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Mouse Ern1 Antibody (C-term) Blocking Peptide

Synthetic peptide
Catalog # BP14250b

Specification

Mouse Ern1 Antibody (C-term) Blocking Peptide - Product Information

Primary Accession Q9EQY0

Mouse Ern1 Antibody (C-term) Blocking Peptide - 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}

Format
Peptides are lyophilized in a solid powder format. Peptides can be reconstituted in solution using the appropriate buffer as needed.

Storage
Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C.

Precautions
This product is for research use only. Not for use in diagnostic or therapeutic procedures.

Mouse Ern1 Antibody (C-term) Blocking Peptide - 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:<a

href="http://www.uniprot.org/citations/25164867" target="_blank">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).

Mouse Ern1 Antibody (C-term) Blocking Peptide - Protocols

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

- Blocking Peptides

Mouse Ern1 Antibody (C-term) Blocking Peptide - Images

Mouse Ern1 Antibody (C-term) Blocking Peptide - 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.

Mouse Ern1 Antibody (C-term) Blocking Peptide - 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) :