

Recombinant Human IMPA1 Protein, Myc/DDK-tagged, C13 and N15-labeled

Cat. No. IMPA1-770H Lot. No. (See product label)

SPECIFICATION

Product Overview

IMPA1 MS Standard C13 and N15-labeled recombinant protein (NP_005527) with a C-terminal MYC/DDK tag, was expressed in HEK293 cells.

Species

Human

Source

HEK293

Description

This gene encodes an enzyme 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 myo-inositol 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 hydrolysis and subsequent depletion of inositol for phosphatidylinositol synthesis may explain the anti-manic and anti-depressive effects of lithium administered to treat bipolar disorder. Alternative splicing results in multiple transcript variants encoding distinct isoforms. A pseudogene of this gene is also present on chromosome 8q21.13.

Molecular Mass

30.2 kDa

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AA Sequence	MADPWQECMDYAVTLARQAGEVVCEAIKNEMNVMLKSSPVDLVTATDQKVEKMLIS SIKEKYP SHSFIGEESVAAGEKSILTDNPTWIIDPIDGTTNFVHRFPFVAVSIGFAVNKK IEFGVVYSCVEGKMYTARKGKGAFNGQKLQVSQQEDITKSLLVTELGSSRTPETV RMVLSNMEKLCIPVHGIRSVGTAAVNMCLVATGGADAYYEMGIHCWDVAGAGIIVT EAGGVLM DVTGGPFDLMSRRVIAANNRILAERIAKEIQVIPLQRDDEDTRTRPLEQKLI SEEDLAANDILDYKDDDDKV
Purity	> 80% as determined by SDS-PAGE and Coomassie blue staining
Stability	Stable for 3 months from receipt of products under proper storage and handling conditions.
Storage	Store at -80 centigrade. Avoid repeated freeze-thaw cycles.
Concentration	50 µg/mL as determined by BCA
Storage Buffer	100 mM glycine, 25 mM Tris-HCl, pH 7.3.

GENE INFORMATION

Gene Name	IMPA1 inositol monophosphatase 1 [Homo sapiens (human)]
Official Symbol	IMPA1
Synonyms	IMPA1; inositol(myo)-1(or 4)-monophosphatase 1; IMPA; inositol monophosphatase 1; IMP 1; IMPase 1; inositol-1(or 4)-monophosphatase 1; lithium-sensitive myo-inositol monophosphatase A1; IMP;
Gene ID	3612
mRNA Refseq	NM_005536

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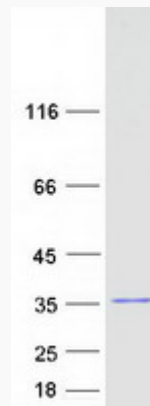
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Protein Refseq NP_005527

MIM 602064

UniProt ID P29218

SDS-PAGE



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