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Phospho-IRE1 (S724) Antibody

Rabbit mAb
Catalog # AP90608

Product Information

Application	WB
Primary Accession	O75460
Reactivity	Human
Clonality	Monoclonal
Other Names	ERN1, ER to nucleus signalling 1, Inositol-requiring enzyme 1, Inositol-requiring protein 1, Ire1-alpha, IRE1a, HIRE1p, IRE1, Inositol-requiring 1, IRE1P;
Isotype	Rabbit IgG
Host	Rabbit
Calculated MW	109735

Additional Information

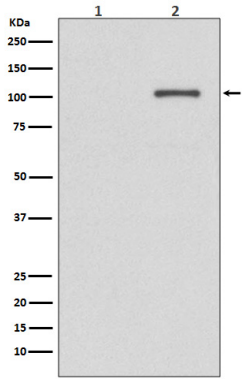
Dilution	WB 1:500~1:2000
Purification	Affinity-chromatography
Immunogen	A synthesized peptide derived from human Phospho-IRE1 (S724)
Description	Senses unfolded proteins in the lumen of the endoplasmic reticulum via its N-terminal domain which leads to enzyme auto-activation. The active endoribonuclease 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.
Storage Condition and Buffer	Rabbit IgG in phosphate buffered saline , pH 7.4, 150mM NaCl, 0.02% sodium azide and 50% glycerol. Store at +4°C short term. Store at -20°C long term. Avoid freeze / thaw cycle.

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:19328063, PubMed:21317875, PubMed:28128204, PubMed:30118681, PubMed:36739529, PubMed:9637683). 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:21317875, PubMed:24508390). The resulting spliced transcript of XBP1 encodes a transcriptional activator protein that up-regulates expression of UPR target genes (PubMed:11779464, PubMed:21317875, PubMed:24508390). 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.

Images



Western blot analysis of Phospho-IRE1 (S724) expression in (1) K562 cell lysate treated with AP; (2) Untreated K562 cell lysate.