

Derlin-2 (D-10): sc-398573

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.

CHROMOSOMAL LOCATION

Genetic locus: DERL2 (human) mapping to 17p13.2; Derl2 (mouse) mapping to 11 B4.

SOURCE

Derlin-2 (D-10) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 219-236 at the C-terminus of Derlin-2 of human origin.

PRODUCT

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

Derlin-2 (D-10) is available conjugated to agarose (sc-398573 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-398573 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-398573 PE), fluorescein (sc-398573 FITC), Alexa Fluor® 488 (sc-398573 AF488), Alexa Fluor® 546 (sc-398573 AF546), Alexa Fluor® 594 (sc-398573 AF594) or Alexa Fluor® 647 (sc-398573 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-398573 AF680) or Alexa Fluor® 790 (sc-398573 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-398573 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

Alexa Fluor® is a trademark of Molecular Probes, Inc., Oregon, USA

STORAGE

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

APPLICATIONS

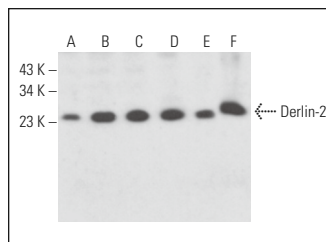
Derlin-2 (D-10) is recommended for detection of Derlin-2 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for Derlin-2 siRNA (h): sc-60521, Derlin-2 siRNA (m): sc-60522, Derlin-2 shRNA Plasmid (h): sc-60521-SH, Derlin-2 shRNA Plasmid (m): sc-60522-SH, Derlin-2 shRNA (h) Lentiviral Particles: sc-60521-V and Derlin-2 shRNA (m) Lentiviral Particles: sc-60522-V.

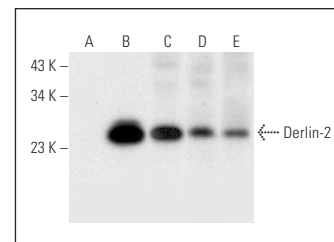
Molecular Weight of Derlin-2: 21 kDa.

Positive Controls: Derlin-2 (m): 293T Lysate: sc-125238, Hep G2 cell lysate: sc-2227 or MDA-MB-231 cell lysate: sc-2232.

DATA



Derlin-2 (D-10): sc-398573. Western blot analysis of Derlin-2 expression in Hep G2 (A), A549 (B), MCF7 (C), SP2/0 (D) and 3T3-L1 (E) whole cell lysates and rat liver tissue extract (F).



Derlin-2 (D-10): sc-398573. Western blot analysis of Derlin-2 expression in non-transfected 293T: sc-117752 (A), mouse Derlin-2 transfected 293T: sc-125238 (B), MDA-MB-231 (C) and Hep G2 (D) whole cell lysates and human liver tissue extract (E).

SELECT PRODUCT CITATIONS

1. Iturrate, A., et al. 2022. Mutations in SCN1M1 cause orofacioidigital syndrome due to minor intron splicing defects affecting primary cilia. *Am. J. Hum. Genet.* 109: 1828-1849.
2. Pranke, I.M., et al. 2022. Keratin 8 is a scaffolding and regulatory protein of ERAD complexes. *Cell. Mol. Life Sci.* 79: 503.
3. Li, J., et al. 2024. Multiple genes core to ERAD, macroautophagy and lysosomal degradation pathways participate in the proteostasis response in α 1-antitrypsin deficiency. *Cell. Mol. Gastroenterol Hepatol.* 17: 1007-1024.

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.