

# Ero1-L $\beta$ (S-14): sc-162776

## BACKGROUND

Catalysis of disulfide bond formation is an integral component of protein biogenesis in the secretory pathway. Conserved between yeast and mammals, endoplasmic reticulum oxidoreductases (EROs) are essential for the formation of disulfide bonds. Ero1-L $\beta$  (endoplasmic oxidoreductin-1-like protein B), also known as oxidoreductin-1-L- $\beta$ , is a 467 amino acid protein that localizes to the endoplasmic reticulum and belongs to the ERO family. Ero1-L $\beta$  is widely expressed at low levels but is greatly enriched in pancreas and in lower digestive tract. Ero1-L $\beta$ , along with Ero1-L $\alpha$ , transfer oxidative analogs to protein disulfide isomerase (PDI), which in turn oxidizes cargo proteins. Regulated by glutathione and induced by unfolded protein response (UPR), Ero1-L $\beta$  promotes Insulin biogenesis and glucose homeostasis. Ero1-L $\beta$  exists as both a monomer and homodimer.

## REFERENCES

1. Benham, A.M., et al. 2000. The CXXCXXC motif determines the folding, structure and stability of human Ero1-L $\alpha$ . *EMBO J.* 19: 4493-4502.
2. Cabibbo, A., et al. 2000. ERO1-L, a human protein that favors disulfide bond formation in the endoplasmic reticulum. *J. Biol. Chem.* 275: 4827-4833.
3. Pagani, M., et al. 2000. Endoplasmic reticulum oxidoreductin 1- $\beta$  (ERO1-L $\beta$ ), a human gene induced in the course of the unfolded protein response. *J. Biol. Chem.* 275: 23685-23692.
4. Mezghrani, A., et al. 2001. Manipulation of oxidative protein folding and PDI redox state in mammalian cells. *EMBO J.* 20: 6288-6296.
5. Dias-Gunasekara, S., et al. 2005. Tissue-specific expression and dimerization of the endoplasmic reticulum oxidoreductase Ero1 $\beta$ . *J. Biol. Chem.* 280: 33066-33075.
6. Otsu, M., et al. 2006. Dynamic retention of Ero1 $\alpha$  and Ero1 $\beta$  in the endoplasmic reticulum by interactions with PDI and Erp44. *Antioxid. Redox Signal.* 8: 274-282.
7. Dias-Gunasekara, S., et al. 2006. Mutations in the FAD binding domain cause stress-induced misoxidation of the endoplasmic reticulum oxidoreductase Ero1 $\beta$ . *J. Biol. Chem.* 281: 25018-25025.

## CHROMOSOMAL LOCATION

Genetic locus: ERO1LB (human) mapping to 1q42.3; Ero1lb (mouse) mapping to 13 A1.

## SOURCE

Ero1-L $\beta$  (S-14) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of Ero1-L $\beta$  of human origin.

## PRODUCT

Each vial contains 200  $\mu$ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-162776 P, (100  $\mu$ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

Ero1-L $\beta$  (S-14) is recommended for detection of Ero1-L $\beta$  of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ g 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); non cross-reactive with Ero1-L $\alpha$ .

Suitable for use as control antibody for Ero1-L $\beta$  siRNA (h): sc-88261, Ero1-L $\beta$  siRNA (m): sc-144936, Ero1-L $\beta$  shRNA Plasmid (h): sc-88261-SH, Ero1-L $\beta$  shRNA Plasmid (m): sc-144936-SH, Ero1-L $\beta$  shRNA (h) Lentiviral Particles: sc-88261-V and Ero1-L $\beta$  shRNA (m) Lentiviral Particles: sc-144936-V.

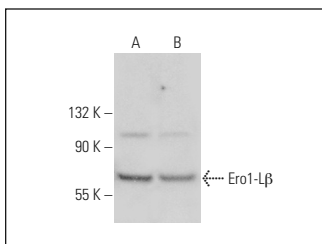
Molecular Weight of Ero1-L $\beta$ : 54 kDa.

Positive Controls: Jurkat whole cell lysate: sc-2204 or K-562 whole cell lysate: sc-2203.

## RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

## DATA



Ero1-L $\beta$  (S-14): sc-162776. Western blot analysis of Ero1-L $\beta$  expression in Jurkat (A) and K-562 (B) whole cell lysates.

## 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.

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) or our catalog for detailed protocols and support products.