

Recombinant Human GATM Protein

For Research Use Only

1. Basic Product Information

Catalog No.: REP50353

Size: 10ug, 100ug

Protein Name: Glycine amidinotransferase, mitochondrial (EC 2.1.4.1) (L-arginine:glycine amidinotransferase) (Transamidinase)

Synonym: GATM, AGAT

UniProt ID: P50440

UniProt Link: www.uniprot.org/uniprotkb/P50440/entry

Species Source: Human

Expression System: HEK293T eukaryotic cell expression system Sequence

Length: 423 AA

Molecular Weight: 48 KD

Protein Tag: C-terminal His6

2. Amino Acid Sequence

MLRVRCLRGGSRGAEAVHYIGSRLGRTL TGWVQRTFQSTQAATASSRNSCAADDKATEPLPKDCP
VSSYNEWDPLEEVIVGRAENACVPPFTIEVKANTYKEYWPFYQKQG GHYFPKDHLKKAVAEIEEMC
NILKTEGTVRRPDPIDWSLKYKTPDFESTGLYSAMP RDILIVVGNEIIEAPMAWRSRFFEYRAYRSIIK
DYFHRGAKWTTAPKPTMADELYNQDYPIHSVEDRHKLAAQ GKFTTEFEP CFDAADFIRAGRDIFAQ
RSQVTNYLGIEWMRRHLAPDYRVHIISFKDPNPMHIDATFNIIGPGIVLSNPDRPCHQIDLFKKAGWTII
TPPTPIIPDDHPLWMSSKWLSMNVLM LDEKRVMDANEVPIQKMF EKLGITTIKVNIRNANSLGGGFH
CWTCDVRRRGTLQSYLD

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 Glycine amidinotransferase, mitochondrial (EC 2.1.4.1) (L-arginine:glycine amidinotransferase) (Transamidinase) 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: Transamidinase that catalyzes the transfer of the amidino group of L-arginine onto the amino moiety of acceptor metabolites such as glycine, beta-alanine, gamma-aminobutyric acid (GABA) and taurine yielding the corresponding guanidine derivatives (PubMed:16820567, PubMed:27233232, PubMed:36543883, PubMed:3800397). Catalyzes the rate-limiting step of creatine biosynthesis, namely the transfer of the amidino group from L-arginine to glycine to generate guanidinoacetate, which is then methylated by GAMT to form creatine. Provides creatine as a source for ATP generation in tissues with high energy demands, in particular skeletal muscle, heart and brain (Probable) (PubMed:27233232, PubMed:36543883, PubMed:3800397, PubMed:9266688).

Subcellular Localization: [Isoform 1]: Mitochondrion inner membrane; Peripheral membrane protein; Intermembrane side. Note=Probably attached to the outer side of the inner membrane.; [Isoform 2]: Cytoplasm.

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.