

IMPA1 Antibody (C-term) Blocking Peptide Synthetic peptide

Catalog # BP9235b

Specification

IMPA1 Antibody (C-term) Blocking Peptide - Product Information

Primary Accession

<u>P29218</u>

IMPA1 Antibody (C-term) Blocking Peptide - Additional Information

Gene ID 3612

Other Names

Inositol monophosphatase 1, IMP 1, IMPase 1, D-galactose 1-phosphate phosphatase, Inositol-1(or 4)-monophosphatase 1, Lithium-sensitive myo-inositol monophosphatase A1, IMPA1, IMPA

Target/Specificity

The synthetic peptide sequence used to generate the antibody AP9235b was selected from the C-term region of human IMPA1. 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.

IMPA1 Antibody (C-term) Blocking Peptide - Protein Information

Name IMPA1 (<u>HGNC:6050</u>)

Synonyms IMPA

Function

Phosphatase involved in the dephosphorylation of myo-inositol monophosphates to generate myo-inositol (PubMed:17068342, PubMed:8718889, PubMed:9462881). Is also able to dephosphorylate scyllo-inositol-phosphate, myo-inositol 1,4-diphosphate, scyllo- inositol-1,3-diphosphate and scyllo-inositol-1,4-diphosphate (PubMed:17068342). Also dephosphorylates in vitro other sugar- phosphates including D-galactose-1-phosphate, glucose-6-phosphate, fructose-1-phosphate, beta-glycerophosphate and



2'-AMP (PubMed: <a href="http://www.uniprot.org/citations/17068342"

target="_blank">17068342, PubMed:8718889, PubMed:9462881). Responsible for the provision of inositol required for synthesis of phosphatidylinositols and polyphosphoinositides, and involved in maintaining normal brain function (PubMed:26416544, PubMed:26416544, PubMed:8718889). Has been implicated as the pharmacological target for lithium (Li(+)) action in brain, which is used to treat bipolar affective disorder (PubMed:17068342). Is equally active with 1D-myo-inositol 1-phosphate, 1D-myo-inositol 3-phosphate and D-galactose 1-phosphate (PubMed:<a href="http://www.uniprot.org/citations/9462881"

Cellular Location Cytoplasm.

target=" blank">9462881).

IMPA1 Antibody (C-term) Blocking Peptide - Protocols

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

<u>Blocking Peptides</u>

IMPA1 Antibody (C-term) Blocking Peptide - Images

IMPA1 Antibody (C-term) Blocking Peptide - Background

IMPA1 encodes an enyzme that dephosphorylates myo-inositol monophosphate to generate free myo-inositol, a precursor of phosphatidylinositol, and is therefore an important modulator of intracellular signal transduction via the production of the second messengers myoinositol 1,4,5-trisphosphate and diacylglycerol. This enzyme can also use myo-inositol-1,3-diphosphate, myo-inositol-1,4-diphosphate, scyllo-inositol-phosphate, glucose-1-phosphate, glucose-6-phosphate, fructose-1-phosphate, beta-glycerophosphate, and 2'-AMP as substrates. This enzyme shows magnesium-dependent phosphatase activity and is inhibited by therapeutic concentrations of lithium. Inhibition of inositol monophosphate hydroylosis and subsequent depletion of inositol for phosphatidylinositol synthesis may explain the anti-manic and anti-depressive effects of lithium administered to treat bipolar disorder.

IMPA1 Antibody (C-term) Blocking Peptide - References

Ohnishi,T., et.al., J. Biol. Chem. 282 (1), 637-646 (2007)Sjoholt,G., et.al, Mol. Psychiatry 9 (6), 621-629 (2004)