SANTA CRUZ BIOTECHNOLOGY, INC.

Derlin-2 (m): 293T Lysate: sc-125238

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., Yu, Y. and Xu, Y. 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., Shibata, Y., Yun, C., Ron, D. and Rapoport, T.A. 2004. A membrane protein complex mediates retro-translocation from the ER lumen into the cytosol. Nature 429: 841-847.
4. Katiyar, S., Joshi, S. and Lennarz, W.J. 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., Okada, T., Yoshida, H., Kaufman, R.J., Nagata, K. and Mori, K. 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., Lilley, B.N., Spooner, E., Noriega, V., Tortorella, D. and Ploegh, H.L. 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: Derl2 (mouse) mapping to 11 B4.

PRODUCT

Derlin-2 (m): 293T Lysate represents a lysate of mouse Derlin-2 transfected 293T cells and is provided as 100 µg protein in 200 µl SDS-PAGE buffer.

RESEARCH USE

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

APPLICATIONS

Derlin-2 (m): 293T Lysate is suitable as a Western Blotting positive control for mouse reactive Derlin-2 antibodies. Recommended use: 10-20 µl per lane.

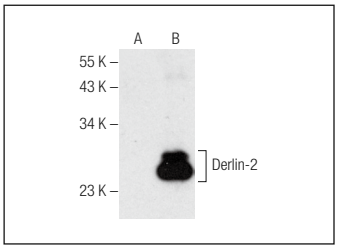
Control 293T Lysate: sc-117752 is available as a Western Blotting negative control lysate derived from non-transfected 293T cells.

Derlin-2/3 (A-6): sc-390289 is recommended as a positive control antibody for Western Blot analysis of enhanced mouse Derlin-2 expression in Derlin-2 transfected 293T cells (starting dilution 1:100, dilution range 1:100-1:1,000).

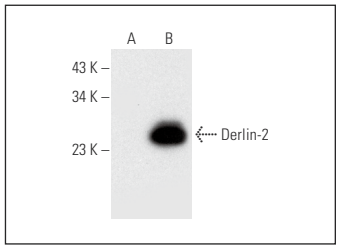
RECOMMENDED SUPPORT REAGENTS

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.

DATA



Derlin-2/3 (A-6): sc-390289. Western blot analysis of Derlin-2 expression in non-transfected: sc-117752 (**A**) and mouse Derlin-2 transfected: sc-125238 (**B**) 293T whole cell lysates.



Derlin-2 (D-10): sc-398573. Western blot analysis of Derlin-2 expression in non-transfected: sc-117752 (**A**) and mouse Derlin-2 transfected: sc-125238 (**B**) 293T whole cell lysates.

STORAGE

Store at -20° C. Repeated freezing and thawing should be minimized. Sample vial should be boiled once prior to use. Non-hazardous. No MSDS required.

PROTOCOLS

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