**Product name**  Anti-P4HB antibody [EPR9498]  ab137119

**Description**  Rabbit monoclonal [EPR9498] to P4HB

**Host species**  Rabbit

**Tested applications**  Suitable for: WB, IHC-P, IP  
Unsuitable for: FM or ICC/IF

**Species reactivity**  Reacts with: Mouse, Rat, Human

**Immunogen**  Synthetic peptide within Human P4HB aa 50-150. The exact sequence is proprietary.

**Positive control**  Recombinant Human P4HB protein (ab115719) can be used as a positive control in WB. HeLa, HepG2, A431, and MCF7 cell lysates, Human colon adenocarcinoma tissue.

**General notes**  
Our RabMab® technology is a patented hybridoma-based technology for making rabbit monoclonal antibodies. For details on our patents, please refer to RabMab® patents.  
This product is a recombinant rabbit monoclonal antibody.

**Properties**

**Form**  Liquid

**Storage instructions**  Shipped at 4°C. Upon delivery aliquot and store at -20°C. Avoid freeze / thaw cycles.

**Storage buffer**  Preservative: 0.01% Sodium azide  
Constituents: 9% PBS, 40% Glycerol, 0.05% BSA, 50% Tissue culture supernatant

**Purity**  Tissue culture supernatant

**Clonality**  Monoclonal

**Clone number**  EPR9498

**Isotype**  IgG

**Applications**
Our **Abpromise guarantee** covers the use of **ab137119** in the following tested applications.
The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.

<table>
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<tr>
<th>Application</th>
<th>Abreviews</th>
<th>Notes</th>
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<tr>
<td>WB</td>
<td>1/1000 - 1/10000. Detects a band of approximately 57 kDa (predicted molecular weight: 57 kDa).</td>
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<tr>
<td>IHC-P</td>
<td>1/50 - 1/100. Perform heat mediated antigen retrieval with citrate buffer pH 6 before commencing with IHC staining protocol.</td>
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<tr>
<td>IP</td>
<td>1/10 - 1/100.</td>
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**Application notes**
Is unsuitable for FM or ICC/IF.

**Target**

**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, functions as a chaperone that inhibits aggregation of misfolded proteins. 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 a structural subunit of various enzymes such as prolyl 4-hydroxylase and microsomal triacylglycerol transfer protein MTTP.

**Sequence similarities**
Belongs to the protein disulfide isomerase family.
Contains 2 thioredoxin domains.

**Cellular localization**
Endoplasmic reticulum lumen. Melanosome. Cell membrane. 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. Identified by mass spectrometry in melanosome fractions from stage I to stage IV.

**Images**
All lanes: Anti-P4HB antibody [EPR9498] (ab137119) at 1 µg/ml

Lane 1: Wild-type HeLa whole cell lysate
Lane 2: P4HB knockout HeLa whole cell lysate
Lane 3: HEP G2 whole cell lysate

Lysates/proteins at 20 µg per lane.

Predicted band size: 57 kDa

Lanes 1 - 3: Merged signal (red and green). Green - ab137119 observed at 57 kDa. Red - loading control, ab9484, observed at 37 kDa.

ab137119 was shown to specifically react with P4HB (Protein disulfide-isomerase) in wild-type HeLa cells as signal was lost in P4HB knockout cells. Wild-type and P4HB knockout samples were subjected to SDS-PAGE. The membrane was blocked with 3% milk. Ab137119 and ab9484 (Mouse anti-GAPDH loading control) were incubated overnight at 4°C at 1 µg/ml and 1/20000 dilution respectively. Blots were developed with Goat anti-Rabbit IgG H&L (IRDye® 800CW) preabsorbed ab216773 and Goat anti-Mouse IgG H&L (IRDye® 680RD) preabsorbed ab216776 secondary antibodies at 1/20000 dilution for 1 hour at room temperature before imaging.

All lanes: Anti-P4HB antibody [EPR9498] (ab137119) at 1/1000 dilution

Lane 1: HeLa cell lysate
Lane 2: HepG2 cell lysate
Lane 3: A431 cell lysate
Lane 4: MCF7 cell lysate

Lysates/proteins at 10 µg per lane.

Secondary

All lanes: HRP labelled goat anti-rabbit at 1/2000 dilution

Predicted band size: 57 kDa
Observed band size: 57 kDa
Immunohistochemical analysis of paraffin embedded Human colon adenocarcinoma tissue labelling P4HB with ab137119 antibody at a dilution of 1/50.

Please note: All products are "FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC PROCEDURES"

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