

# PDI (E-20): sc-17222

## 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.

## REFERENCES

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- Mayer, M., Kies, U., Kammermeier, R. and Buchner, J. 2000. BiP and PDI cooperate in the oxidative folding of antibodies *in vitro*. *J. Biol. Chem.* 275: 29421-29425.
- Lahav, J., Gofer-Dadosh, N., Luboshitz, J., Hess, O. and Shaklai, M. 2000. Protein disulfide isomerase mediates integrin-dependent adhesion. *FEBS Lett.* 475: 89-92.
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- Maattanen, P., Kozlov, G., Gehring, K. and Thomas, D.Y. 2006. Erp57 and PDI: multifunctional protein disulfide isomerases with similar domain architectures but differing substrate-partner associations. *Biochem. Cell Biol.* 84: 881-889.

## CHROMOSOMAL LOCATION

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

## SOURCE

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

## PRODUCT

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

Blocking peptide available for competition studies, sc-17222 P, (100  $\mu$ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## RESEARCH USE

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

## APPLICATIONS

PDI (E-20) is recommended for detection of precursor and mature PDI of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ g 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).

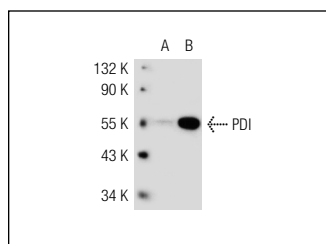
PDI (E-20) is also recommended for detection of precursor and mature PDI in additional species, including equine, canine and bovine.

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.

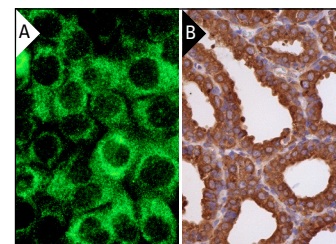
Molecular Weight of PDI: 55 kDa.

Positive Controls: PDI (h): 293 Lysate : sc-111237, HeLa whole cell lysate: sc-2200 or Hep G2 cell lysate: sc-2227.

## DATA



PDI (E-20): sc-17222. Western blot analysis of PDI expression in non-transfected: sc-117752 (A) and human PDI transfected: sc-111237 (B) 293T whole cell lysates.



DI (E-20): sc-17222. Immunofluorescence staining of methanol-fixed A-431 cells showing cytoplasmic localization (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded human seminal vesicle tissue showing cytoplasmic staining of glandular cells (B).

## SELECT PRODUCT CITATIONS

- Chen, Y.F., Wang, I.J., Lin, L.L. and Chen, M.S. 2011. Examining rhodopsin retention in endoplasmic reticulum and intracellular localization *in vitro* and *in vivo* by using truncated rhodopsin fragments. *J. Cell. Biochem.* 112: 520-530.

## STORAGE

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



Try **PDI (C-2): sc-74551** or **PDI (A-1): sc-376370**, our highly recommended monoclonal alternatives to PDI (E-20). Also, for AC, HRP, FITC, PE, Alexa Fluor® 488 and Alexa Fluor® 647 conjugates, see **PDI (C-2): sc-74551**.