abcam

Product datasheet

Anti-EPM2A/Laforin antibody ab129321

3 Images

Overview

Product name	Anti-EPM2A/Laforin antibody
Description	Goat polyclonal to EPM2A/Laforin
Host species	Goat
Specificity	ab129321 is expected to recognize isoform 1 (NP_005661.1) only.
Tested applications	**Suitable for:** IHC-P, WB
Species reactivity	**Reacts with:** Human **Predicted to work with:** Rabbit, Cow, Dog, Pig, Xenopus laevis, a wide range of other species
Immunogen	Synthetic peptide corresponding to Human EPM2A/Laforin aa 131-144 (internal sequence) (Cysteine residue). Sequence: C-EATGHTNEMKHTTD Database link: **NP_005661.1** Run BLAST with Run BLAST with
Positive control	Human brain, cerebellum and heart tissues; Human Cerebellum lysate.
General notes	The Life Science industry has been in the grips of a reproducibility crisis for a number of years. Abcam is leading the way in addressing this with our range of recombinant monoclonal antibodies and knockout edited cell lines for gold-standard validation. Please check that this product meets your needs before purchasing. If you have any questions, special requirements or concerns, please send us an inquiry and/or contact our Support team ahead of purchase. Recommended alternatives for this product can be found below, along with publications, customer reviews and Q&As

Properties

Form	Liquid
Storage instructions	Shipped at 4°C. Upon delivery aliquot and store at -20°C. Avoid freeze / thaw cycles.
Storage buffer	pH: 7.30 Preservative: 0.02% Sodium azide Constituents: 99% Tris buffered saline, 0.5% BSA

Purity	Immunogen affinity purified
Clonality	Polyclonal
Isotype	IgG

Applications

The Abpromise guarantee Our **Abpromise guarantee** covers the use of ab129321 in the following tested applications.

The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.

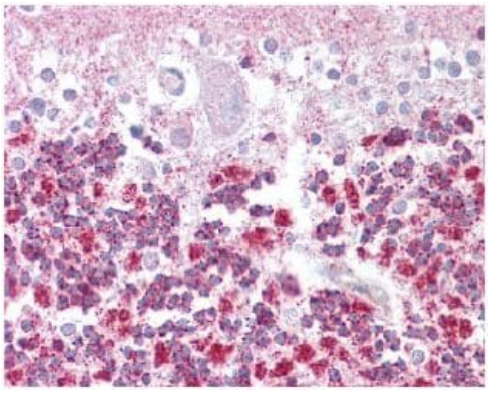
Application	Abreviews	Notes
IHC-P		Use a concentration of 2.5 - 3.75 µg/ml. Perform heat mediated antigen retrieval with citrate buffer pH 6 before commencing with IHC staining protocol.
WB		Use a concentration of 0.1 - 0.3 µg/ml. Predicted molecular weight: 37 kDa.

Target

Function	Dual specificity protein phosphatase. May be involved in the control of glycogen metabolism, particularly in monitoring for and preventing the formation of poorly branched glycogen molecules (polyglucosans). Acts as a scaffold protein to facilitate PPP1R3C/PTG ubiquitination by NHLRC1/malin. Forms a complex with NHLRC1/malin and HSP70 and this complex suppresses the cellular toxicity of misfolded proteins by promoting their degradation through the ubiquitin-proteasome system (UPS). Isoform 2, an inactive phosphatase, could function as a dominant-negative regulator for the phosphatase activity of isoform 1.
Tissue specificity	Expressed in heart, skeletal muscle, kidney, pancreas and brain. Isoform 4 is also expressed in the placenta.
Involvement in disease	Defects in EPM2A are a cause of progressive myoclonic epilepsy type 2 (EPM2) [MIM:254780]; also known as Lafora disease. EPM2 is an autosomal recessive and severe form of adolescent-onset progressive epilepsy. Typically, as seizures increase in frequency, cognitive function declines towards dementia, and affected individuals die usually within 10 years after onset. EPM2 occurs worldwide, but it is particularly common in the mediterranean countries of southern Europe and northern Africa, in southern India and in the Middle East. At the cellular level, it is characterized by accumulation of starch-like polyglucosans called Lafora bodies (LBs) that are most abundant in organs with the highest glucose metabolism: brain, heart, liver and skeletal muscle. Among other conditions involving polyglucosans, EPM2 is unique in that the inclusions are in neuronal dendrites but not axons and the forming polyglucosan fibrils are associated with the endoplasmic reticulum.
Sequence similarities	Belongs to the protein-tyrosine phosphatase family. Contains 1 CBM20 (carbohydrate binding type-20) domain. Contains 1 tyrosine-protein phosphatase domain.
Post-translational modifications	Polyubiquitinated by NHLRC1/malin. Phosphorylation on Ser-25 by AMPK affects the phosphatase activity of the enzyme and its ability to homodimerize and interact with NHLRC1, PPP1R3C or PRKAA2.
Cellular localization	Cytoplasm; Cytoplasm. Nucleus; Endoplasmic reticulum. Cell membrane. Nucleus. Also found in

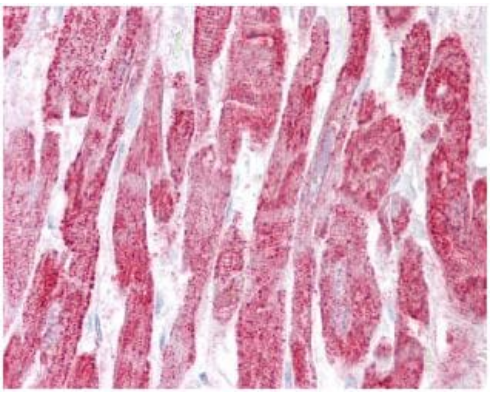
the nucleus; Endoplasmic reticulum. Cell membrane. Primarily associated with polyribosomes at the endoplasmic reticulum, also found at the plasma membrane and Cytoplasm. Under glycogenolytic conditions localizes to the nucleus.

Images



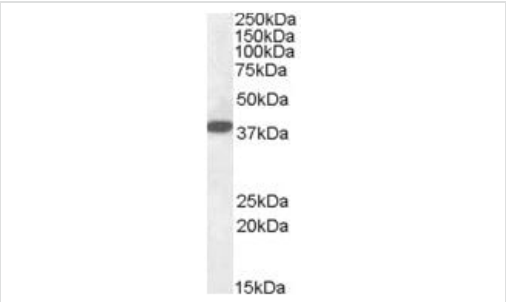
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-EPM2A/Laforin antibody (ab129321)

ab129321 at 3.75 µg/ml staining EPM2A/Laforin in Formalin-Fixed, Paraffin-Embedded Human brain, cerebellum tissue by immunohistochemistry.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-EPM2A/Laforin antibody (ab129321)

ab129321 at 3.75 µg/ml staining EPM2A/Laforin in Formalin-Fixed, Paraffin-Embedded Human heart tissue by immunohistochemistry.



Western blot - Anti-EPM2A/Laforin antibody (ab129321)

Anti-EPM2A/Laforin antibody (ab129321) at 0.1 µg/ml + Human Cerebellum lysate in RIPA buffer at 35 µg

Developed using the ECL technique.

Predicted band size: 37 kDa

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