GFPT1 Protein, Human

Cat. No.:	HY-P76359
Synonyms:	Glutamine--fructose-6-phosphate aminotransferase [isomerizing] 1; GFAT1; GFAT; GFPT
Species:	Human
Source:	E. coli
Accession:	Q06210 (Q332-E699)
Gene ID:	2673
Molecular Weight:	Approximately 41.5 kDa.

PROPERTIES

AA Sequence	Q Q I M K G N F S S F M Q K E I F E Q P E S V V N T M R G R V N F D D Y T V N L G G L K D H I K E I Q R C R R L I L I A C G T S Y H A G V A T R Q V L E E L T E L P V M V E L A S D F L D R N T P V F R D D V C F F L S Q S G E T A D T L M G L R Y C K E R G A L T V G I T N T V G S S I S R E T D C G V H I N A G P E I G V A S T K A Y T S Q F V S L V M F A L M M C D D R I S M Q E R R K E I M L G L K R L P D L I K E V L S M D D E I Q K L A T E L Y H Q K S V L I M G R G Y H Y A T C L E G A L K I K E I T Y M H S E G I L A G E L K H G P L A L V D K L M P V I M I I M R D H T Y A K C Q N A L Q Q V V A R Q G R P V V I C D K E D T E T I K N T K R T I K V P H S V D C L Q G I L S V I P L Q L L A F H L A V L R G Y D V D F P R N L A K S V T V E
Biological Activity	Measured by its ability to catalyzes the reaction of glutamine and F-6-P to produce glutamate and GlcN-6-P. The specific activity is 1.038 nmoL/min/mg.
Appearance	Lyophilized powder
Formulation	Lyophilized from a 0.2 μm filtered solution of PBS, pH 7.4, 10% Glycerol.
Endotoxin Level	<1 EU/μg, determined by LAL method.
Reconsititution	It is not recommended to reconstitute to a concentration less than 100 μg/mL in ddH_2O. For long term storage it is recommended to add a carrier protein (0.1% BSA, 5% HSA, 10% FBS or 5% Trehalose).
Storage & Stability	Stored at -20°C for 2 years. After reconstitution, it is stable at 4°C for 1 week or -20°C for longer (with carrier protein). It is recommended to freeze aliquots at -20°C or -80°C for extended storage.
Shipping	Room temperature in continental US; may vary elsewhere.

DESCRIPTION

Background	The GFPT1 protein exerts control over the flux of glucose into the hexosamine pathway and is likely crucial in regulating the availability of precursors necessary for both N- and O-linked glycosylation of proteins. Additionally, it plays a role in the circadian regulation of clock genes such as BMAL1 and CRY1, suggesting its involvement in modulating circadian rhythms. Moreover, GFPT1 is implicated in fine-tuning the metabolic fluctuations of cytosolic UDP-GlcNAc, particularly influencing its effects on hyaluronan synthesis during tissue remodeling. These diverse functions underscore the significance of GFPT1 in coordinating metabolic processes and cellular responses related to glycosylation, circadian rhythm, and tissue remodeling.

Caution: Product has not been fully validated for medical applications. For research use only.

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