

Anti-PDI

Catalog# SPC-114C/D

Size: 25/100µL

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This product is for *in vitro* research use only and is not intended for use in humans or animals

StressMarq

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Product	Rabbit anti-PDI antibody; polyclonal
Clone	N/A
Immunogen	Rat PDI synthetic peptide conjugated to KLH
Host and Subclass	Rabbit
Applications	WB, IP, ICC, IHC
Specificity	Detects ~58kDa
Species cross-reactivity	Human, Mouse, Rat, Dog, Hamster, Monkey, Guinea Pig, Bovine, Sheep, Pig, Xenopus
Format	Whole Rabbit serum
Working Dilution	WB 1:4000 (ECL)
Storage and stability	-20°C; 1 year+; shipped on cold packs or ambient

Scientific Background

The three dimensional structure of many extracellular proteins is stabilized by the formation of disulphide bonds. Studies suggest that a microsomal enzyme known as Protein Disulphide Isomerase (PDI) is involved in disulphide-bond formation via its oxidase activity and isomerization via its isomerase activity, as well as the reduction of disulphide bonds in proteins (1). Studies suggest BiP and PDI work together sequentially to increase oxidation of these proteins (2, 3). PDI has also been found to function as a chaperone to prevent the aggregation of unfolded substrates, and serves as a subunit of prolyl 4-hydroxylase and microsomal triglyceride transferase (4, 5).

PDI is an abundant 55kDa protein located primarily in the ER, however studies have also proved its presence in the cytosol (1). PDI has the ability to reside in the ER permanently due to the highly conserved KDEL sequence at its carboxy-terminus (6). It uses carboxy-terminal KDEL as a retention signal, and this appears to be sufficient to reduce the secretion of proteins from the ER. This retention is reported to be mediated by a KDEL receptor (7).

Selected References

1. NA K.S. *et al.* (2007) *Mol Cells*. 24(2): 261-7.
2. Mayer M., Kies U., Kammermeier R., and Buchner J. (2000) *J Biol Chem*. 275(38): 29421-5.
3. Delom F., Mallet B., Carayon P., and Lejeune P.J. (2001) *J Biol Chem* 276(24): 21337-42.
4. Schultz-Norton J.R., McDonald W.H., Yates J.R. and Nardulli A.M. (2006) *Mol Endocrinol* 20(9): 1982-95
5. Turano C., Coppari S. Altieri F. and Ferraro (2002) *J Cell Physiol* 193: 154-163.
6. Janiszewski M. (2005) *J. Biol Chem*. 280(49): 40813-40819.
7. Yoshimori T., *et al.* (1990) *J Biol Chem*. 265(26): 15984-90.

Certificate of Analysis

A 1:4000 dilution of SPC-114 was sufficient for detection of PDI in 20µg of HeLa cell lysate by ECL immunoblot analysis.

Material Safety Data Sheet

Anti-PDI (Polyclonal Antibody) SPC-114

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The below information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. StressMarq shall not be held liable for any damage resulting from handling or from contact with the above product. See the Technical Specification, Packing Slip, Invoice, and Product Catalogue for additional terms and conditions of sale.

Hazardous Ingredients

The physical, chemical and toxicological properties of these components have not been fully investigated. It is recommended that all laboratory personnel follow standard laboratory safety procedures when handling this product. Safety procedures should include wearing OSHA approved safety glasses, gloves and protective clothing. Direct physical contact with this product should be avoided.

<u>Known Hazardous Components</u>	<u>CAS Number</u>	<u>Percent</u>
None		

Physical Data

This product consists of whole rabbit serum shipped on gel packs. The physical properties of this product have not been investigated thoroughly.

Fire and Explosion Hazard and Reactivity Data

NOT APPLICABLE

Toxicological Properties

May be harmful by inhalation, ingestion, or skin absorption. The toxicological properties of this product have not been investigated thoroughly. Exercise due caution.

Preventative Measures

Wear chemical safety goggles and compatible chemical-resistant gloves. Avoid inhalation, contact with eyes, skin or clothing.

Spill and Leak Procedures

Observe all federal, state and local environmental regulations.

- Wear protective equipment.
- Absorb on sand or vermiculite and place in closed containers for disposal.
- Dispose or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber.

First Aid Measures

- If swallowed, wash out mouth with water, provided person is conscious. Call a physician.
- In case of skin contact, flush with copious amounts of water for at least 15 minutes. Remove contaminated clothing and shoes. If a rash or other irritation develops, call a physician.
- If inhaled, remove to fresh air. If breathing becomes difficult, call a physician.
- In case of eye contact, flush with copious amounts of water for at least 15 minutes while separating the eyelids with fingers. Call a physician.

Authorized: StressMarq Biosciences Inc.
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