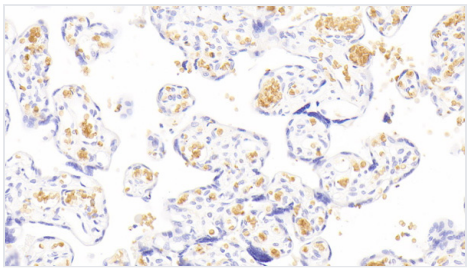
Hemoglobin Alpha 1 (HBa1) Antibody – Mouse Monoclonal

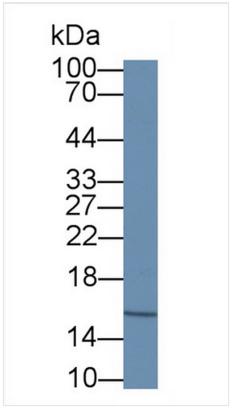
PRODUCT OVERVIEW

Product Name	Hemoglobin Alpha 1 (HBa1), Monoclonal Antibody
Full Product Name	Monoclonal Antibody to Hemoglobin Alpha 1 (HBa1)
Product Gene Name	anti-HBa1 antibody
Product Synonym Names	HBa1/Hemoglobin Alpha 1; Alphaglobin
Clonality	Monoclonal
Isotype	IgG1 Kappa
Clone Number	C7
Host	Mouse
Species Reactivity	Human
Form/Format	Liquid; 0.01M PBS, pH7.4, containing 0.05% Proclin300, 50% glycerol.
Purity/Purification	Protein A + Protein G affinity chromatography
Concentration	1mg/mL (lot specific)
Specificity	The antibody is a mouse monoclonal antibody raised against HBa1. It has been selected for its ability to recognize HBa1 in immunohistochemical staining and western blotting.
Preparation and Storage	Store at 2 degree C to 8 degree C for frequent use, 20 degree C for 24 months The thermal stability is described by the loss rate. The loss rate was determined by accelerated thermal degradation test, that is, incubate the protein at 37 degree C for 48h, and no obvious degradation and precipitation were observed. The loss rate is less than 5% within the expiration date under appropriate storage condition.
Matching Pairs	Unconjugated Antibody: HBa1 Clone #C7 (MBS2139233) APC-CY7 Conjugated Antibody: HBa1 Clone #C7 (MBS2135881)
Matching Pairs	Unconjugated Antibody: HBa1 Clone #C7 (MBS2139233) PE Conjugated Antibody: HBa1 Clone #C7 (MBS2135882)
Matching Pairs	Unconjugated Antibody: HBa1 Clone #C7 (MBS2139233) APC Conjugated Antibody: HBa1 Clone #C7 (MBS2135883)
Matching Pairs	Unconjugated Antibody: HBa1 Clone #C7 (MBS2139233) Cy3 Conjugated Antibody: HBa1 Clone #C7 (MBS2135884)
Matching Pairs	Unconjugated Antibody: HBa1 Clone #C7 (MBS2139233) Biotin Conjugated Antibody: HBa1 Clone #C7 (MBS2135885)
Matching Pairs	Unconjugated Antibody: HBa1 Clone #C7 (MBS2139233) FITC Conjugated Antibody: HBa1 Clone #C7 (MBS2135886)
Matching Pairs	Unconjugated Antibody: HBa1 Clone #C7 (MBS2139233) HRP Conjugated Antibody: HBa1 Clone #C7 (MBS2135887)
Molecular Weight	15,258 Da
OMIM	140700
3D Structure	ModBase 3D Structure for P69905
Supply Chain Verification	Manufactured in a lab with traceable raw materials. Bulk orders can typically be prepared to the customer's specifications, please inquire.

Immunogen Type	Prokaryotic Recombinant proteins/RP
Sequence of Immunogen	Met1~Arg142
Conjugation	Unconjugated
Product Categories/Family for anti-HBa1 antibody	Hematology; Primary
ISO Certification	Manufactured in an ISO 9001:2015 and ISO 13485:2016 Certified Laboratory.
Applications Tested/Suitable for anti-HBa1 antibody	Western Blot (WB), Immunohistochemistry (IHC), Immunocytochemistry (ICC), Immunoprecipitation (IP)
Application Notes for anti-HBa1 antibody	WB: 0.52ug/mL IHC: 520ug/mL ICC: 520ug/mL
Related Product Information for anti-HBa1 antibody	MBS2139233 is an antibody targeting HBa1. Also known as Monoclonal Antibody to Hemoglobin Alpha 1 (HBa1). Reactive in Human. Host: Mouse.
Other Notes	Small volumes of anti-HBa1 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.



Immunohistochemistry (IHC) of anti-HBa1 antibody
DAB staining on IHCP; Sample: Human Placenta Tissue; Primary Ab: 30ug/ml Mouse AntiHuman HBa1 Antibody Second Ab: 2ug/mL HRPLinked Caprine AntiMouse IgG Polyclonal Antibody (Catalog: SAA544Mu19)



Western Blot (WB) of anti-HBa1 antibody
Western Blot; Sample: Human Serum Primary Ab: 2ug/ml Mouse AntiHuman HBa1 Antibody Second Ab: 0.2ug/mL HRPLinked Caprine AntiMouse IgG Polyclonal Antibody (Catalog: SAA544Mu19)

ADDITIONAL DETAILS

NCBI/Uniprot data below describe general gene information for HBa1. It may not necessarily be applicable to this product.

NCBI GI #	57013850
NCBI GeneID	3040
NCBI Accession #	P69905.2
UniProt Primary Accession #	P69905
UniProt Secondary Accession #	P01922; Q1HDT5; Q3MIF5; Q53F97; Q96KF1; Q9NYR7; Q9UCM0
UniProt Related Accession #	P69905
NCBI Official Full Name	Hemoglobin subunit alpha
NCBI Official Synonym Full Names	hemoglobin, alpha 2
NCBI Official Symbol	HBA2
NCBI Official Synonym Symbols	HBH; HBA-T2

UniProt Protein Name	Hemoglobin subunit alpha
UniProt Synonym Protein Names	Alpha-globin; Hemoglobin alpha chain
Protein Family	Hemoglobin
UniProt Gene Name	HBA1
UniProt Entry Name	HBA_HUMAN
NCBI Protein Information	hemoglobin subunit alpha; alpha globin; alpha-globin; alpha-2 globin; hemoglobin alpha chain
NCBI Summary for HBa1	The human alpha globin gene cluster located on chromosome 16 spans about 30 kb and includes seven loci: 5'-zeta - pseudozeta - mu - pseudoalpha-1 - alpha-2 - alpha-1 - theta - 3'. The alpha-2 (HBA2) and alpha-1 (HBA1) coding sequences are identical. These genes differ slightly over the 5' untranslated regions and the introns, but they differ significantly over the 3' untranslated regions. Two alpha chains plus two beta chains constitute HbA, which in normal adult life comprises about 97% of the total hemoglobin; alpha chains combine with delta chains to constitute HbA-2, which with HbF (fetal hemoglobin) makes up the remaining 3% of adult hemoglobin. Alpha thalassemias result from deletions of each of the alpha genes as well as deletions of both HBA2 and HBA1; some nondeletion alpha thalassemias have also been reported. [provided by RefSeq, Jul 2008]
UniProt Comments for HBa1	HBA1: Involved in oxygen transport from the lung to the various peripheral tissues. Defects in HBA1 may be a cause of Heinz body anemias (HEIBAN). This is a form of non-spherocytic hemolytic anemia of Dacie type 1. After splenectomy, which has little benefit, basophilic inclusions called Heinz bodies are demonstrable in the erythrocytes. Before splenectomy, diffuse or punctate basophilia may be evident. Most of these cases are probably instances of hemoglobinopathy. The hemoglobin demonstrates heat lability. Heinz bodies are observed also with the Ivemark syndrome (asplenia with cardiovascular anomalies) and with glutathione peroxidase deficiency. Defects in HBA1 are the cause of alpha-thalassemia (A- THAL). The thalassemias are the most common monogenic diseases and occur mostly in Mediterranean and Southeast Asian populations. The hallmark of alpha-thalassemia is an imbalance in globin-chain production in the adult HbA molecule. The level of alpha chain production can range from none to very nearly normal levels. Deletion of both copies of each of the two alpha-globin genes causes alpha(0)-thalassemia, also known as homozygous alpha thalassemia. Due to the complete absence of alpha chains, the predominant fetal hemoglobin is a tetramer of gamma-chains (Bart hemoglobin) that has essentially no oxygen carrying capacity. This causes oxygen starvation in the fetal tissues leading to prenatal lethality or early neonatal death. The loss of three alpha genes results in high levels of a tetramer of four beta chains (hemoglobin H), causing a severe and life-threatening anemia known as hemoglobin H disease. Untreated, most patients die in childhood or early adolescence. The loss of two alpha genes results in mild alpha-thalassemia, also known as heterozygous alpha-thalassemia. Affected individuals have small red cells and a mild anemia (microcytosis). If three of the four alpha-globin genes are functional, individuals are completely asymptomatic. Some rare forms of alpha-thalassemia are due to point mutations (non- deletional alpha-thalassemia). The thalassemic phenotype is due to unstable globin alpha chains that are rapidly catabolized prior to formation of the alpha-beta heterotetramers. Alpha(0)-thalassemia is associated with non-immune hydrops fetalis, a generalized edema of the fetus with fluid accumulation in the body cavities due to non-immune causes. Non- immune hydrops fetalis is not a diagnosis in itself but a symptom, a feature of many genetic disorders, and the end-stage of a wide variety of disorders. Defects in HBA1 are the cause of hemoglobin H disease (HBH). HBH is a form of alpha-thalassemia due to the loss of three alpha genes. This results in high levels of a tetramer of four beta chains (hemoglobin H), causing a severe and life-threatening anemia. Untreated, most patients die in childhood or early adolescence. Belongs to the globin family. Protein type: Carrier Chromosomal Location of Human Ortholog: 16p13.3 Cellular Component: membrane; hemoglobin complex; extracellular region; cytosol Molecular Function: haptoglobin binding; protein binding; peroxidase activity; iron ion binding; heme binding; oxygen binding; oxygen transporter activity Biological Process: receptor-mediated endocytosis; response to hydrogen peroxide; oxygen transport; bicarbonate transport; protein heterooligomerization; hydrogen peroxide catabolic process Disease: Hemoglobin H Disease; Heinz Body Anemias; Alpha-thalassemia
Research Articles on HBa1	**1.** study describes 4 rare nondeletional alpha-thalassemia mutations in Thai individuals, including initiation codon mutation (HBA2:c.1delA), donor splice site mutation (IVSI-1, HBA1:c.95 + 1G>A), Hb Queens Park (HBA1:c.98T>A) [alpha32(B13)Met>Lys], and Hb Westmead (HBA2:c.369C>G) [alpha122(H5)His>Gln

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