

Recombinant Rat G6PI Protein

For Research Use Only

1. Basic Product Information

Catalog No.: REP52533

Size: 10ug, 100ug

Protein Name: Glucose-6-phosphate isomerase (GPI) (EC 5.3.1.9) (Autocrine motility factor) (AMF) (D-hexose-6-phosphate anomerase) (Glucose-6-phosphate C2-epimerase) (EC 5.1.3.-) (Neuroleukin) (NLK) (Phosphoglucose isomerase) (PGI) (Phosphohexose isomerase) (PHI)

Synonym: Gpi

UniProt ID: Q6P6V0

UniProt Link: www.uniprot.org/uniprotkb/Q6P6V0/entry

Species Source: Rat

Expression System: HEK293T eukaryotic cell expression system Sequence

Length: 558 AA

Molecular Weight: 63 KD

Protein Tag: C-terminal His6

2. Amino Acid Sequence

MAALTRNPEFQKLLEWHRANSANLKLRELFEADPERFNHFSLNLTNHHILLDYSKNLVNKEVLHM
LVDLA KSRGVEAARDNMFSGLKINSTEDRAVLHVALRNRNRSIMMDGKDVMPEVNKVLDMKSFC
QVRVSGDWKGYTGKAITDIINIGIGGSDLGPLMVTEALKPYSKGGPRVWFVSNIDGTHIAKTLANLNP
ESSLFIIASKTFTTQETITNAETAKEWFLQAAKDPSAVAKHFVALSTNTDKVKEFGIDPKNMFEEFWDW
VGGRYSLWSAIGLSIALHVGFDHFEQLLSGAHWMDQHFMKTPLDKNAPVLLALLGIWYINFYGCETH
AML PYDQYMHRFAAYFQQGD MESNGKYITKSGARVDYQTGPIVWGEPGTNGQHAFYQLIHQGTKM
IPCD FLIPVQTQHPIRNLGHHKILLANFLAQTEALMKGKSPEEARKELQAAGKSPEELEKLLPHKVFEG
NRPTNSIVFTKLTPFILGALIAMEHKIFVQGIWDINSFDQWGVELGKQLAKKIEPELDGSSAVTSHDS
STNGLIGFIKLQRDTKID

3. Buffer Composition

Liquid format: PBS-based buffer containing 50% glycerol. Glycerol concentration can be customized upon customer request; please state special requirements when placing your order.

Lyophilized format: Buffer before lyophilization is PBS supplemented with 6% trehalose.

4. Storage Conditions

Upon receipt, store the product at -20 °C or -80 °C. Aliquot the product for on-demand use to preserve protein activity and prevent denaturation and inactivation caused by repeated freeze-thaw cycles.

5. Product Description

This product is recombinant Glucose-6-phosphate isomerase (GPI) (EC 5.3.1.9) (Autocrine motility factor) (AMF) (D-hexose-6-phosphate anomerase) (Glucose-6-phosphate C2-epimerase) (EC 5.1.3.-) (Neuroleukin) (NLK) (Phosphoglucose isomerase) (PGI) (Phosphohexose isomerase) (PHI) produced using the HEK293T eukaryotic cell expression system. It is suitable for in-vitro functional assays, protein-protein interaction studies, antibody preparation and other biomedical research applications.

Protein Function: Isomerase that catalyzes the conversion of alpha-D-glucose-6-phosphate to beta-D-fructose-6-phosphate, the second step in glycolysis, and the reverse reaction in gluconeogenesis, within the cytoplasm (PubMed:2709006). Also shows C2-epimerase activity, interconverting D-glucose-6-phosphate (G6P) and D-mannose-6-phosphate (M6P) (By similarity). Also displays anomerase activity, interconverting alpha and beta-anomeric forms of G6P, D-fructose-6-phosphate and M6P (By similarity). In addition to its metabolic role, this enzyme functions extracellularly as a cytokine: acts as autocrine motility factor (AMF), a secreted angiogenic factor that enhances endothelial cell motility. Functions as neuroleukin, a neurotrophic factor supporting the survival of spinal and sensory neurons. Released by lectin-stimulated T-cells to induce immunoglobulin secretion (By similarity).

Subcellular Localization: Cytoplasm . Secreted .

6. Notes

- Avoid repeated freeze-thaw cycles to maintain protein stability and biological activity.
- Please specify special buffer-composition requirements at the time of order placement.
- For research use only. Not intended for clinical diagnosis, therapeutic use or commercial manufacturing.