

ERp57 (H-220): sc-28823

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 (also designated GRP58) 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 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.

CHROMOSOMAL LOCATION

Genetic locus: PDIA3 (human) mapping to 15q15.3; Pdia3 (mouse) mapping to 2 E5.

SOURCE

ERp57 (H-220) is a rabbit polyclonal antibody raised against amino acids 108-207 mapping within an internal region of ERp57 of human origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

ERp57 (H-220) is recommended for detection of ERp57 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg 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).

ERp57 (H-220) is also recommended for detection of ERp57 in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for ERp57 siRNA (h): sc-35341, ERp57 siRNA (m): sc-42876, ERp57 siRNA (r): sc-270455, ERp57 shRNA Plasmid (h): sc-35341-SH, ERp57 shRNA Plasmid (m): sc-42876-SH, ERp57 shRNA Plasmid (r): sc-270455-SH, ERp57 shRNA (h) Lentiviral Particles: sc-35341-V, ERp57 shRNA (m) Lentiviral Particles: sc-42876-V and ERp57 shRNA (r) Lentiviral Particles: sc-270455-V.

Molecular Weight of ERp57: 61 kDa.

Positive Controls: mouse liver extract: sc-2256, NRK whole cell lysate: sc-364197 or Caki-1 cell lysate: sc-2224.

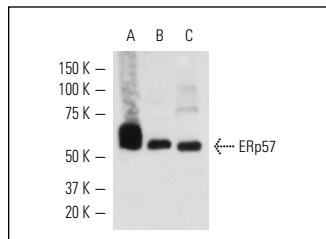
RESEARCH USE

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

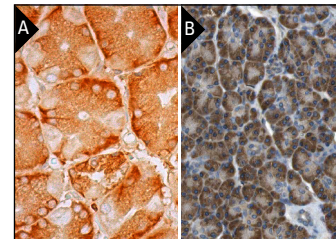
STORAGE

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

DATA



ERp57 (H-220): sc-28823. Western blot analysis of ERp57 expression in mouse liver tissue extract (A) and NRK (B) and Caki-1 (C) whole cell lysates.



ERp57 (H-220): sc-28823. Immunoperoxidase staining of formalin fixed, paraffin-embedded human lower stomach tissue showing cytoplasmic staining of glandular cells (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded human pancreas tissue showing cytoplasmic staining of exocrine pancreas. Kindly provided by The Swedish Human Protein Atlas (HPA) program (B).

SELECT PRODUCT CITATIONS

- Boyle, L.H., et al. 2006. Selective export of HLA-F by its cytoplasmic tail. *J. Immunol.* 176: 6464-6472.
- Del Cid, N., et al. 2010. Modes of calreticulin recruitment to the major histocompatibility complex class I assembly pathway. *J. Biol. Chem.* 285: 4520-4535.
- Jeffery, E., et al. 2011. The polypeptide binding conformation of calreticulin facilitates its cell-surface expression under conditions of endoplasmic reticulum stress. *J. Biol. Chem.* 286: 2402-2415.
- Rizvi, S.M., et al. 2011. Distinct functions for the glycans of tapasin and heavy chains in the assembly of MHC class I molecules. *J. Immunol.* 186: 2309-2320.
- Bravo, S.B., et al. 2011. Leptin and fasting regulate rat gastric glucose-regulated protein 58. *Int. J. Pept.* 2011: 969818.
- Lion, J., et al. 2013. MR1B, a natural spliced isoform of the MHC-related 1 protein, is expressed as homodimers at the cell surface and activates MAIT cells. *Eur. J. Immunol.* 43: 1363-1373.

PROTOCOLS

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