SANTA CRUZ BIOTECHNOLOGY, INC.

Derlin-2/3 (A-6): sc-390289

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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 cytomeg-alo-virus 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 hepato-carcinomas.

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.

CHROMOSOMAL LOCATION

Genetic locus: DERL2 (human) mapping to 17p13.2, DERL3 (human) mapping to 22q11.23; Derl2 (mouse) mapping to 11 B4, Derl3 (mouse) mapping to 10 C1.

SOURCE

Derlin-2/3 (A-6) is a mouse monoclonal antibody raised against amino acids 1-239 representing full length Derlin-2 of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Derlin-2/3 (A-6) is available conjugated to agarose (sc-390289 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-390289 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-390289 PE), fluorescein (sc-390289 FITC), Alexa Fluor® 488 (sc-390289 AF488), Alexa Fluor® 546 (sc-390289 AF546), Alexa Fluor® 594 (sc-390289 AF594) or Alexa Fluor® 647 (sc-390289 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-390289 AF680) or Alexa Fluor® 790 (sc-390289 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

Derlin-2/3 (A-6) is recommended for detection of Derlin-2 and Derlin-3 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Derlin-2/3 (A-6) is also recommended for detection of Derlin-2 and Derlin-3 in additional species, including equine, canine and bovine.

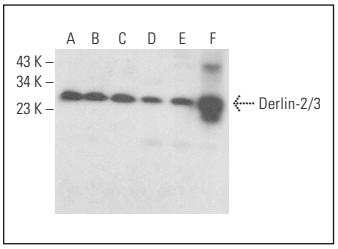
Molecular Weight of Derlin-2/3: 21 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, Hep G2 cell lysate: sc-2227 or IMR-32 cell lysate: sc-2409.

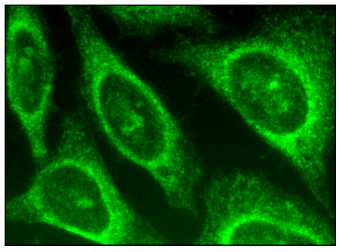
RECOMMENDED SUPPORT REAGENTS

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) Immunopre-cipitation: 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.

DATA



Derlin-2/3 (A-6): sc-390289. Western blot analysis of Derlin-2/3 expression in HeLa (**A**), Hep G2 (**B**), IMR-32 (**C**), Neuro-2A (**D**) and c4 (**E**) whole cell lysates and mouse postnatal brain tissue extract (**F**).



Derlin-2/3 (A-6): sc-390289. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic localization.

SELECT PRODUCT CITATIONS

1. Chen, J., et al. 2019. *Panax notoginseng* saponins protect cardiac myocytes against endoplasmic reticulum stress and associated apoptosis through mediation of intracellular calcium homeostasis. Front. Pharmacol. 10: 1013.

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.