

ERN1 Antibody
Purified Mouse Monoclonal Antibody
Catalog # AO1379a**Specification**

ERN1 Antibody - Product Information

Application	WB, IHC
Primary Accession	O75460
Reactivity	Human
Host	Mouse
Clonality	Monoclonal
Isotype	IgG1
Calculated MW	109kDa KDa

Description

The protein encoded by this gene is the ER to nucleus signalling 1 protein, a human homologue of the yeast Ire1 gene product. This protein possesses intrinsic kinase activity and an endoribonuclease activity and it is important in altering gene expression as a response to endoplasmic reticulum-based stress signals.

Immunogen

Purified recombinant fragment of human ERN1(aa282-433) expressed in E. Coli.

Formulation

Ascitic fluid containing 0.03% sodium azide.

ERN1 Antibody - Additional Information**Gene ID 2081****Other Names**

Serine/threonine-protein kinase/endoribonuclease IRE1, Endoplasmic reticulum-to-nucleus signaling 1, Inositol-requiring protein 1, hIRE1p, Ire1-alpha, IRE1a, Serine/threonine-protein kinase, 2.7.11.1, Endoribonuclease, 3.1.26.-, ERN1 (HGNC:3449)

Dilution

WB~~1/500 - 1/2000

IHC~~1/500 - 1/2000

Storage

Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.

Precautions

ERN1 Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

ERN1 Antibody - Protein Information

Name ERN1 ([HGNC:3449](#))

Function

Serine/threonine-protein kinase and endoribonuclease that acts as a key sensor for the endoplasmic reticulum unfolded protein response (UPR) (PubMed:11175748, PubMed:11779464, PubMed:12637535, PubMed:21317875, PubMed:28128204, PubMed:9637683, PubMed:30118681). In unstressed cells, the endoplasmic reticulum luminal domain is maintained in its inactive monomeric state by binding to the endoplasmic reticulum chaperone HSPA5/BiP (PubMed:21317875). Accumulation of misfolded proteins 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 (PubMed:21317875). The endoribonuclease activity is specific for XBP1 mRNA and excises 26 nucleotides from XBP1 mRNA (PubMed:11779464, PubMed:24508390, PubMed:21317875). The resulting spliced transcript of XBP1 encodes a transcriptional activator protein that up-regulates expression of UPR target genes (PubMed:11779464, PubMed:24508390, PubMed:21317875). 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 (PubMed:21884936, PubMed:28067262).

Cellular Location

Endoplasmic reticulum membrane; Single-pass type I membrane protein

Tissue Location

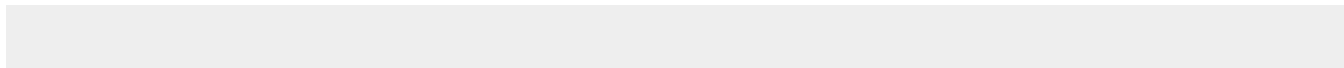
Ubiquitously expressed. High levels observed in pancreatic tissue.

ERN1 Antibody - Protocols

Provided below are standard protocols that you may find useful for product applications.

- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

ERN1 Antibody - Images



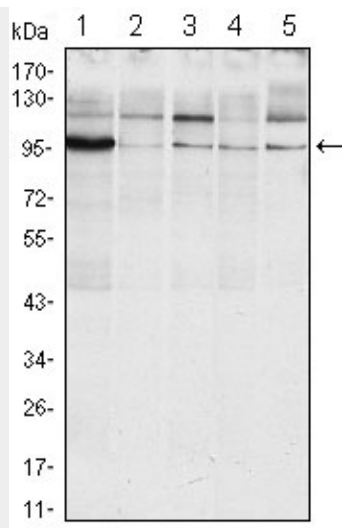


Figure 1: Western blot analysis using ERN1 mouse mAb against Raji (1), A431 (2), Jurkat (3), HeLa(4) and HEK293 (5) cell lysate.

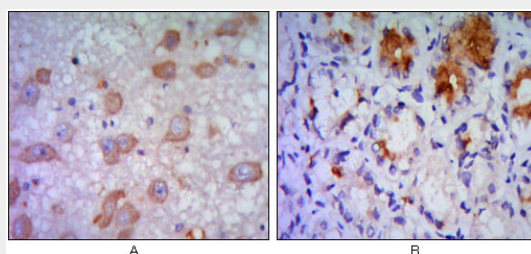


Figure 2: Immunohistochemical analysis of paraffin-embedded human brain tissue (A) and stomach tissue (B), showing cytoplasmic localization using ERN1 mouse mAb with DAB staining.

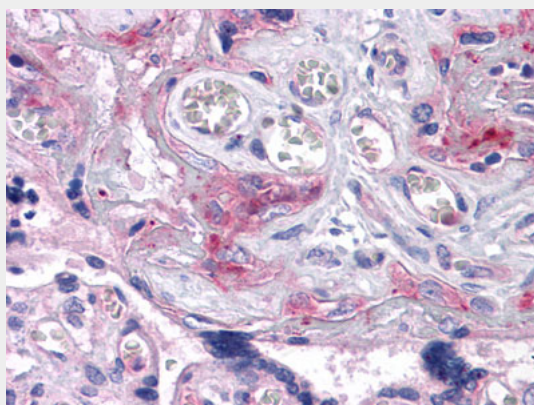


Figure 3: Immunohistochemical analysis of paraffin-embedded human Placenta tissues using ERN1 mouse mAb

ERN1 Antibody - References

1. Biochem Biophys Res Commun. 2004 Apr 30;317(2):390-6.
2. Mol Cell Biol. 2005 Sep;25(17):7522-33.
3. Science. 2007 Nov 9;318(5852):944-9.