

Recombinant Mouse PTGDS Protein

For Research Use Only

1. Basic Product Information

Catalog No.: REP51140

Size: 10ug, 100ug

Protein Name: Prostaglandin-H2 D-isomerase (EC 5.3.99.2) (Glutathione-independent PGD synthase) (Lipocalin-type prostaglandin-D synthase) (Prostaglandin-D2 synthase) (L-PGDS) (PGD2 synthase) (PGDS2)

Synonym: Ptgds

UniProt ID: O09114

UniProt Link: www.uniprot.org/uniprotkb/O09114/entry

Species Source: Mouse

Expression System: HEK293T eukaryotic cell expression system Sequence

Length: 189 AA

Molecular Weight: 21 KD

Protein Tag: C-terminal His6

2. Amino Acid Sequence

MAALRMLWMGLVLLGLLGFPQTPAQGHDTVQPNFQQDKFLGRWYSAGLASNSSWFREKKAVLYM
CKTVVAPSTEGGLNLTSTFLRKNQCETKIMVLQPAGAPGHYTYSSPHSGSIHSVSVVEANYDEYALL
FSRGTKGPGQDFRMTLYSRTQTLKDELKEKFTTFSKAQGLTEEDIVFLPQPDKCIQE

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-H2 D-isomerase (EC 5.3.99.2) (Glutathione-independent PGD synthase) (Lipocalin-type prostaglandin-D synthase) (Prostaglandin-D2 synthase) (L-PGDS) (PGD2 synthase) (PGDS2) 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: Catalyzes the conversion of PGH₂ to PGD₂, a prostaglandin involved in smooth muscle contraction/relaxation and a potent inhibitor of platelet aggregation. Involved in a variety of CNS functions, such as sedation, NREM sleep and PGE₂-induced allodynia, and may have an anti-apoptotic role in oligodendrocytes. Binds small non-substrate lipophilic molecules, including biliverdin, bilirubin, retinal, retinoic acid and thyroid hormone, and may act as a scavenger for harmful hydrophobic molecules and as a secretory retinoid and thyroid hormone transporter. Possibly involved in development and maintenance of the blood-brain, blood-retina, blood-aqueous humor and blood-testis barrier. It is likely to play important roles in both maturation and maintenance of the central nervous system and male reproductive system (PubMed:10781097, PubMed:11751991, PubMed:12077186, PubMed:17715133, PubMed:19546224, PubMed:19833210, PubMed:8922532, PubMed:9892701). Involved in PLA₂G₃-dependent maturation of mast cells. PLA₂G₃ is secreted by immature mast cells and acts on nearby fibroblasts upstream to PTGDS to synthesize PGD₂, which in turn promotes mast cell maturation and degranulation via PTGDR (PubMed:23624557). Can also, catalyze the conversion of PGH₃ (derived from eicosapentaenoate (EPA, C_{20:5n-3})) to PGD₃, though PGH₂ remains the preferred substrate (By similarity).

Subcellular Localization: Rough endoplasmic reticulum . Nucleus membrane . Golgi apparatus . Cytoplasm, perinuclear region . Secreted . Note=Detected on rough endoplasmic reticulum of arachnoid and meningioma cells. Localized to the nuclear envelope, Golgi apparatus, secretory vesicles and spherical cytoplasmic structures in arachnoid trabecular cells, and to circular cytoplasmic structures in meningeal macrophages and perivascular microglial cells. In oligodendrocytes, localized to the rough endoplasmic reticulum and nuclear envelope. In retinal pigment epithelial cells, localized to distinct cytoplasmic domains including the perinuclear region. Also 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.