

KD-Validated Anti-Prolyl 4-Hydroxylase Subunit Beta Mouse Monoclonal Antibody
Mouse monoclonal antibody
Catalog # AGI1780

Specification

KD-Validated Anti-Prolyl 4-Hydroxylase Subunit Beta Mouse Monoclonal Antibody - Product Information

Application	WB, FC, ICC
Primary Accession	P07237
Reactivity	Human
Clonality	Monoclonal
Isotype	Mouse IgG1 kappa
Calculated MW	Predicted, 57 kDa , o bserved , 57 kDa
Gene Name	KDa
Aliases	P4HB P4HB; Prolyl 4-Hydroxylase Subunit Beta; PDIA1; PDI; P4Hbeta; ERBA2L; PROHB; PO4HB; PO4DB; DSI; GIT; Procollagen-Proline, 2-Oxoglutarate 4-Dioxygenase (Proline 4-Hydroxylase), Beta Polypeptide; Protein Disulfide Isomerase Family A, Member 1; Protein Disulfide Isomerase-Associated 1; Cellular Thyroid Hormone-Binding Protein; Prolyl 4-Hydroxylase, Beta Polypeptide; Collagen Prolyl 4-Hydroxylase Beta; Protein Disulfide-Isomerase; EC 5.3.4.1; P55; Procollagen-Proline, 2-Oxoglutarate 4-Dioxygenase (Proline 4-Hydroxylase), Beta Polypeptide (Protein Disulfide Isomerase; Thyroid Hormone Binding Protein P55) ; Procollagen-Proline, 2-Oxoglutarate 4-Dioxygenase (Proline 4-Hydroxylase), Beta Polypeptide (Protein Disulfide Isomerase-Associated 1); Protein Disulfide Isomerase/Oxidoreductase; Glutathione-Insulin Transhydrogenase; Thyroid Hormone-Binding Protein P55; Testicular Secretory Protein Li 32; Protocollagen Hydroxylase; CLCRP1; PHDB Recombinant protein of human PDI
Immunogen	

KD-Validated Anti-Prolyl 4-Hydroxylase Subunit Beta Mouse Monoclonal Antibody - Additional Information

Gene ID	5034
Other Names	
Protein disulfide-isomerase, PDI, 5.3.4.1, Cellular thyroid hormone-binding protein, Prolyl 4-hydroxylase subunit beta, p55, P4HB, ERBA2L, PDI, PDIA1, PO4DB	

KD-Validated Anti-Prolyl 4-Hydroxylase Subunit Beta Mouse Monoclonal Antibody - Protein Information

Name P4HB

Synonyms ERBA2L, PDI, PDIA1, PO4DB

Function

This multifunctional protein catalyzes the formation, breakage and rearrangement of disulfide bonds. At the cell surface, seems to act as a reductase that cleaves disulfide bonds of proteins attached to the cell. May therefore cause structural modifications of exofacial proteins. Inside the cell, seems to form/rearrange disulfide bonds of nascent proteins. At high concentrations and following phosphorylation by FAM20C, functions as a chaperone that inhibits aggregation of misfolded proteins (PubMed:32149426). At low concentrations, facilitates aggregation (anti-chaperone activity). May be involved with other chaperones in the structural modification of the TG precursor in hormone biogenesis. Also acts as a structural subunit of various enzymes such as prolyl 4-hydroxylase and microsomal triacylglycerol transfer protein MTTP. Receptor for LGALS9; the interaction retains P4HB at the cell surface of Th2 T helper cells, increasing disulfide reductase activity at the plasma membrane, altering the plasma membrane redox state and enhancing cell migration (PubMed:21670307).

Cellular Location

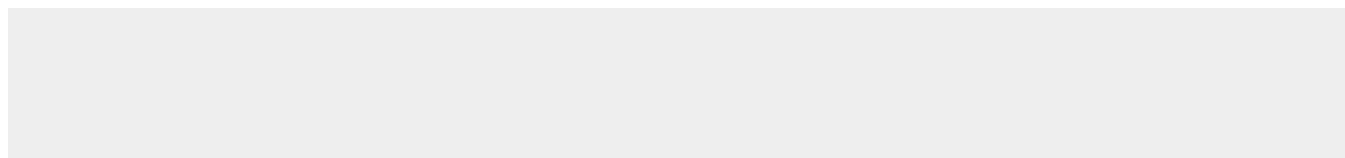
Endoplasmic reticulum. Endoplasmic reticulum lumen. Melanosome. Cell membrane; Peripheral membrane protein. Note=Highly abundant. In some cell types, seems to be also secreted or associated with the plasma membrane, where it undergoes constant shedding and replacement from intracellular sources (Probable). Localizes near CD4-enriched regions on lymphoid cell surfaces (PubMed:11181151). Identified by mass spectrometry in melanosome fractions from stage I to stage IV (PubMed:10636893) Colocalizes with MTTP in the endoplasmic reticulum (PubMed:23475612) {ECO:0000269|PubMed:10636893, ECO:0000269|PubMed:11181151, ECO:0000269|PubMed:23475612, ECO:0000305}

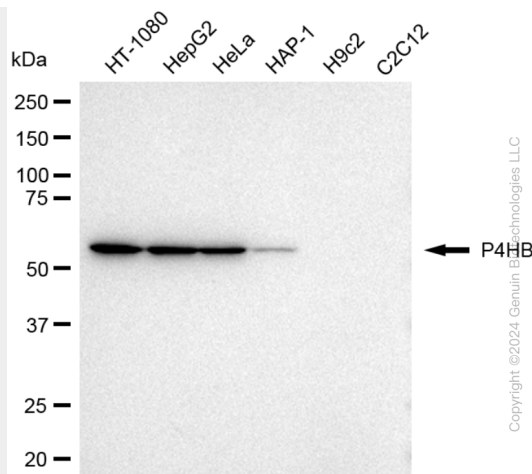
KD-Validated Anti-Prolyl 4-Hydroxylase Subunit Beta Mouse Monoclonal Antibody - Protocols

Provided below are standard protocols that you may find useful for product applications.

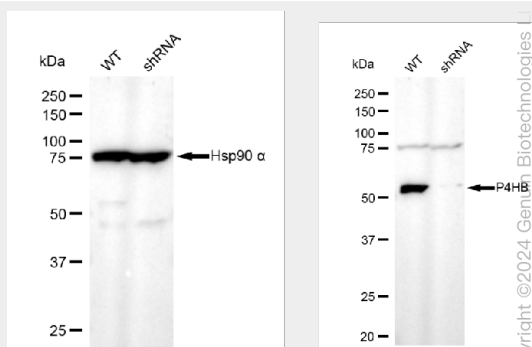
- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

KD-Validated Anti-Prolyl 4-Hydroxylase Subunit Beta Mouse Monoclonal Antibody - Images

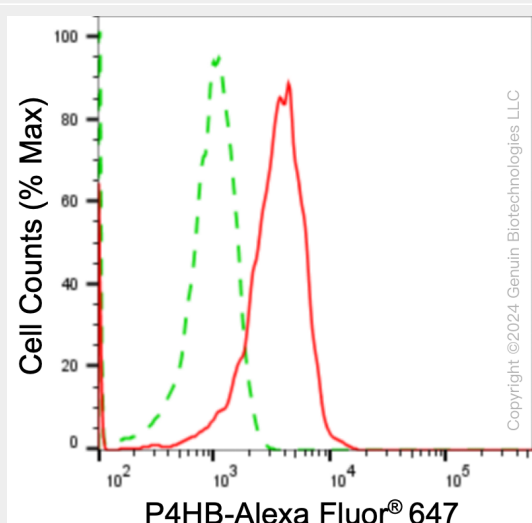




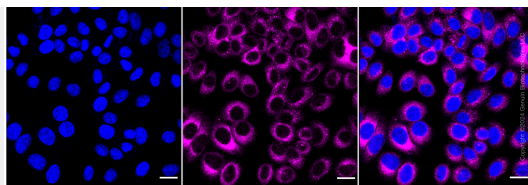
Western blotting analysis using anti-P4HB antibody (Cat#AGI1780). Total cell lysates (30 µg) from various cell lines were loaded and separated by SDS-PAGE. The blot was incubated with anti-P4HB antibody (Cat#AGI1780, 1:5,000) and HRP-conjugated goat anti-mouse secondary antibody respectively.



Western blotting analysis using anti-P4HB antibody (Cat#AGI1780). P4HB expression in wild type (WT) and P4HB shRNA knockdown (KD) HT-1080 cells with 30 µg of total cell lysates. Hsp90 α serves as a loading control. The blot was incubated with anti-P4HB antibody (Cat#AGI1780, 1:5,000) and HRP-conjugated goat anti-mouse secondary antibody respectively.



Flow cytometric analysis of P4HB expression in HepG2 cells using anti-P4HB antibody (Cat #AGI1780, 1:2,000). Green, isotype control; red, P4HB.



Immunocytochemical staining of HepG2 cells with anti-P4HB antibody (Cat#AGI1780, 1:1000). Nuclei were stained blue with DAPI; P4HB was stained magenta with Alexa Fluor® 647. Images were taken using Leica stellaris 5. Protein abundance based on laser Intensity and smart gain: Medium. Scale bar: 20 μ m.