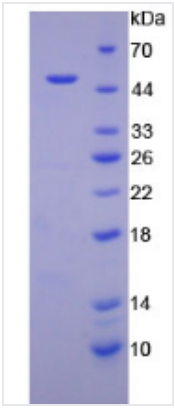
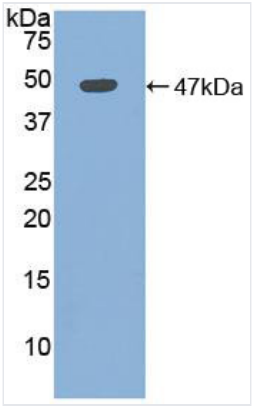
Myoglobin (MYO) Active Protein

PRODUCT OVERVIEW

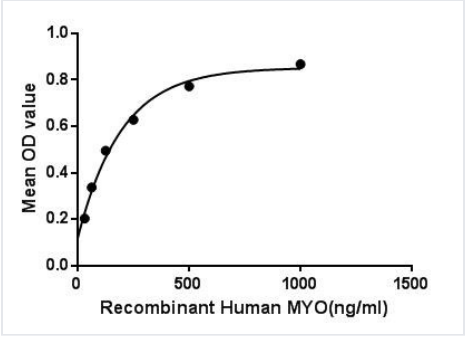
Product Name	Myoglobin, Active Protein
Full Product Name	Active Myoglobin (MYO)
Product Gene Name	MYO active protein
Product Synonym Names	PVALB; MB
Form/Format	Freeze-dried powder 20mM Tris, 150mM NaCl, pH8.0, containing 1mM EDTA, 1mM DTT, 0.01% SKL, 5% Trehalose and Proclin300.
Purity/Purification	>95%
Preparation and Storage	Store at 2-8 degree C for one month. Aliquot and store at -80 degree C for 12 months. Avoid repeated freeze/thaw cycles. Stability: 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.
Molecular Weight	Predicted Molecular Mass: 47.2kDa Accurate Molecular Mass: 47kDa
Sequence Positions	Met1~Gly154
OMIM	160000
3D Structure	ModBase 3D Structure for P02144
Supply Chain Verification	Manufactured in a lab with traceable raw materials. Bulk orders can typically be prepared to the customer's specifications, please inquire.
Active Protein Note	Protein activity can be an ambiguous term. Please refer to the data sheet or inquire with Technical Support to determine the definition of activity for this product.
Species	Human
Tag	N-terminal His and GST Tag
Isoelectric Point	6.9
Reconstitution	Reconstitute in 20mM Tris, 150mM NaCl (pH8.0) to a concentration of 0.1-1.0 mg/mL. Do not vortex.
Product Categories/Family for MYO active protein	Cardiovascular biology
ISO Certification	Manufactured in an ISO 9001:2015 and ISO 13485:2016 Certified Laboratory.
Applications Tested/Suitable for MYO active protein	Cell Culture, Activity Assays
Related Product Information for MYO active protein	MBS2122304 is an active protein targeting MYO. Also known as Active Myoglobin (MYO).
Other Notes	Small volumes of MYO active protein 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.



SDS-Page of MYO active protein
Figure. SDS-PAGE



Western Blot (WB) of MYO active protein
Figure. Western Blot; Sample: Recombinant MYO, Human; Antibody: Rabbit Anti-Human MYO Ab (PAA480Hu01)



Biological Activity Testing of MYO active protein
Myoglobin (symbol Mb or MB or MYO) is an iron- and oxygen-binding protein found in the muscle tissue of vertebrates in general and in almost all mammals. It is related to hemoglobin, which is the iron- and oxygen-binding protein in blood, specifically in the red blood cells. Myoglobin is found in Type I muscle, Type II A and Type II B, but most texts consider myoglobin not to be found in smooth muscle. Besides, Proteasome 26S Subunit, Non ATPase 4 (PSMD4) has been identified as an interactor of MYO, thus a binding ELISA assay was conducted to detect the interaction of recombinant human MYO and recombinant human PSMD4 Briefly, MYO were diluted serially in PBS, with 0.01% BSA (pH 7.4). Duplicate samples of 100L were then transferred to PSMD4-coated microtiter wells and incubated for 2h at 37. Wells were washed with PBST and incubated for 1h with anti-MYO pAb, then aspirated and washed 3 times. After incubation with HRP labelled secondary antibody, wells were aspirated and washed 3 times. With the addition of substrate solution, wells were incubated 15-25 minutes at 37. Finally, add 50uL stop solution to the wells and read at 450nm immediately. The binding activity of MYO and PSMD4 was shown in Figure 1, and this effect was in a dose dependent manner.Figure. The binding activity of MYO with PSMD4.

ADDITIONAL DETAILS

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

NCBI GI #	4885477
NCBI GeneID	4151
NCBI Accession #	NP_005359.1
UniProt Primary Accession #	P02144
UniProt Related Accession #	P02144
GenBank Nucleotide #	NP_005359.1
NCBI Official Full Name	myoglobin isoform 1
NCBI Official Synonym Full Names	myoglobin

NCBI Official Symbol	MB
NCBI Official Synonym Symbols	PVALB
UniProt Protein Name	Myoglobin
Protein Family	Myoglobin
UniProt Gene Name	MB
UniProt Entry Name	MYG_HUMAN
NCBI Protein Information	myoglobin
NCBI Summary for MYO	This gene encodes a member of the globin superfamily and is predominantly expressed in skeletal and cardiac muscles. The encoded protein forms a monomeric globular haemoprotein that is primarily responsible for the storage and facilitated transfer of oxygen from the cell membrane to the mitochondria. This protein also plays a role in regulating physiological levels of nitric oxide. Multiple transcript variants encoding distinct isoforms exist for this gene. [provided by RefSeq, May 2020]
UniProt Comments for MYO	MB: Serves as a reserve supply of oxygen and facilitates the movement of oxygen within muscles. Belongs to the globin family. Protein type: Carrier Chromosomal Location of Human Ortholog: 22q13.1 Molecular Function: iron ion binding; heme binding; oxygen binding; oxygen transporter activity Biological Process: slow-twitch skeletal muscle fiber contraction; response to hydrogen peroxide; oxygen transport; heart development; response to hormone stimulus; response to hypoxia; brown fat cell differentiation; enucleate erythrocyte differentiation
Research Articles on MYO	**1.** Despite the structural similarity of myoglobin to alpha and beta subunits of hemoglobin, there is a functional difference between the two proteins, owing to the quaternary structure of hemoglobin. The effect of the quaternary structure of hemoglobin on the intrinsic dynamics of its subunits is explored by dynamical comparison of the two proteins.
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