

# IRE1 $\alpha$ (H-190): sc-20790

## BACKGROUND

The accumulation of unfolded proteins within the endoplasmic reticulum (ER) of yeast and mammalian cells activates the unfolded protein response (UPR) pathway and leads to the transcription of ER-specific genes involved in protein folding. The activation of the UPR requires the ER transmembrane kinase IRE1p (for inositol-requiring and ER-to-nucleus signaling protein). IRE1 $\alpha$  and IRE1 $\beta$  are two mammalian homologs of the yeast IRE1p. These related proteins localize to the ER lumen and contain both a short transmembrane domain that spans the ER membrane and a cytosolic Ser/Thr kinase domain. IRE1 activation involves the oligomerization and transphosphorylation of the cytosolic portion of the proteins, which then potentiates its intrinsic kinase activity and, in turn, stimulates transcription of UPR-targeted genes. In response to stress, sensors for the ER mammalian cells activate IRE1 $\alpha$  and IRE1 $\beta$ , which then results in the phosphorylation of JNK (Jun N-terminal kinase) and the activation of the cellular MAP kinase pathway.

## CHROMOSOMAL LOCATION

Genetic locus: ERN1 (human) mapping to 17q23.3; Ern1 (mouse) mapping to 11 E1.

## SOURCE

IRE1 $\alpha$  (H-190) is a rabbit polyclonal antibody raised against amino acids 371-560 of IRE1 $\alpha$  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.

IRE1 $\alpha$  (H-190) is available conjugated to agarose (sc-20790 AC), 500 $\mu$ g/0.25 ml agarose in 1 ml, for IP.

## APPLICATIONS

IRE1 $\alpha$  (H-190) is recommended for detection of IRE1 $\alpha$  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), 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).

IRE1 $\alpha$  (H-190) is also recommended for detection of IRE1 $\alpha$  in additional species, including equine, canine and bovine.

Suitable for use as control antibody for IRE1 $\alpha$  siRNA (h): sc-40705, IRE1 $\alpha$  siRNA (m): sc-40706, IRE1 $\alpha$  shRNA Plasmid (h): sc-40705-SH, IRE1 $\alpha$  shRNA Plasmid (m): sc-40706-SH, IRE1 $\alpha$  shRNA (h) Lentiviral Particles: sc-40705-V and IRE1 $\alpha$  shRNA (m) Lentiviral Particles: sc-40706-V.

Molecular Weight of IRE1 $\alpha$ : 120 kDa.

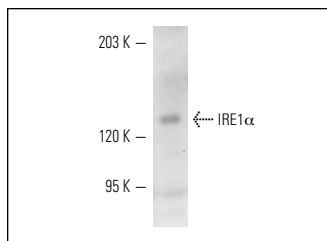
## STORAGE

Store at 4 $^{\circ}$  C, **\*\*DO NOT FREEZE\*\***. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

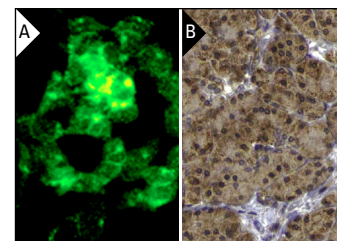
## RESEARCH USE

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

## DATA



IRE1 $\alpha$  (H-190): sc-20790. Western blot analysis of IRE1 $\alpha$  expression in DU 145 whole cell lysate.



IRE1 $\alpha$  (H-190): sc-20790. Immunofluorescence staining of methanol-fixed IMR-32 cells showing cytoplasmic localization (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded human pancreas tissue showing cytoplasmic staining of exocrine pancreas and islet cells. Kindly provided by The Swedish Human Protein Atlas (HPA) program (B).

## SELECT PRODUCT CITATIONS

- Wei, Y., et al. 2006. Saturated fatty acids induce endoplasmic reticulum stress and apoptosis independently of ceramide in liver cells. *Am. J. Physiol. Endocrinol. Metab.* 291: 275-281.
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- Liu, Z.C., et al. 2012. Bip enhanced the association of GSK-3 $\beta$  with  $\tau$  during ER stress both *in vivo* and *in vitro*. *J. Alzheimers Dis.* 29: 727-740.
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- Song, Y.M., et al. 2012. Dimethyl sulfoxide reduces hepatocellular lipid accumulation through autophagy induction. *Autophagy* 8: 1085-1097.
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- Song, T., et al. 2013. S1 kills MCF-7/ADR cells more than MCF-7 cells: a protective mechanism of endoplasmic reticulum stress. *Biomed. Pharmacother.* 67:731-736.


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Try **IRE1 $\alpha$  (B-12): sc-390960** or **IRE1 $\alpha$  (YB-17): sc-100772**, our highly recommended monoclonal alternatives to IRE1 $\alpha$  (H-190). Also, for AC, HRP, FITC, PE, Alexa Fluor<sup>®</sup> 488 and Alexa Fluor<sup>®</sup> 647 conjugates, see **IRE1 $\alpha$  (B-12): sc-390960**.