

PDIR (E-20): sc-66800

BACKGROUND

Oxidoreductase-protein disulfide isomerase (PDI) is a homodimer that catalyzes thiol-disulfide exchange, mediates folding of newly synthesized proteins and functions as a molecular chaperone. PDIR (protein disulfide isomerase-related protein), also known as PDIA5 (protein disulfide-isomerase A5), is a 519 amino acid protein that catalyzes the rearrangement of sulfur-sulfur bonds in various proteins. Localized to the lumen of the endoplasmic reticulum (ER), PDIR has an oxidative refolding activity that is specific for α 1-antitrypsin (AAT) and aids in the formation of disulfide bonds in the ER lumen. PDIR contains one ER retention signal at its C-terminus and three thioredoxin (CXXC) motifs which mediate the substrate-specific isomerase, chaperone and redox activity of PDIR.

REFERENCES

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- Horibe, T., Iguchi, D., Masuoka, T., Gomi, M., Kimura, T. and Kikuchi, M. 2004. Replacement of domain b of human protein disulfide isomerase-related protein with domain b' of human protein disulfide isomerase dramatically increases its chaperone activity. *FEBS Lett.* 566: 311-315.
- Jessop, C.E., Chakravarthi, S., Watkins, R.H. and Bulleid, N.J. 2004. Oxidative protein folding in the mammalian endoplasmic reticulum. *Biochem. Soc. Trans.* 32: 655-658.
- Maniratanachote, R., Minami, K., Katoh, M., Nakajima, M. and Yokoi, T. 2005. Chaperone proteins involved in troglitazone-induced toxicity in human hepatoma cell lines. *Toxicol. Sci.* 83: 293-302.

CHROMOSOMAL LOCATION

Genetic locus: PDIA5 (human) mapping to 3q21.1; Pdia5 (mouse) mapping to 16 B3.

SOURCE

PDIR (E-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of PDIR of human origin.

PRODUCT

Each vial contains 200 μ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-66800 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

STORAGE

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

APPLICATIONS

PDIR (E-20) is recommended for detection of PDIR of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

PDIR (E-20) is also recommended for detection of PDIR in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for PDIR siRNA (h): sc-62767, PDIR siRNA (m): sc-62768, PDIR shRNA Plasmid (h): sc-62767-SH, PDIR shRNA Plasmid (m): sc-62768-SH, PDIR shRNA (h) Lentiviral Particles: sc-62767-V and PDIR shRNA (m) Lentiviral Particles: sc-62768-V.

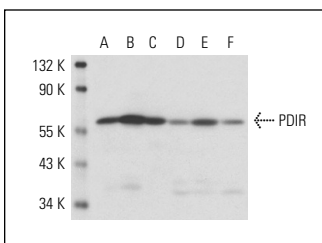
Molecular Weight of PDIR: 60 kDa.

Positive Controls: HT-1080 whole cell lysate: sc-364183, JAR cell lysate: sc-2276 or Hep G2 cell lysate: sc-2227.

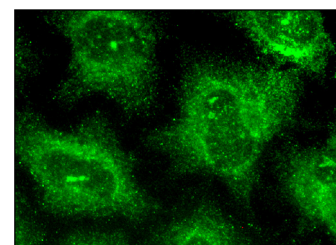
RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 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 donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

DATA



PDIR (E-20): sc-66800. Western blot analysis of PDIR expression in HT-1080 (A), JAR (B), Hep G2 (C), HeLa (D), MIA PaCa-2 (E) and JEG-3 (F) whole cell lysates.



PDIR (E-20): sc-66800. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic localization.

RESEARCH USE

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

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.