



# Recombinant Rat Inositol monophosphatase 1 (Impa1)

<b>Product Code</b>	CSB-EP011694RA-B
<b>Storage</b>	Store at -20°C, for extended storage, conserve at -20°C or -80°C.
<b>Uniprot No.</b>	P97697
<b>Product Type</b>	Recombinant Protein
<b>Immunogen Species</b>	Rattus norvegicus (Rat)
<b>Purity</b>	≥85% (SDS-PAGE)
<b>Sequence</b>	MADPWQECMD YAVILARQAG EMIREALKNK MDVMIKSSPA DLVTVTDQKV EKMLMSSIKE KYPYHSFIGE ESVASGEKTV FTEQPTWIID PIDGTTNFVH RFPFVAVSIG FVVNKEMEFV VVYSCVEDKM YTGRKKGKGF CNGQKLRVSQ QEDITKSLLV TELGSSRKPE TLRIVLSNME RLCSIPIHGI RSVGTAAVNM CLVATGGADA YYEMGIHCWD MAGAGIIVIE AGVLLDVTG GPFDLMSRRI IAASNIALAE RIAKELEIIP LQRDDES
<b>Source</b>	E.coli
<b>Target Names</b>	Impa1
<b>Protein Names</b>	Recommended name: Inositol monophosphatase 1 Short name= IMP 1 Short name= IMPase 1 EC= 3.1.3.25 Alternative name(s): Inositol-1(or 4)-monophosphatase 1 Lithium-sensitive myo-inositol monophosphatase A1
<b>Expression Region</b>	1-277
<b>Notes</b>	Repeated freezing and thawing is not recommended. Store working aliquots at 4°C for up to one week.
<b>Tag Info</b>	Tag type will be determined during the manufacturing process.
<b>Protein Length</b>	Full length protein
<b>Target Details</b>	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.



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**Reconstitution**

We recommend that this vial be briefly centrifuged prior to opening to bring the contents to the bottom. Please reconstitute protein in deionized sterile water to a concentration of 0.1-1.0 mg/mL. We recommend to add 5-50% of glycerol (final concentration) and aliquot for long-term storage at -20°C/-80°C. Our default final concentration of glycerol is 50%. Customers could use it as reference.

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**Shelf Life**

The shelf life is related to many factors, storage state, buffer ingredients, storage temperature and the stability of the protein itself.

Generally, the shelf life of liquid form is 6 months at -20°C/-80°C. The shelf life of lyophilized form is 12 months at -20°C/-80°C.