Data Sheet (Cat.No.TMAY-03382)

TargetMol

Anti-P4HB Antibody (2L5)

Product Details

Ig Type:	Rabbit IgG
Reactivity:	Mouse
Conjugation:	Unconjugated
Clone:	2L5
Purification:	Protein A

Applications

Verified Activity:	1. Immunochemical staining of mouse P4HB in mouse liver with rabbit monoclonal antibody (1:200, formalin-fixed paraffin embedded sections). 2. Immunochemical staining of mouse P4HB in mouse intestine with rabbit monoclonal antibody (1:200, formalin-fixed paraffin embedded sections). 3. Immunochemical staining of mouse P4HB in mouse brain with rabbit monoclonal antibody (1:200, formalin-fixed paraffin embedded sections). 4. Immunofluorescence staining of P4HB in NIH/3T3 cells. Cells were fixed with 4% PFA, permeabilzed with 0.3% Triton X-100 in PBS, blocked with 10% serum, and incubated with rabbit anti-mouse P4HB monoclonal antibody (1:60) at 4°C overnight. Then cells were stained with the Alexa Fluor® 488-conjugated Goat Anti-rabbit IgG secondary antibody (green) and counterstained with DAPI (blue).
Application:	ICC/IF,IHC-P
Recommended	IHC-P: 1:100-1:500; ICC-IF: 1:20-1:100

Properties

Stability & Storage:	Store at 2°C-8°C for 1 month. Store at -20°C or -80°C for 12 months. Avoid repeated freeze-thaw cycles. Preservative-Free.
Shipping:	Shipping with blue ice.

Antigen Details

Immunogen:	Recombinant Protein: Mouse P4HB protein (TMPY-01795)
Antigen Species:	Mouse
Synonyms:	prolyl 4-hydroxylase, beta polypeptide;PDI;Pdia1;ERp59;Thbp;prolyl 4-hydroxylase, β polypeptide

Research Background

Protein disulfide-isomerase, also known as Cellular thyroid hormone-binding protein, Prolyl 4-hydroxylase subunit beta, p55 and P4HB, is a peripheral membrane protein that belongs to the protein disulfide isomerase family. P4HB is highly abundant. In some cell types, it seems to be also secreted or associated with the plasma membrane, where it undergoes constant shedding and replacement from intracellular sources. P4HB localizes near CD4-enriched regions on lymphoid cell surfaces. It is identified by mass spectrometry in melanosome fractions from stage I to stage IV. P4HB reduces and may activate fusogenic properties of HIV-1 gp12 surface protein, thereby enabling HIV-1 entry into the cell. P4HB catalyzes the formation, breakage and rearrangement of disulfide bonds. At the cell surface, it seems to act as a reductase that cleaves disulfide bonds of proteins attached to the cell. P4HB may

therefore cause structural modifications of exofacial proteins. Inside the cell, it seems to form/rearrange disulfide bonds of nascent proteins. At high concentrations, P4HB functions as a chaperone that inhibits aggregation of misfolded proteins. At low concentrations, it facilitates aggregation (anti-chaperone activity). P4HB may be involved with other chaperones in the structural modification of the TG precursor in hormone biogenesis. It also acts as a structural subunit of various enzymes such as prolyl 4-hydroxylase and microsomal triacylglycerol transfer protein MTTP.

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