

Recombinant Rat GPAT1 Protein

For Research Use Only

1. Basic Product Information

Catalog No.: REP52429

Size: 10ug, 100ug

Protein Name: Glycerol-3-phosphate acyltransferase 1, mitochondrial (GPAT-1) (EC 2.3.1.15)

Synonym: Gpam, Gpat1

UniProt ID: P97564

UniProt Link: www.uniprot.org/uniprotkb/P97564/entry

Species Source: Rat

Expression System: HEK293T eukaryotic cell expression system Sequence

Length: 828 AA

Molecular Weight: 94 KD

Protein Tag: C-terminal His6

2. Amino Acid Sequence

MEESVTIGTIDVSYLPNSSEYSLGRCKHTNEDWVDCGFKPTFFRSATLKWKESLMSRKRPFVGRC
CYSCTPQSWERFFNPSIPSLGLRNVIYINETHTRHRGWLARRLSYILFVQERDVHKGMFATSITDNVL
NSSRVQEAIAEVAEALNPDGSAQQQSKAIQKVKRKARKILQEMVATVSPGMIRLTGWVLLKLFNSFF
WNIQIHKGQLEMVKAATETNLPLLFLPVHRSHIDYLLLTFILFCHNIKAPYIASGNNLNIPFSTLIHKLGG
FFIRRRLDETPDGRKDILYRALLHGHIVELLRQQQFLEIFLEGTRSRSGKTSCARAGLLSVVVDLSSN
TIPDILVIPVGISYDRIIEGHYNGEQLGKPKKNESLWSVARGVIRMLRKNYGYVRVDFAQPFSLEKEYLE
GQSQKPVSAPLSLEQALLPAILPSRPDAAAAEHEDMSSNESRNAADEAFRRRLIANLAEHILFTASKS
CAIMSTHIVACLLLYRHRQGIHLSTLVEDFFVMKEEV LARDFDLGFGSGNSEDVVMHAIQLLGNCVTITH
TSRKDEFFITPSTTVPSVFELNFYSNGVLHV FIMEAIIACSIYAVQNKRGSGGSAGGLGNLISQEQLVR
KAASLCYLLSNEG TISLPCQTFYQVCQETVGKFIQYGILTVAEQDDQEDVSPGLAEQQWNKKLPEPL
NWRSD EDEDESDFGEEQRDCYLVKSQAKEHQQFITFLQRLGLLEAYSSAAIFVHTFRGPVPESEY
LQKLHRYLLTRTERNVAVYAESATYCLVKNVAVKMFKDIGVFKETKQKRASVLELSTTFLPQGSRQKLL
EYILSFVVL

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 Glycerol-3-phosphate acyltransferase 1, mitochondrial (GPAT-1) (EC 2.3.1.15) 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: Mitochondrial membrane protein that catalyzes the essential first step of biosynthesis of glycerolipids such as triglycerides, phosphatidic acids and lysophosphatidic acids (PubMed:10446428, PubMed:22905194). Esterifies acyl-group from acyl-coenzyme A (acyl-CoA) to the sn-1 position of glycerol-3-phosphate, to produce lysophosphatidic acid (PubMed:10446428, PubMed:22905194). Has a narrow hydrophobic binding cleft that selects for a linear acyl chain (By similarity). Catalytic activity is higher for substrates with a 16-carbon acyl chain (By similarity).

Subcellular Localization: Mitochondrion outer membrane ; Peripheral membrane protein .

Note=Associated with the mitochondrion outer membrane of hepatic cells via a patch of basic residues.

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.