

Recombinant Human IMPA1, His-tagged

Cat. No. IMPA1-29490TH Lot. No. (See product label)

SPECIFICATION

Product Overview	Recombinant full length Human IMPA1 with N terminal His tag; 297 amino acids with tag, MWt 32.3 kDa.
Species	Human
Source	E.coli
ProteinLength	277 amino acids
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.
Conjugation	HIS

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Molecular Weight	32.300kDa inclusive of tags
Form	Liquid
Purity	>95% by SDS-PAGE
Storage buffer	Preservative: None Constituents: 10% Glycerol, 20mM Tris HCl, pH 8.0
Storage	Shipped at 4°C. Upon delivery aliquot and store at -20°C or -80°C. Avoid repeated freeze / thaw cycles.
Sequences of amino acids	MGSSHHHHHHSSGLVPRGSHMADPWQECMDYAVTLARQAGEVVCEAIKNEMNVM LKSSPVDLVTATDQKVEKMLISSIKEKYP SHSFIGEESVAAGEKSILTDNPTWIIDPIDG TTNFVHRFPFVAVSIGFAVNKKIEFGVVYSCVEGKMYTARKGKGAF CNGQKLQVSQ QEDITKSLLVTELGSSRTPETVRMVLSNMEKLF CIPVHGIRSVGTAAVNMCLVATGG ADAYYEMGIHCWDVAGAGIIVTEAGGVLMDVTGGPFDLMSRRVIAANNRILAERIAK EIQVIPLQRDDED

GENE INFORMATION

Gene Name	IMPA1 inositol(myo)-1(or 4)-monophosphatase 1 [Homo sapiens]
Official Symbol	IMPA1
Synonyms	IMPA1; inositol(myo)-1(or 4)-monophosphatase 1; IMPA; inositol monophosphatase 1;
Gene ID	3612
mRNA Refseq	NM_001144878

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Protein Refseq	NP_001138350
MIM	602064
Uniprot ID	P29218
Chromosome Location	8q21.1-q21.3
Pathway	D-myo-inositol (1,4,5)-trisphosphate degradation, conserved biosystem; Inositol phosphate metabolism, organism-specific biosystem; Inositol phosphate metabolism, conserved biosystem; Inositol phosphate metabolism, Ins(1,3,4,5)P4 => Ins(1,3,4)P3 =>
Function	hydrolase activity; inositol monophosphate phosphatase activity; inositol monophosphate phosphatase activity; metal ion binding; protein homodimerization activity;

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