

GMPR Protein, Human, Recombinant (His)

General Information

Synonyms:	GMPR1;guanosine monophosphate reductase
Protein Construction:	A DNA sequence encoding the human GMPR (NP_006868.3)(Met1-Ser345) was expressed with a polyhistidine tag at the N-terminus. Predicted N terminal: His
Species:	Human
Expression Host:	HEK293 Cells
Accession:	P36959
Molecular Weight:	38.5 kDa (predicted); 40 kDa (reducing conditions)

QC Testing

Biological Activity:	Activity testing is in progress. It is theoretically active, but we cannot guarantee it.
Purity:	> 95% as determined by SDS-PAGE
Endotoxin:	< 1.0 EU/μg of the protein as determined by the LAL method.
Formulation:	Supplied as sterile 50 mM Tris, 150 mM NaCl, 40% Glycerol, 1 mM DTT, pH 8.0.

Preparation and Storage

Reconstitution:

A Certificate of Analysis (CoA) containing reconstitution instructions is included with the products. Please refer to the CoA for detailed information.

Stability & Storage:

It is recommended to store the product under sterile conditions at -20°C to -80°C. Samples are stable for up to 12 months. Please avoid multiple freeze-thaw cycles and store products in aliquots.

Actual storage temperature shall be subject to the COA.

Shipping:

Proteins are shipped with blue ice.

Protein Background

GMPR, also known as GMPR1, belongs to the IMPDH/GMPR family. This family of enzymes includes IMP dehydrogenase and GMP reductase. These enzymes are involved in purine metabolism and adopt a TIM barrel structure. GMPR is an enzyme that catalyzes the irreversible and NADPH-dependent reductive deamination of GMP to IMP. GMPR functions in the conversion of nucleobase, nucleoside and nucleotide derivatives of G to A nucleotides, and in maintaining the intracellular balance of A and G nucleotides.

Reference

Deng Y., et al.,(2002), NADPH-dependent GMP reductase isoenzyme of human (GMPR2). Expression, purification, and kinetic properties. *Int. J. Biochem. Cell Biol.* 34:1035-1050.

Zhang J., et al., (2003), Cloning and functional characterization of GMPR2, a novel human guanosine monophosphate reductase, which promotes the monocytic differentiation of HL-60 leukemia cells. *J. Cancer Res. Clin. Oncol.* 129:76-83.

Ivens A.C., et al.,(2005), The genome of the kinetoplastid parasite, *Leishmania major*. *Science* 309:436-442.

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