Anti-IRE1 Antibody

ER1902-90

Product Type:	Rabbit polyclonal IgG, primary antibodies
Species reactivity:	Human, Mouse, Rat
Applications:	WB, IHC-P
Molecular Wt:	Predicted band size 110 kDa.

Description: Serine/threonine-protein kinase and endoribonuclease that acts as a key sensor for the endoplasmic reticulum unfolded protein response (UPR). In unstressed cells, the endoplasmic reticulum luminal domain is maintained in its inactive monomeric state by binding to the endoplasmic reticulum chaperone HSPA5/BiP. Accumulation of misfolded protein in the endoplasmic reticulum causes release of HSPA5/BiP, allowing the luminal domain to homodimerize, promoting autophosphorylation of the kinase domain and subsequent activation of the endoribonuclease activity . The endoribonuclease activity is specific for XBP1 mRNA and excises 26 nucleotides from XBP1 mRNA . The resulting spliced transcript of XBP1 encodes a transcriptional activator protein that up-regulates expression of UPR target genes. Acts as an upstream signal for ER stress-induced GORASP2-mediated unconventional (ER/Golgi-independent) trafficking of CFTR to cell membrane by modulating the expression and localization of SEC16A .

Immunogen: Synthetic peptide within N-terminal Human ERN1.

Positive control: HEK-293 cell lysate, Neuro-2a cell lysate, C6 cell lysate, mouse small intestine tissue, rat small intestine tissue.

Subcellular location: Endoplasmic reticulum, Membrane.

Database links: SwissProt: O75460 Human

Recommended Dilutions:

WB	1:2,000
IHC-P	1:100

Storage Buffer: 1*TBS (pH7.4), 0.2% BSA, 50% Glycerol. Preservative: 0.05% Sodium Azide.

Storage Instruction: Shipped at 4℃. Store at +4℃ short term (1-2 weeks). It is recommended to aliquot into single-use upon delivery. Store at -20℃ long term.

Purity: Immunogen affinity purified.

Images

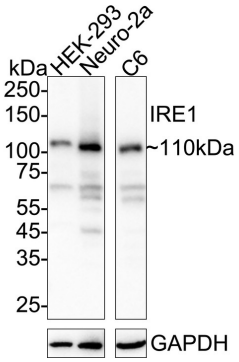

Fig1: Western blot analysis of IRE1 on different lysates with Rabbit anti-IRE1 antibody (ER1902-90) at 1/2,000 dilution.

Lane 1: HEK-293 cell lysate
Lane 2: Neuro-2a cell lysate
Lane 3: C6 cell lysate

Lysates/proteins at 20 µg/Lane.

Predicted band size: 110 kDa
Observed band size: 110 kDa

Exposure time: 59 seconds; ECL: K1801;
4-20% SDS-PAGE gel.

Proteins were transferred to a PVDF membrane and blocked with 5% NFDM/TBST for 1 hour at room temperature. The primary antibody (ER1902-90) at 1/2,000 dilution was used in 5% NFDM/TBST at 4℃ overnight. Goat Anti-Rabbit IgG - HRP Secondary Antibody (HA1001) at 1/50,000 dilution was used for 1 hour at room temperature.

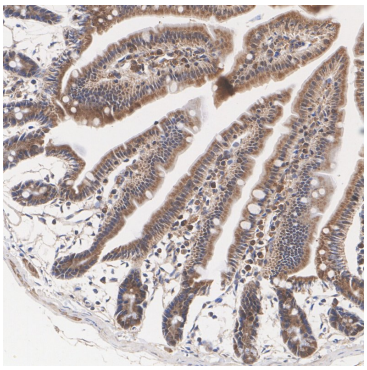

Fig2: Immunohistochemical analysis of paraffin-embedded mouse small intestine tissue with Rabbit anti-IRE1 antibody (ER1902-90) at 1/100 dilution.

The section was pre-treated using heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0) for 20 minutes. The tissues were blocked in 1% BSA for 20 minutes at room temperature, washed with ddH_2O and PBS, and then probed with the primary antibody (ER1902-90) at 1/100 dilution for 1 hour at room temperature. The detection was performed using an HRP conjugated compact polymer system. DAB was used as the chromogen. Tissues were counterstained with hematoxylin and mounted with DPX.

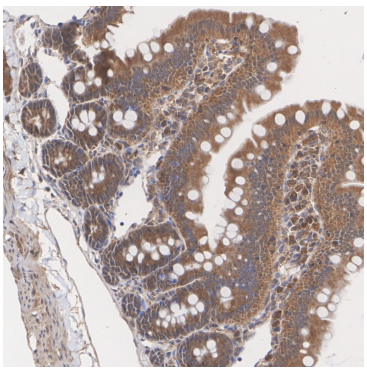

Fig3: Immunohistochemical analysis of paraffin-embedded rat small intestine tissue with Rabbit anti-IRE1 antibody (ER1902-90) at 1/100 dilution.

The section was pre-treated using heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0) for 20 minutes. The tissues were blocked in 1% BSA for 20 minutes at room temperature, washed with ddH_2O and PBS, and then probed with the primary antibody (ER1902-90) at 1/100 dilution for 1 hour at room temperature. The detection was performed using an HRP conjugated compact polymer system. DAB was used as the chromogen. Tissues were counterstained with hematoxylin and mounted with DPX.

Background References

1. Huang R et al. IRE1 signaling regulates chondrocyte apoptosis and death fate in the osteoarthritis. J Cell Physiol. 2022 Jan
2. Grandjean JMD et al. Pharmacologic IRE1/XBP1s activation confers targeted ER proteostasis reprogramming. Nat Chem Biol. 2020 Oct