GNPDA2 Protein, Human (His)

Cat. No.:	HY-P701902
Synonyms:	GNPDA2; Glucosamine-6-phosphate isomerase 2; Glucosamine-6-phosphate deaminase 2; GNPDA 2; GlcN6P deaminase 2; Glucosamine-6-phosphate isomerase SB52
Species:	Human
Source:	E. coli
Accession:	Q8TDQ7 (R2-N276)
Gene ID:	132789
Molecular Weight:	

PROPERTIES

Appearance	Solution.
Formulation	Supplied as a 0.22 μm filtered solution of 50 mM Tris-HCl, pH7.5, 200 mM NaCl, 20% glycerol.
Endotoxin Level	<1 EU/μg, determined by LAL method.
Reconsititution	Please use rapid thawing with running water to thaw the protein.
Storage & Stability	Stored at -80°C for 1 year. It is stable at -20°C for 3 months after opening. It is recommended to freeze aliquots at -80°C for extended storage. Avoid repeated freeze-thaw cycles.
Shipping	Shipping with dry ice.

DESCRIPTION

Background	The GNPDA2 protein assumes a crucial role in cellular metabolism by catalyzing the reversible conversion of alpha-D-glucosamine 6-phosphate (GlcN-6P) into beta-D-fructose 6-phosphate (Fru-6P) and ammonium ion. This enzymatic reaction represents a regulatory step in de novo uridine diphosphate-N-acetyl-alpha-D-glucosamine (UDP-GlcNAc) biosynthesis through the hexosamine pathway. The deamination process is coupled to aldo-keto isomerization, mediating the metabolic flux from UDP-GlcNAc toward Fru-6P. Particularly noteworthy is GNPDA2's capability, under high ammonium levels, to drive amination and isomerization of Fru-6P, promoting hexosamine and UDP-GlcNAc synthesis. This dynamic interplay highlights GNPDA2's role in fine-tuning the metabolic fluctuations of cytosolic UDP-GlcNAc, influencing hyaluronan synthesis during tissue remodeling. The enzyme's regulatory function underscores its significance in coordinating metabolic pathways critical for nucleotide biosynthesis and cellular homeostasis.

Tel: 609-228-6898 Fax: 609-228-5909 E-mail: tech@MedChemExpress.com
Address: 1 Deer Park Dr, Suite Q, Monmouth Junction, NJ 08852, USA