

PDI (A-1): sc-376370

BACKGROUND

Oxidoreductase-protein disulfide isomerase (PDI) is a homodimer consisting of subunits that catalyzes thiol-disulfide exchange, mediates folding of newly synthesized proteins and functions as a molecular chaperone. PDI localizes to the lumen of the endoplasmic reticulum (ER), where in conjunction with folding-helper proteins, such as immunoglobulin heavy chain binding protein (BiP), mediates tertiary and quaternary protein-processing. Cell surface PDI induces sulfhydryl-mediated conformational changes in integrin-mediated adhesion receptor-ligand interactions, thereby regulating integrin responses and cell adhesion. Additionally, PDI functions as a subunit of two more complex enzyme systems: the prolyl-4-hydroxylase and the triacylglycerol transfer proteins.

CHROMOSOMAL LOCATION

Genetic locus: P4HB (human) mapping to 17q25.3; P4hb (mouse) mapping to 11 E2.

SOURCE

PDI (A-1) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 221-257 within an internal region of PDI of human origin.

PRODUCT

Each vial contains 200 µg IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-376370 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

STORAGE

Store at 4° C, ****DO NOT FREEZE****. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

APPLICATIONS

PDI (A-1) is recommended for detection of precursor and mature PDI of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for PDI siRNA (h): sc-36201, PDI siRNA (m): sc-36202, PDI shRNA Plasmid (h): sc-36201-SH, PDI shRNA Plasmid (m): sc-36202-SH, PDI shRNA (h) Lentiviral Particles: sc-36201-V and PDI shRNA (m) Lentiviral Particles: sc-36202-V.

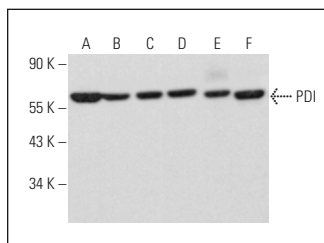
Molecular Weight of PDI: 55 kDa.

Positive Controls: JAR cell lysate: sc-2276, HeLa whole cell lysate: sc-2200 or HT-1080 whole cell lysate: sc-364183.

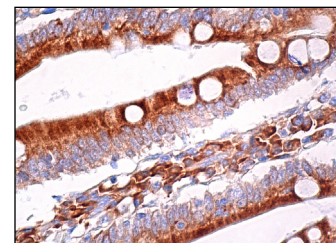
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850. 4) Immunohistochemistry: use m-IgGκ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

DATA



PDI (A-1): sc-376370. Western blot analysis of PDI expression in TT (A), JAR (B), HeLa (C) and HT-1080 (D) whole cell lysates and mouse liver (E) and rat liver (F) tissue extracts.



PDI (A-1): sc-376370. Immunoperoxidase staining of formalin fixed, paraffin-embedded human small intestine tissue showing cytoplasmic staining of glandular cells.

SELECT PRODUCT CITATIONS

- Chen, M., et al. 2014. Isthmin targets cell-surface GRP78 and triggers apoptosis via induction of mitochondrial dysfunction. *Cell Death Differ.* 21: 797-810.
- Olivares-Garcia, V., et al. 2015. Fasting and postprandial regulation of the intracellular localization of adiponectin and of adipokines secretion by dietary fat in rats. *Nutr. Diabetes* 5: e184.
- Chang, P., et al. 2017. Molecular identification of transmembrane protein 68 as an endoplasmic reticulum-anchored and brain-specific protein. *PLoS ONE* 12: e0176980.
- Chen, M., et al. 2018. Extracellular anti-angiogenic proteins augment an endosomal protein trafficking pathway to reach mitochondria and execute apoptosis in HUVECs. *Cell Death Differ.* 25: 1905-1920.

RESEARCH USE

For research use only, not for use in diagnostic procedures.



See **PDI (C-2): sc-74551** for PDI antibody conjugates, including AC, HRP, FITC, PE, and Alexa Fluor® 488, 546, 594, 647, 680 and 790.