

ERN1 / IRE1 Antibody (C-Terminus)
Rabbit Polyclonal Antibody
Catalog # ALS15299**Specification**

ERN1 / IRE1 Antibody (C-Terminus) - Product Information

Application	ICC, IF, WB, IHC
Primary Accession	O75460
Reactivity	Human, Mouse, Rat
Host	Rabbit
Clonality	Polyclonal
Calculated MW	110kDa KDa

ERN1 / IRE1 Antibody (C-Terminus) - 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 (http://www.genenames.org/cgi-bin/gene_symbol_report?hgnc_id=3449)
target="_blank">HGNC:3449)

Target/Specificity

16 amino acid peptide from near the carboxy terminus of human IRE1p

Reconstitution & Storage

Short term 4°C, long term aliquot and store at -20°C, avoid freeze thaw cycles. Store undiluted.

Precautions

ERN1 / IRE1 Antibody (C-Terminus) is for research use only and not for use in diagnostic or therapeutic procedures.

ERN1 / IRE1 Antibody (C-Terminus) - 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](http://www.uniprot.org/citations/11175748), PubMed:[11779464](http://www.uniprot.org/citations/11779464), PubMed:[12637535](http://www.uniprot.org/citations/12637535), PubMed:[21317875](http://www.uniprot.org/citations/21317875), PubMed:[28128204](http://www.uniprot.org/citations/28128204), PubMed:[9637683](http://www.uniprot.org/citations/9637683), PubMed:[30118681](http://www.uniprot.org/citations/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](http://www.uniprot.org/citations/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](http://www.uniprot.org/citations/21317875)). The endoribonuclease activity is specific for XBP1 mRNA and excises 26 nucleotides from XBP1 mRNA (PubMed: [11779464](http://www.uniprot.org/citations/11779464), PubMed: [24508390](http://www.uniprot.org/citations/24508390), PubMed: [21317875](http://www.uniprot.org/citations/21317875)). The resulting spliced transcript of XBP1 encodes a transcriptional activator protein that up-regulates expression of UPR target genes (PubMed: [11779464](http://www.uniprot.org/citations/11779464), PubMed: [24508390](http://www.uniprot.org/citations/24508390), PubMed: [21317875](http://www.uniprot.org/citations/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](http://www.uniprot.org/citations/21884936), PubMed: [28067262](http://www.uniprot.org/citations/28067262)).

Cellular Location

Endoplasmic reticulum membrane; Single-pass type I membrane protein

Tissue Location

Ubiquitously expressed. High levels observed in pancreatic tissue.

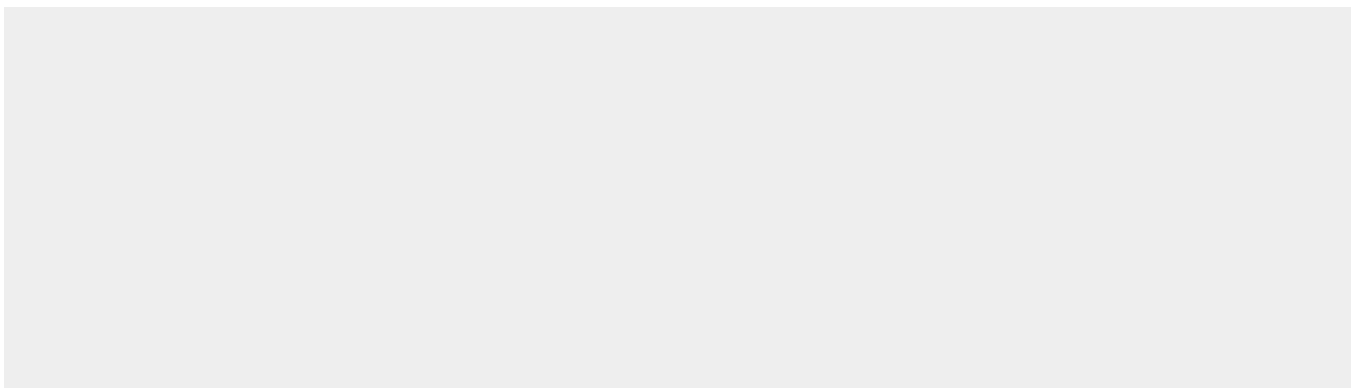
Volume

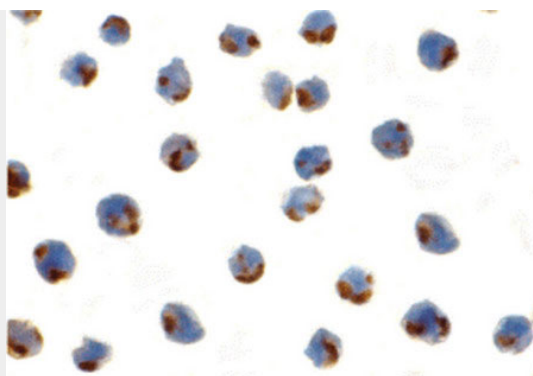
50 µl

ERN1 / IRE1 Antibody (C-Terminus) - Protocols

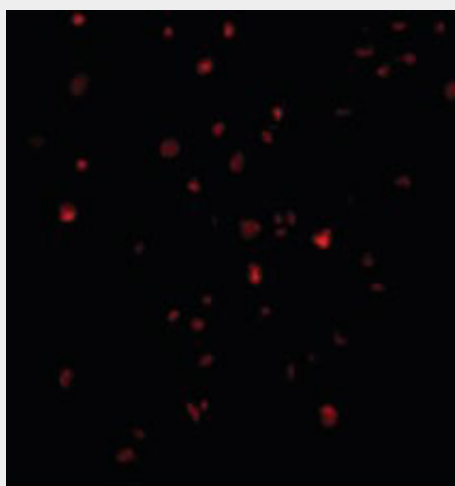
Provided below are standard protocols that you may find useful for product applications.

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

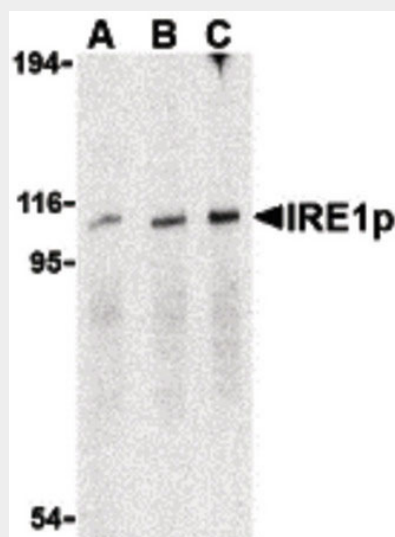
ERN1 / IRE1 Antibody (C-Terminus) - Images



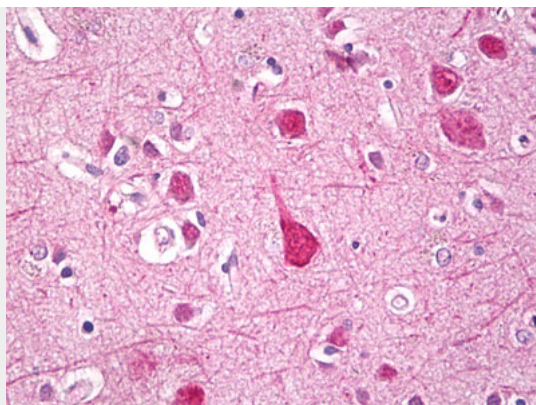
Immunocytochemistry of IRE1p in A-20 cells with IRE1p antibody at 1 ug/ml.



Immunofluorescence of IRE1p in A20 cells with IRE1p antibody at 2 ug/ml.



Western blot of IRE1p in A-20 cell lysate with IRE1p antibody at (A) 0.5, (B) 1 and (C) 2 ug/ml.



Anti-ERN1 / IRE1 antibody IHC of human brain, cortex neurons.

ERN1 / IRE1 Antibody (C-Terminus) - Background

Senses unfolded proteins in the lumen of the endoplasmic reticulum via its N-terminal domain which leads to enzyme auto- activation. The active endoribonuclease domain splices XBP1 mRNA to generate a new C-terminus, converting it into a potent unfolded-protein response transcriptional activator and triggering growth arrest and apoptosis.

ERN1 / IRE1 Antibody (C-Terminus) - References

- Tirasophon W.,et al.Genes Dev. 12:1812-1824(1998).
Ota T.,et al.Nat. Genet. 36:40-45(2004).
Totoki Y.,et al.Submitted (MAR-2005) to the EMBL/GenBank/DDBJ databases.
Zody M.C.,et al.Nature 440:1045-1049(2006).
Mural R.J.,et al.Submitted (SEP-2005) to the EMBL/GenBank/DDBJ databases.