10320 Camino Santa Fe, Suite G
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PDIA1 Antibody
Purified Mouse Monoclonal Antibody (Mab)
Catalog # AM8515b

Specification

PDIA1 Antibody - Product Information

Application	**WB,E**
Primary Accession	P07237
Reactivity	**Human**
Host	**Mouse**
Clonality	**monoclonal**
Isotype	**IgG1,k**
Calculated MW	**57116**

PDIA1 Antibody - Additional Information

Gene ID 5034

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

Target/Specificity
This PDIA1 antibody is generated from a mouse immunized with a recombinant protein of human PDIA1.

Dilution
WB~~1:4000

Format
Purified monoclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is purified through a protein G column, followed by dialysis against PBS.

Storage
Maintain refrigerated at 2-8°C for up to 2 weeks. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.

Precautions
PDIA1 Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

PDIA1 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).

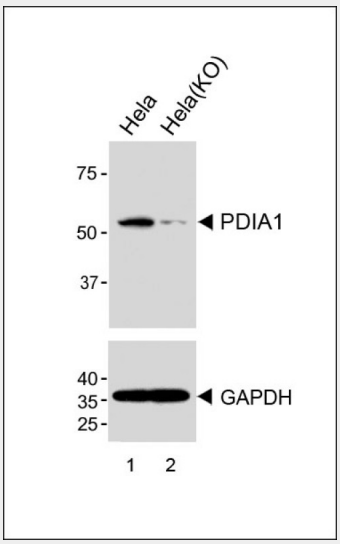
Cellular Location
Endoplasmic reticulum. Endoplasmic reticulum lumen. Melanosome. Cell membrane; Peripheral membrane protein. Note=Highly abundant. In some cell types, seems to be also secreted or associated with the plasma membrane, where it undergoes constant shedding and replacement from intracellular 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}

PDIA1 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 Cytomety
- Cell Culture

PDIA1 Antibody - Images



All lanes : Anti-PDIA1 Antibody at 1:1000 dilution (upper) Lane 1: HeLa Lane 2: HeLa-Knockout

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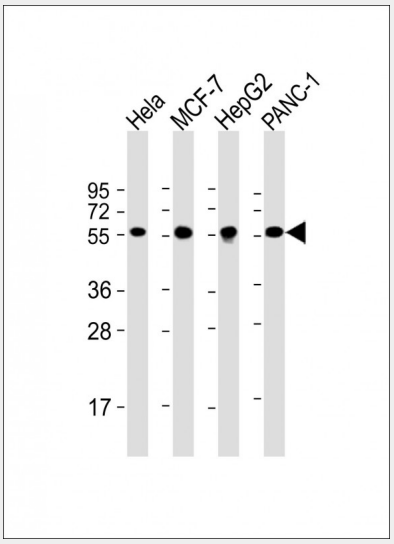
Lysates/proteins at 20 µg per lane. Secondary Goat Anti-Mouse IgG, (H+L), Peroxidase conjugated (ASP1613) at 1/8000 dilution. Predicted band size : 57 kDa



All lanes : Anti-PDIA1 Antibody at 1:4000 dilution Lane 1: Hela whole cell lysate Lane 2: MCF-7 whole cell lysate Lane 3: HepG2 whole cell lysate Lane 4: PANC-1 whole cell lysate Lysates/proteins at 20 µg per lane. Secondary Goat Anti-mouse IgG, (H+L), Peroxidase conjugated at 1/10000 dilution. Predicted band size : 57 kDa Blocking/Dilution buffer: 5% NFDM/TBST.

PDIA1 Antibody - Background

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.

PDIA1 Antibody - References

Pihlajaniemi T.,et al.EMBO J. 6:643-649(1987).
Cheng S.-Y.,et al.J. Biol. Chem. 262:11221-11227(1987).
Tasanen K.,et al.J. Biol. Chem. 263:16218-16224(1988).
Ota T.,et al.Nat. Genet. 36:40-45(2004).
Mural R.J.,et al.Submitted (JUL-2005) to the EMBL/GenBank/DDBJ databases.