

P4HB Protein, Mouse (HEK293, His)

Cat. No.:	HY-P74658
Synonyms:	Protein disulfide-isomerase; PDI; ERp59; p55; P4HB; Pdia1
Species:	Mouse
Source:	HEK293
Accession:	P09103 (D20-L509)
Gene ID:	18453
Molecular Weight:	57-70 kDa

PROPERTIES

AA Sequence

D A L E E E D N V L	V L K K S N F E E A	L A A H K Y L L V E	F Y A P W C G H C K
A L A P E Y A K A A	A K L K A E G S E I	R L A K V D A T E E	S D L A Q Q Y G V R
G Y P T I K F F K N	G D T A S P K E Y T	A G R E A D D I V N	W L K K R T G P A A
T T L S D T A A A E	S L V D S S E V T V	I G F F K D V E S D	S A K Q F L L A A E
A I D D I P F G I T	S N S G V F S K Y Q	L D K D G V V L F K	K F D E G R N N F E
G E I T K E K L L D	F I K H N Q L P L V	I E F T E Q T A P K	I F G G E I K T H I
L L F L P K S V S D	Y D G K L S S F K R	A A E G F K G K I L	F I F I D S D H T D
N Q R I L E F F G L	K K E E C P A V R L	I T L E E E M T K Y	K P E S D E L T A E
K I T E F C H R F L	E G K I K P H L M S	Q E V P E D W D K Q	P V K V L V G A N F
E E V A F D E K K N	V F V E F Y A P W C	G H C K Q L A P I W	D K L G E T Y K D H
E N I I I A K M D S	T A N E V E A V K V	H S F P T L K F F P	A S A D R T V I D Y
N G E R T L D G F K	K F L E S G G Q D G	A G D D E D L D L E	E A L E P D M E E D
D D Q K A V K D E L			

Biological Activity Measured by its ability to promote aggregation of insulin in the presence of DTT. The specific activity is > 10 A₆₅₀ /cm/min/mg.

Appearance Lyophilized powder

Formulation Lyophilized from a 0.2 μm filtered solution of PBS, pH 7.4. Normally 5% - 8% trehalose, mannitol and 0.01% Tween 80 are added as protectants before lyophilization.

Endotoxin Level <1 EU/μg, determined by LAL method.

Reconstitution It is not recommended to reconstitute to a concentration less than 100 μg/mL in ddH₂O.

Storage & Stability Stored at -20°C for 2 years. After reconstitution, it is stable at 4°C for 1 week or -20°C for longer (with carrier protein). It is recommended to freeze aliquots at -20°C or -80°C for extended storage.

Shipping Room temperature in continental US; may vary elsewhere.

DESCRIPTION

Background

P4HB Protein, a versatile and multifunctional entity, orchestrates the catalysis of disulfide bond formation, breakage, and rearrangement. Positioned at the cell surface, it exhibits reductase activity, cleaving disulfide bonds of proteins attached to the cell and potentially inducing structural modifications in exofacial proteins. Within the cellular interior, P4HB plays a role in forming and rearranging disulfide bonds in nascent proteins. At elevated concentrations, and upon phosphorylation by FAM20C, it transforms into a chaperone that inhibits the aggregation of misfolded proteins, whereas at lower concentrations, it facilitates aggregation, showcasing anti-chaperone activity. Furthermore, P4HB may collaborate with other chaperones in modifying the structure of the thyroglobulin precursor during hormone biogenesis. Additionally, it serves as a structural subunit for various enzymes, including prolyl 4-hydroxylase and microsomal triacylglycerol transfer protein MTTP. Notably, P4HB also functions as a receptor for LGALS9, with this interaction impacting its localization on the cell surface, enhancing disulfide reductase activity, altering the plasma membrane redox state, and promoting cell migration.

Caution: Product has not been fully validated for medical applications. For research use only.

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