

# ERp57 (TO-2): sc-80648

## 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.

## CHROMOSOMAL LOCATION

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

## SOURCE

ERp57 (TO-2) is a mouse monoclonal antibody raised against a synthetic peptide corresponding to amino acids 484-502 of ERp57 of human origin.

## PRODUCT

Each vial contains 200 µg IgG<sub>1</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

ERp57 (TO-2) is available conjugated to either phycoerythrin (sc-80648 PE) or fluorescein (sc-80648 FITC), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM.

## APPLICATIONS

ERp57 (TO-2) 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 flow cytometry (1 µg per 1 x 10<sup>6</sup> cells).

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.

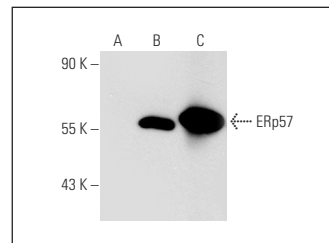
Molecular Weight of ERp57: 61 kDa.

Positive Controls: ERp57 (h): 293T Lysate: sc-175161, Daudi cell lysate: sc-2415 or NIH/3T3 whole cell lysate: sc-2210.

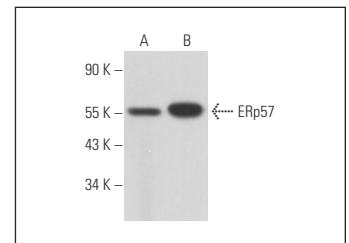
## RECOMMENDED SUPPORT REAGENTS

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



ERp57 (TO-2): sc-80648. Western blot analysis of ERp57 expression in non-transfected 293T: sc-117752 (A), human ERp57 transfected 293T: sc-175161 (B) and Daudi (C) whole cell lysates.



ERp57 (TO-2): sc-80648. Western blot analysis of ERp57 expression in ES-2 (A) and NIH/3T3 (B) whole cell lysates.

## SELECT PRODUCT CITATIONS

- Li, S., et al. 2019. ERp57—small interfering RNA silencing can enhance the sensitivity of drug—resistant human ovarian cancer cells to paclitaxel. *Int. J. Oncol.* 54: 249-260.

## 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.

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) for detailed protocols and support products.