

## Recombinant Human IMPA1 Protein, His-tagged

Cat. No. IMPA1-720H Lot. No. (See product label)

### SPECIFICATION

**Product Overview** Recombinant Human IMPA1(Met1-Asp277), transcript variant 2, fused with His tag at C-terminal was expressed in E. coli.

**Species** Human

**Source** E.coli

**ProteinLength** 1-277 a.a.

#### 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.

**Form** 20mM Phosphate buffer, 150mM NaCl, pH 7.25. Avoid repeated freeze-thaw cycles.

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Stable for at least 3 months from receipt of products under proper storage and handling conditions.

<b>Molecular Mass</b>	32.3 kDa
<b>Endotoxin</b>	< 0.1 EU per g protein as determined by LAL test
<b>Purity</b>	>95% as determined by SDS-PAGE and Coomassie blue staining
<b>Concentration</b>	>50 ug/mL as determined by microplate BCA method

## GENE INFORMATION

<b>Gene Name</b>	IMPA1 inositol(myo)-1(or 4)-monophosphatase 1 [ Homo sapiens ]
<b>Official Symbol</b>	IMPA1
<b>Synonyms</b>	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;
<b>Gene ID</b>	3612
<b>mRNA Refseq</b>	NM_001144878
<b>Protein Refseq</b>	NP_001138350
<b>MIM</b>	602064
<b>UniProt ID</b>	P29218

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