10320 Camino Santa Fe, Suite G
San Diego, CA 92121
Tel: 858.875.1900 Fax: 858.875.1999

Mouse Ern1 Antibody (C-term)

Affinity Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP14250b

Product Information

Application	WB, E
Primary Accession	Q9EQY0
Other Accession	NP_076402.1
Reactivity	Mouse
Predicted	Rat, Bovine, Canine, Rabbit, Chicken
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Clone Names	RB34474
Calculated MW	110185
Antigen Region	827-855

Additional Information

Gene ID	78943
Other Names	Serine/threonine-protein kinase/endoribonuclease IRE1, Endoplasmic reticulum-to-nucleus signaling 1, Inositol-requiring protein 1, Ire1-alpha, IRE1a, Serine/threonine-protein kinase, Endoribonuclease, 3126-, Ern1 {ECO:0000312|MGI:MGI:1930134}
Target/Specificity	This Mouse Ern1 antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 827-855 amino acids from the C-terminal region of mouse Ern1.
Dilution	WB~~1:1000 E~~Use at an assay dependent concentration.
Format	Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is purified through a protein A column, followed by peptide affinity purification.
Storage	Maintain refrigerated at 2-8°C for up to 2 weeks. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.
Precautions	Mouse Ern1 Antibody (C-term) is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	Ern1 {ECO:0000312|MGI:MGI:1930134}

Function	Serine/threonine-protein kinase and endoribonuclease that acts as a key sensor for the endoplasmic reticulum unfolded protein response (UPR) (PubMed:11850408, PubMed:25164867). 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 (PubMed:25164867). The endoribonuclease activity is specific for XBP1 mRNA and excises 26 nucleotides from XBP1 mRNA (PubMed:11850408, PubMed:25164867). The resulting spliced transcript of XBP1 encodes a transcriptional activator protein that up-regulates expression of UPR target genes (PubMed:11850408, PubMed:25164867). 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 (By similarity).
Cellular Location	Endoplasmic reticulum membrane; Single-pass type I membrane protein
Tissue Location	Expressed in liver (at protein level) (PubMed:30118681). Ubiquitously expressed (PubMed:11146108). High levels in thymus, liver and lung. In the brain, preferentially expressed in cortical, hippocampal and olfactory neurons (PubMed:11146108).

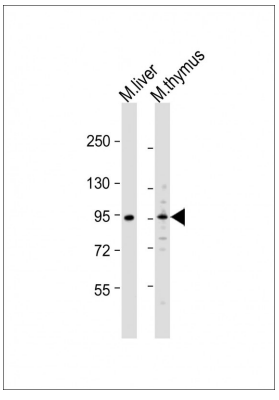
Background

Ern1 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.

References

Li, H., et al. Proc. Natl. Acad. Sci. U.S.A. 107(37):16113-16118(2010)
Auf, G., et al. Proc. Natl. Acad. Sci. U.S.A. 107(35):15553-15558(2010)
Oikawa, D., et al. FEBS Lett. 584(5):1066-1070(2010)
Yang, L., et al. PLoS ONE 5 (7), E11621 (2010) :
Ghosh, R., et al. PLoS ONE 5 (3), E9575 (2010) :

Images



All lanes : Anti-Mouse Ern1 Antibody (C-term) at 1:1000 dilution Lane 1: mouse liver lysate Lane 2: mouse thymus lysate Lysates/proteins at 20 µg per lane. Secondary Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated at 1/10000 dilution. Predicted band size : 110 kDa Blocking/Dilution buffer: 5% NFDM/TBST.

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.