



ERp57 (h): 293T Lysate: sc-175161

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. MHC class I molecules assemble in the endoplasmic reticulum with chaperones before binding to the transporter associated with antigen processing (TAP). ERp57 is a component of the MHC class I pathway that appears to interact with MHC class I molecules before they associate with TAP. The human ERp57 gene maps to chromosome 15q15.3 and encodes a 505 amino acid protein. ERp57/GRP 58 has two Trp-Cys-Gly-His-Cys-Lys motifs completely conserved among the mammals. ERp57 may act as a protease, a protein disulfide isomerase, a phospholipase or a combination of these.

REFERENCES

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2. Hughes, E.A. and Cresswell, P. 1998. The thiol oxidoreductase ERp57 is a component of the MHC class I peptide-loading complex. *Curr. Biol.* 8: 709-712.
3. Morrice, N.A. and Powis, S.J. 1998. A role for the thiol-dependent reductase ERp57 in the assembly of MHC class I molecules. *Curr. Biol.* 8: 713-716.
4. Online Mendelian Inheritance in Man, OMIM™. 1998. Johns Hopkins University, Baltimore, MD. MIM Number: 602046. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
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. LocusLink Report (LocusID: 2923). <http://www.ncbi.nlm.nih.gov/LocusLink/>

CHROMOSOMAL LOCATION

Genetic locus: PDIA3 (human) mapping to 15q15.3.

PRODUCT

ERp57 (h): 293T Lysate represents a lysate of human ERp57 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

ERp57 (h): 293T Lysate is suitable as a Western Blotting positive control for human reactive ERp57 antibodies. Recommended use: 10-20 µl per lane.

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

RESEARCH USE

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