other Notes	Small volumes of anti-HFE antibody 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 HFE purchase	MBS627065 is an antibody targeting HFE. Also known as Anti-HFE Protein (HLA-H). Reactive in Human. Host: Rabbit.

ADDITIONAL DETAILS

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

NCBI GI #	50960016
NCBI GeneID	3077
UniProt Primary Accession #	Q6B0J5
UniProt Related Accession #	Q30201; Q6B0J5; Q86WL1; Q8MH46; Q96KU6; Q9BXI5; Q9HC63; Q9HC65; Q9HC66; Q9HC67
NCBI Official Full Name	HFE protein
NCBI Official Synonym Full Names	hemochromatosis
NCBI Official Symbol	HFE
NCBI Official Synonym Symbols	HH; HFE1; HLA-H; MVCD7; MGC103790; dJ221C16.10.1
UniProt Protein Name	HFE protein
Protein Family	Hereditary hemochromatosis protein
UniProt Gene Name	HFE
UniProt Entry Name	Q6B0J5_HUMAN
NCBI Protein Information	hereditary hemochromatosis protein; high Fe; OTTHUMP00000215786; OTTHUMP00000215787; OTTHUMP00000215788; OTTHUMP00000215789; OTTHUMP00000215790; OTTHUMP00000215791; OTTHUMP00000215792; OTTHUMP00000215793; OTTHUMP00000215816; OTTHUMP00000215817; OTTHUMP00000215818; MHC class I-like protein HFE; hereditary hemochromatosis protein HLA-H
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