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EPM2A Antibody (N-term) Blocking Peptide

Synthetic peptide
Catalog # BP1453a

Specification

EPM2A Antibody (N-term) Blocking Peptide - Product Information

Primary Accession O95278

EPM2A Antibody (N-term) Blocking Peptide - Additional Information

Gene ID 7957

Other Names
Laforin, 313-, Glucan phosphatase, Lafora PTPase, LAFPTPase, EPM2A

Target/Specificity
The synthetic peptide sequence used to generate the antibody AP1453a was selected from the N-term region of human EPM2A. A 10 to 100 fold molar excess to antibody is recommended. Precise conditions should be optimized for a particular assay.

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.

EPM2A Antibody (N-term) Blocking Peptide - Protein Information

Name EPM2A

Function
Plays an important role in preventing glycogen hyperphosphorylation and the formation of insoluble aggregates, via its activity as glycogen phosphatase, and by promoting the ubiquitination of proteins involved in glycogen metabolism via its interaction with the E3 ubiquitin ligase NHLRC1/malin. Shows strong phosphatase activity towards complex carbohydrates in vitro, avoiding glycogen hyperphosphorylation which is associated with reduced branching and formation of insoluble aggregates (PubMed:16901901, PubMed:23922729, PubMed:25538239, PubMed:25544560, PubMed:26231210). Dephosphorylates phosphotyrosine and synthetic substrates, such as para- nitrophenylphosphate (pNPP), and has low activity with phosphoserine and

phosphothreonine substrates (in vitro) (PubMed:11001928, PubMed:11220751, PubMed:11739371, PubMed:14532330, PubMed:14722920, PubMed:16971387, PubMed:18617530, PubMed:22036712, PubMed:23922729). Has been shown to dephosphorylate MAPT (By similarity). Forms a complex with NHLRC1/malin and HSP70, which suppresses the cellular toxicity of misfolded proteins by promoting their degradation through the ubiquitin-proteasome system (UPS). Acts as a scaffold protein to facilitate PPP1R3C/PTG ubiquitination by NHLRC1/malin (PubMed:23922729). Also promotes proteasome-independent protein degradation through the macroautophagy pathway (PubMed:20453062).

Cellular Location
Cytoplasm. Note=Under glycogenolytic conditions localizes to the nucleus [Isoform 2]: Cytoplasm. Endoplasmic reticulum membrane; Peripheral membrane protein; Cytoplasmic side. Cell membrane. Nucleus. Note=Also found in the nucleus. [Isoform 5]: Cytoplasm. Nucleus

Tissue Location
Expressed in heart, skeletal muscle, kidney, pancreas and brain. Isoform 4 is also expressed in the placenta

EPM2A Antibody (N-term) Blocking Peptide - Protocols

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

- Blocking Peptides

EPM2A Antibody (N-term) Blocking Peptide - Images

EPM2A Antibody (N-term) Blocking Peptide - Background

EPM2A is a dual-specificity phosphatase that associates with polyribosomes. This protein may be involved in the regulation of glycogen metabolism. Mutations have been associated with myoclonic epilepsy of Lafora.

EPM2A Antibody (N-term) Blocking Peptide - References

Minassian B.A., Nat. Genet. 20:171-174(1998). Ganesh S., Hum. Mol. Genet. 9:2251-2261(2000).