SANTA CRUZ BIOTECHNOLOGY, INC.

ERp72 (C-7): sc-376230

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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.

CHROMOSOMAL LOCATION

Genetic locus: PDIA4 (human) mapping to 7q36.1; Pdia4 (mouse) mapping to 6 B2.3.

SOURCE

ERp72 (C-7) is a mouse monoclonal antibody raised against amino acids 257-528 mapping within an internal region of ERp72 of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

STORAGE

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

RESEARCH USE

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

APPLICATIONS

ERp72 (C-7) is recommended for detection of ERp72 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, 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).

Suitable for use as control antibody for ERp72 siRNA (h): sc-44571, ERp72 siRNA (m): sc-44576, ERp72 shRNA Plasmid (h): sc-44571-SH, ERp72 shRNA Plasmid (m): sc-44576-SH, ERp72 shRNA (h) Lentiviral Particles: sc-44571-V and ERp72 shRNA (m) Lentiviral Particles: sc-44576-V.

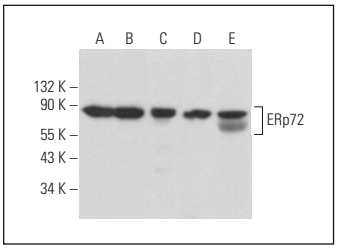
Molecular Weight of ERp72: 72 kDa.

Positive Controls: Jurkat whole cell lysate: sc-2204, THP-1 cell lysate: sc-2238 or IB4 whole cell lysate: sc-364780.

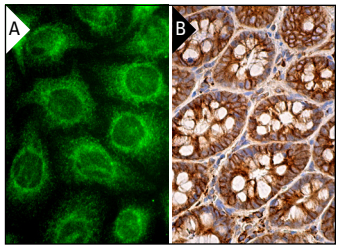
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850. 4) Immunohistochemistry: use m-IgGκ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

DATA



ERp72 (C-7): sc-376230. Western blot analysis of ERp72 expression in Jurkat (**A**), THP-1 (**B**), IB4 (**C**) and RPE-J (**D**) whole cell lysates and rat testis tissue extract (**E**).



ERp72 (C-7): sc-376230. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic localization (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded human rectum tissue showing cytoplasmic and membrane staining of glandular cells (**B**).

SELECT PRODUCT CITATIONS

1. Liu, C., et al. 2018. Insertion of 275-bp SINE into first intron of PDIA4 gene is associated with litter size in Xiang pigs. Anim. Reprod. Sci. 195: 16-23.
2. Wang, F., et al. 2021. Temporal proteomics reveal specific cell cycle oncoprotein downregulation by p97/VCP inhibition. Cell Chem. Biol. E-published.

PROTOCOLS

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