SANTA CRUZ BIOTECHNOLOGY, INC.

Ero1-Lα (D-7): sc-365526

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Ero1-Lα (endoplasmic oxidoreductin-1-like), also known as Ero1α or oxidoreductin-1-Lα, is an essential oxidoreductase that oxidizes proteins and is required for the folding of immunoglobulins. Ero1-Lα covalently binds with PDI (protein disulfide-isomerase) and together they produce disulfide bonds between proteins in the endoplasmic reticulum. Ero1-Lα and SIRT1 regulate adiponectin secretion from adipose tissue. Ero1-Lα and associated proteins also modulate PPARγ (peroxisome proliferator-activated receptor γ) and SIRT1 activities. Ero1-Lα is stimulated by hypoxia, suggesting that it is regulated through the HIF (hypoxia inducible transcription factor) pathway. Ero1-Lα is ubiquitously expressed at low levels but expressed at high levels in upper digestive tract and esophagus. Ero1-Lα may function both as a monomer and a homodimer.

CHROMOSOMAL LOCATION

Genetic locus: ERO1A (human) mapping to 14q22.1; Ero1l (mouse) mapping to 14 C1.

SOURCE

Ero1-Lα (D-7) is a mouse monoclonal antibody raised against amino acids 91-180 mapping near the N-terminus of Ero1-Lα 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.

Ero1-Lα (D-7) is available conjugated to agarose (sc-365526 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-365526 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-365526 PE), fluorescein (sc-365526 FITC), Alexa Fluor® 488 (sc-365526 AF488), Alexa Fluor® 546 (sc-365526 AF546), Alexa Fluor® 594 (sc-365526 AF594) or Alexa Fluor® 647 (sc-365526 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-365526 AF680) or Alexa Fluor® 790 (sc-365526 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

Ero1-Lα (D-7) is recommended for detection of Ero1-Lα 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), immunohistochemistry (including paraffin-embedded sections) (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 Ero1-Lα siRNA (h): sc-77284, Ero1-Lα siRNA (m): sc-77285, Ero1-Lα shRNA Plasmid (h): sc-77284-SH, Ero1-Lα shRNA Plasmid (m): sc-77285-SH, Ero1-Lα shRNA (h) Lentiviral Particles: sc-77284-V and Ero1-Lα shRNA (m) Lentiviral Particles: sc-77285-V.

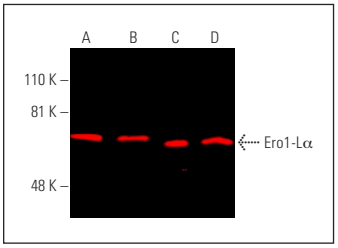
Molecular Weight of Ero1-Lα: 54 kDa.

Positive Controls: RAW 264.7 whole cell lysate: sc-2211, MDA-MB-435S whole cell lysate: sc-364184 or HeLa whole cell lysate: sc-2200.

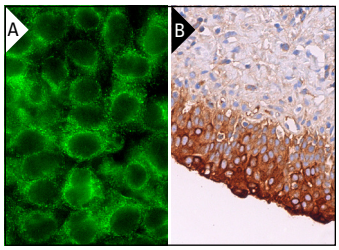
STORAGE

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

DATA



Ero1-Lα (D-7): sc-365526. Near-infrared western blot analysis of Ero1-Lα expression in HeLa (**A**), MDA-MB-435S (**B**), RAW 264.7 (**C**) and NIH/3T3 (**D**) whole cell lysates. Blocked with UltraCruz® Blocking Reagent: sc-516214. Detection reagent used: m-IgGκ BP-CFL 790: sc-516181.



Ero1-Lα (D-7): sc-365526. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic localization (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded human urinary bladder tissue showing cytoplasmic staining of urothelial cells (**B**).

SELECT PRODUCT CITATIONS

1. Manuel, A.M., et al. 2017. Succination of protein disulfide isomerase links mitochondrial stress and endoplasmic reticulum stress in the adipocyte during diabetes. Antioxid. Redox Signal. 27: 1281-1296.
2. Yanda, M.K., et al. 2018. A potential strategy for reducing cysts in autosomal dominant polycystic kidney disease with a CFTR corrector. J. Biol. Chem. 293: 11513-11526.
3. Moulis, M., et al. 2019. The multifunctional sorting protein PACS-2 controls mitophagosome formation in human vascular smooth muscle cells through mitochondria-ER contact sites. Cells 8: 638.
4. Lai, L., et al. 2020. Role of endoplasmic reticulum oxidase 1α in H9C2 cardiomyocytes following hypoxia/reoxygenation injury. Mol. Med. Rep. 22: 1420-1428.
5. Johnson, B.D., et al. 2022. Identification of natural product sulfuretin derivatives as inhibitors for the endoplasmic reticulum redox protein Ero1α. ACS Bio Med Chem Au 2: 161-170.
6. Guidarelli, A., et al. 2023. ERO1α primes the ryanodine receptor to respond to arsenite with concentration dependent Ca^{2+} release sequentially triggering two different mechanisms of ROS formation. Chem. Biol. Interact. 383: 110694.
7. Turos-Cabal, M., et al. 2024. FLT3-ITD regulation of the endoplasmic reticulum functions in acute myeloid leukemia. Hematol. Oncol. 42: e3281.
8. Diotallevi, A., et al. 2024. Transcriptional signatures in human macrophage-like cells infected by *Leishmania infantum, Leishmania major* and *Leishmania tropica.* PLoS Negl. Trop. Dis. 18: e0012085.

RESEARCH USE

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