



ERdj3 (h2): 293T Lysate: sc-173247

BACKGROUND

Members of the heat shock protein 40 (HSP 40) family of proteins all contain a highly conserved J domain that associates with HSP 70 and regulates the function of HSP 70 by activating its adenosine triphosphatase activity. ERdj3, an HSP 40 chaperone, is expressed in the ER lumen, where it interacts with BiP, a molecule involved in retrotranslocating proteins out of the ER. ERdj3 also associates with several other protein substrates, including unfolded light chains, a nonsecreted Ig light chain mutant and a VSV-G ts045 mutant. Shiga toxin (Stx) is a bacterial tool that enzymatically inactivates the 28S rRNA, inhibiting protein synthesis of infected cells. Stx also interacts with ERdj3 and Sec 61 to form a complex through which proteins are retrotranslocated to the cytoplasm. ERdj3 may play a role in the ER quality control system.

REFERENCES

1. Yu, M., Haslam, R.H. and Haslam, D.B. 2000. HEDJ, an HSP 40 co-chaperone localized to the endoplasmic reticulum of human cells. *J. Biol. Chem.* 275: 24984-24992.
2. Meunier, L., Usherwood, Y.K., Chung, K.T. and Hendershot, L.M. 2002. A subset of chaperones and folding enzymes form multiprotein complexes in endoplasmic reticulum to bind nascent proteins. *Mol. Biol. Cell* 13: 4456-4469.
3. Nakanishi, K., Kamiguchi, K., Torigoe, T., Nabeta, C., Hirohashi, Y., Asanuma, H., Tobioka, H., Koge, N., Harada, O., Tamura, Y., Nagano, H., Yano, S., Chiba, S., Matsumoto, H. and Sato, N. 2004. Localization and function in endoplasmic reticulum stress tolerance of ERdj3, a new member of HSP 40 family protein. *Cell Stress Chaperones* 9: 253-264.
4. Shen, Y. and Hendershot, L.M. 2005. ERdj3, a stress-inducible endoplasmic reticulum DnaJ homologue, serves as a cofactor for BiP's interactions with unfolded substrates. *Mol. Biol. Cell* 16: 40-50.
5. Yu, M. and Haslam, D.B. 2005. Shiga toxin is transported from the endoplasmic reticulum following interaction with the luminal chaperone HEDJ/ERdj3. *Infect. Immun.* 73: 2524-2532.

CHROMOSOMAL LOCATION

Genetic locus: DNAJB11 (human) mapping to 3q27.3.

PRODUCT

ERdj3 (h2): 293T Lysate represents a lysate of human ERdj3 transfected 293T cells and is provided as 100 µg protein in 200 µl SDS-PAGE buffer.

APPLICATIONS

ERdj3 (h2): 293T Lysate is suitable as a Western Blotting positive control for human reactive ERdj3 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.

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.

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.