SANTA CRUZ BIOTECHNOLOGY, INC.

PDI1 ER and Nuclear Envelope Marker (38H8): sc-57963

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Protein disulfide isomerase (PDI1) introduces disulfides into secretary proteins and catalyzes the rearrangement of incorrect disulfides to provide quality control during their translocation into the endoplasmic reticulum (ER). PDI1 is an essential component of the pathway for the formation of disulfide bonds within the yeast ER, and it contributes both oxidase and isomerase activities to the ER. If a protein is folded incorrectly, PDI1 targets them to the export channel in the ER membrane. Yeast cells all have a double membrane surrounding the nucleus that functions to protect their genetic material. The nuclear envelope may also play a role in the disposition of chromatin inside the nucleus. The nuclear envelope has unique proteins that may be helpful in applications to study this part of the yeast cell.

REFERENCES

1. Tachikawa, H., et al. 1995. Isolation and characterization of a yeast gene, MPD1, the overexpression of which suppresses inviability caused by protein disulfide isomerase depletion. FEBS Lett. 369: 212-216.
2. Tachikawa, H., et al. 1997. Overproduction of Mpd2p suppresses the lethality of protein disulfide isomerase depletion in a CXXC sequence dependent manner. Biochem. Biophys. Res. Commun. 239: 710-714.
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4. Mori, K., et al. 1998. Palindrome with unfolded protein response element in *Saccharomyces cerevisiae*. J. Biol. Chem. 273: 9912-9920.
5. Gillece, P., et al. 2000. Export of a cysteine-free misfolded secretory protein from the endoplasmic reticulum for degradation requires interaction with protein disulfide isomerase. J. Cell Biol. 147: 1443-1456.
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7. Nørgaard, P., et al. 2001. Functional differences in yeast protein disulfide isomerases. J. Cell Biol.152: 553-562.
8. Sevier, C.S., et al. 2001. A flavoprotein oxidase defines a new endoplasmic reticulum pathway for biosynthetic disulphide bond formation. Nat. Cell Biol. 3: 874-882.
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SOURCE

PDI1 ER and Nuclear Envelope Marker (38H8) is a mouse monoclonal antibody raised against yeast membrane preparation.

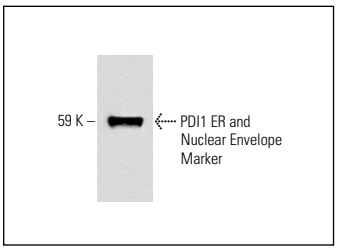
PRODUCT

Each vial contains 250 µl culture supernatant containing IgG_1 with PBS and < 0.1% sodium azide.

APPLICATIONS

PDI1 ER and Nuclear Envelope Marker (38H8) is recommended for detection of PDI1 ER and Nuclear Envelope Marker of *S. cerevisiae* origin by Western Blotting (starting dilution to be determined by researcher, dilution range 1:1000-1:5000), immunoprecipitation [10-20 µl per 100-500 µg of total protein (1 ml of cell lysate)] and immunofluorescence (starting dilution to be determined by researcher, dilution range 1:100-1:2500).

DATA



PDI1 ER and Nuclear Envelope Marker (38H8): sc-57963. Western blot analysis of PDI1 ER and Nuclear Envelope Marker expression in yeast cell extract.

SELECT PRODUCT CITATIONS

1. Chadwick, S.R., et al. 2025. TUDCA modulates drug bioavailability to regulate resistance to acute ER stress in *Saccharomyces cerevisiae*. Mol. Biol. Cell 36: ar13.

STORAGE

For immediate and continuous use, store at 4° C for up to one month. For sporadic use, freeze in working aliquots in order to avoid repeated freeze/thaw cycles. If turbidity is evident upon prolonged storage, clarify solution by centrifugation.

RESEARCH USE

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

PROTOCOLS

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