

Recombinant Rat PTGES Protein

For Research Use Only

1. Basic Product Information

Catalog No.: REP52576

Size: 10ug, 100ug

Protein Name: Prostaglandin E synthase (mPGES-1) (EC 5.3.99.3) (Glutathione peroxidase PTGES) (EC 1.11.1.-) (Glutathione transferase PTGES) (EC 2.5.1.18) (Inducible prostaglandin E synthase) (Microsomal prostaglandin E synthase 1)

Synonym: Ptges, Pges, Pig12

UniProt ID: Q9JHF3

UniProt Link: www.uniprot.org/uniprotkb/Q9JHF3/entry

Species Source: Rat

Expression System: HEK293T eukaryotic cell expression system Sequence

Length: 153 AA

Molecular Weight: 17 KD

Protein Tag: C-terminal His6

2. Amino Acid Sequence

MTSLGLVMENSQVLPAFLLCSTLLVIKMYAVAVITGQVRLRKKAFANPEDALKRGGLQYCRSDPDVE
RCLRAHRNDMETIYPFLFLGFVYSFLGPNPLIAWIHFLVLTGRVVHTVAYLGKMNPRIRSGAYVLAQ
FACFSMALQILWEVAHHL

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 Prostaglandin E synthase (mPGES-1) (EC 5.3.99.3) (Glutathione peroxidase PTGES) (EC 1.11.1.-) (Glutathione transferase PTGES) (EC 2.5.1.18) (Inducible prostaglandin E synthase) (Microsomal prostaglandin E synthase 1) 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: Terminal enzyme of the cyclooxygenase (COX)-2-mediated prostaglandin E2 (PGE2) biosynthetic pathway. Catalyzes the glutathione-dependent oxidoreduction of prostaglandin endoperoxide H2 (PGH2) to prostaglandin E2 (PGE2) in response to inflammatory stimuli (PubMed:10869354, PubMed:11067848). Similarly, catalyzes the conversion of PGH3 (derived from eicosapentaenoate (EPA, C20:5n-3)) to PGE3, though PGH2 remains the preferred substrate (By similarity). Plays a key role in inflammation response, fever and pain (By similarity). Also catalyzes the oxidoreduction of endocannabinoids into prostaglandin glycerol esters and PGG2 into 15-hydroperoxy-PGE2. In addition, displays low glutathione transferase and glutathione-dependent peroxidase activities, toward 1-chloro-2,4-dinitrobenzene and 5-hydroperoxyicosatetraenoic acid (5-HPETE), respectively (By similarity).

Subcellular Localization: Membrane ; Multi-pass membrane protein . Cytoplasm, perinuclear region . Note=Colocalizes with PTGS1/COX-1 and PTGS2/COX-2 in the perinuclear compartment.

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.