SANTA CRUZ BIOTECHNOLOGY, INC.

# Derlin-1 (1B9): sc-293385

## BACKGROUND

Degradation in endoplasmic reticulum proteins, also designated derlins or DERtrins, are crucial for the degradation of misfolded endoplasmic reticulum (ER) luminal proteins. Derlin proteins are multi-pass membrane proteins localizing to the ER. Derlins are involved in transferring misfolded proteins from the ER to the cytosol, where the misfolded proteins are destroyed in an ubiquitin-dependent manner by the proteasome. In the case of cytomegalovirus infection, Derlin-1, as opposed to Derlins-2 and -3, is involved in the export of MHC class I heavy chains from the ER via its interaction with the viral protein US11. Derlins may also be important for cell proliferation. They are widely expressed, but highest levels are primarily detected in spleen, pancreas, lung, liver, thymus and ovary. Derlin-2 is overexpressed in hepatocarcinomas.

## REFERENCES


1. Ying, H., et al. 2001. Cloning and characterization of F-LANa, upregulated in human liver cancer. Biochem. Biophys. Res. Commun. 286: 394-400.
2. Lilley, B.N. and Ploegh, H.L. 2004. A membrane protein required for dislocation of misfolded proteins from the ER. Nature 429: 834-840.
3. Ye, Y., et al. 2004. A membrane protein complex mediates retro-translocation from the ER lumen into the cytosol. Nature 429: 841-847.
4. Katiyar, S., et al. 2005. The retrotranslocation protein Derlin-1 binds peptide: N-glycanase to the endoplasmic reticulum. Mol. Biol. Cell 16: 4584-4594.
5. Lilley, B.N. and Ploegh, H.L. 2005. Multiprotein complexes that link dislocation, ubiquitination and extraction of misfolded proteins from the endoplasmic reticulum membrane. Proc. Natl. Acad. Sci. USA 102: 14296-14301.
6. Oda, Y., et al. 2006. Derlin-2 and Derlin-3 are regulated by the mammalian unfolded protein response and are required for ER-associated degradation. J. Cell Biol. 172: 383-393.
7. Loureiro, J., et al. 2006. Signal peptide peptidase is required for dislocation from the endoplasmic reticulum. Nature 441: 894-897.
8. SWISS-PROT/TrEMBL (Q9GZP9). World Wide Web URL: http://www.expasy.ch/sprot/sprot-top.html


## CHROMOSOMAL LOCATION

Genetic locus: DERL1 (human) mapping to 8q24.13; Derl1 (mouse) mapping to 15 D1.

## SOURCE

Derlin-1 (1B9) is a mouse monoclonal antibody raised against amino acids 134-233 of Derlin-1 of human origin.

## PRODUCT

Each vial contains 100 µg $IgG_1$ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

## APPLICATIONS

Derlin-1 (1B9) is recommended for detection of Derlin-1 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)] and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for Derlin-1 siRNA (h): sc-60519, Derlin-1 siRNA (m): sc-60520, Derlin-1 shRNA Plasmid (h): sc-60519-SH, Derlin-1 shRNA Plasmid (m): sc-60520-SH, Derlin-1 shRNA (h) Lentiviral Particles: sc-60519-V and Derlin-1 shRNA (m) Lentiviral Particles: sc-60520-V.

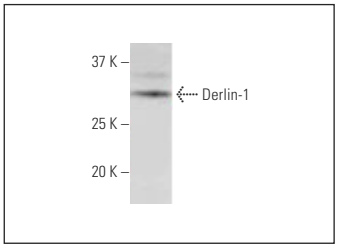
Molecular Weight of Derlin-1: 22 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200.

## 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).

## DATA




Derlin-1 (1B9): sc-293385. Western blot analysis of Derlin-1 expression in HeLa whole cell lysate.

## SELECT PRODUCT CITATIONS


1. Hromas, R., et al. 2022. BRCA1 mediates protein homeostasis through the ubiquitination of PERK and IRE1. iScience 25: 105626.


## 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 for detailed protocols and support products.