abcam

Product datasheet

Anti-EPM2A antibody [2323C3a] ab53670

1 Image

Overview

Product name	Anti-EPM2A antibody [2323C3a]
Description	Mouse monoclonal [2323C3a] to EPM2A
Host species	Mouse
Tested applications	**Suitable for:** Dot blot, WB
Species reactivity	**Reacts with:** Human
Immunogen	EPM2A recombinant fragment (Human)

Properties

Form	Liquid
Storage instructions	Shipped at 4°C. Store at +4°C short term (1-2 weeks). Upon delivery aliquot. Store at -20°C long term.
Storage buffer	Preservative: 0.05% Sodium Azide Constituents: 1% BSA, PBS, pH 7.4
Purity	Protein G purified
Purification notes	ab53670 was purified using protein G column chromatography from culture supernatant of hybridoma cultured in a medium containing bovine IgG-depleted (approximately 95%) fetal bovine serum.
Clonality	Monoclonal
Clone number	2323C3a
Isotype	IgG1

Applications

Our Abpromise guarantee covers the use of **ab53670** in the following tested applications.

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

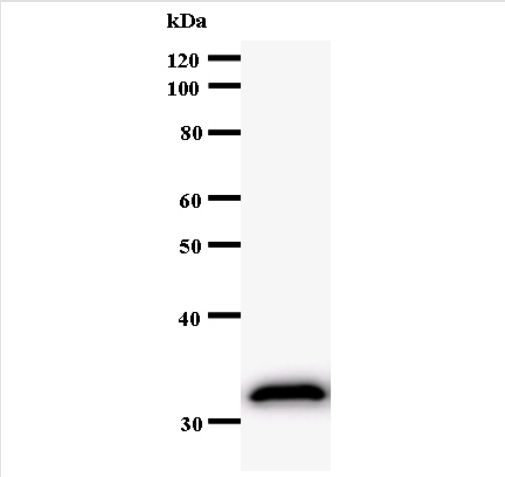
Application	Abreviews	Notes
Dot blot		Use at an assay dependent dilution.

Application	Abreviews	Notes
WB		Use at an assay dependent dilution. 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



Western blot - EPM2A antibody [2323C3a] (ab53670)

Staining of immunizing recombinant EPM2A fragment using anti-EPM2A antibody [2323C3a] (ab53670).

Predicted band size: 37 kDa

Observed band size: 33 kDa

The molecular weight of the band on the western blot does not correspond to the molecular weight of the natural protein because only a fragment of the protein was used.

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