

ERp72 (h): 293T Lysate: sc-175288

BACKGROUND

Mammals defend themselves against intracellular pathogens through presentation of cytoplasmically derived short pathogenic peptides to the cell surface of cytotoxic T lymphocytes, which subsequently leads to cytotoxic events with respect to the affected cell. Antigen presentation is mediated by major histocompatibility complex (MHC) class I molecules, which bind and coordinate short pathogenic peptides. The proper folding and assembly of MHC class I molecules in the endoplasmic reticulum (ER) involve a number of components. MHC class I molecules assemble in the ER with chaperones before binding to the transporter associated with antigen processing (TAP) protein. ERp57 is a component of the MHC class I pathway that appears to interact with MHC class I molecules before they associate with TAP. ERp72, also designated protein disulfide-isomerase A4, is involved in the catalysis of protein-S-S- bond rearrangement. ERp57 and ERp72 may act as proteases, protein disulfide isomerases, phospholipases or a combination of these.

REFERENCES

1. Huang, S.H., et al. 1991. Human deoxycytidine kinase. Sequence of cDNA clones and analysis of expression in cell lines with and without enzyme activity. *J. Biol. Chem.* 266: 5353.
2. Hirano, N., et al. 1995. Molecular cloning of the human glucose-regulated protein ERp57/GRP58, a thiol-dependent reductase. Identification of its secretory form and inducible expression by the oncogenic transformation. *Eur. J. Biochem.* 234: 336-342.
3. Hughes, E.A., et al. 1998. The thiol oxidoreductase ERp57 is a component of the MHC class I peptide-loading complex. *Curr. Biol.* 8: 709-712.
4. Morrice, N.A., et al. 1998. A role for the thiol-dependent reductase ERp57 in the assembly of MHC class I molecules. *Curr. Biol.* 8: 713-716.
5. MacAry, P.A., et al. 2001. Mobilization of MHC class I molecules from late endosomes to the cell surface following activation of CD34-derived human Langerhans cells. *Proc. Natl. Acad. Sci. USA* 98: 3982-3987.
6. SWISS-PROT/TrEMBL (P13667). World Wide Web URL: <http://www.expasy.ch/sprot/sprot-top.html>

CHROMOSOMAL LOCATION

Genetic locus: PDIA4 (human) mapping to 7q36.1.

PRODUCT

ERp72 (h): 293T Lysate represents a lysate of human ERp72 transfected 293T cells and is provided as 100 µg protein in 200 µl SDS-PAGE buffer.

STORAGE

Store at -20° C. Repeated freezing and thawing should be minimized. Sample vial should be boiled once prior to use. Non-hazardous. No MSDS required.

PROTOCOLS

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

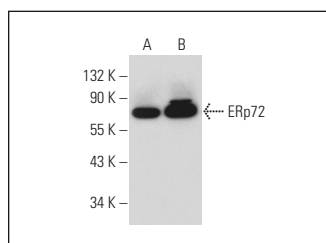
APPLICATIONS

ERp72 (h): 293T Lysate is suitable as a Western Blotting positive control for human reactive ERp72 antibodies.

Control 293T Lysate: sc-117752 is available as a Western Blotting negative control lysate derived from non-transfected 293T cells.

ERp72 (3): sc-135901 is recommended as a positive control antibody for Western Blot analysis of enhanced human ERp72 expression in ERp72 transfected 293T cells (starting dilution 1:100, dilution range 1:100-1:1,000).

DATA



ERp72 (3): sc-135901. Western blot analysis of ERp72 expression in non-transfected: sc-117752 (A) and human ERp72 transfected: sc-175288 (B) 293T whole cell lysates.

RESEARCH USE

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