# PTGDS Protein, Human (HEK293, His)

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| **Cat. No.:** | HY-P71242 |
| **Synonyms:** | Prostaglandin-H2 D-Isomerase; Beta-Trace Protein; Cerebrin-28; Glutathione-Independent PGD Synthase; Lipocalin-Type Prostaglandin-D Synthase; Prostaglandin-D2 Synthase; PGD2 Synthase; PGDS; PGDS2; PTGDS; PDS |
| **Species:** | Human |
| **Source:** | HEK293 |
| **Accession:** | P41222 (A23-Q190) |
| **Gene ID:** | 5730 |
| **Molecular Weight:** | 20-29 kDa |

## PROPERTIES

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| **AA Sequence** | A P E A Q V S V Q P N F Q Q D K F L G R W F S A G L A S N S S W L R E K K A A L<br>S M C K S V V A P A T D G G L N L T S T F L R K N Q C E T R T M L L Q P A G S L<br>G S Y S Y R S P H W G S T Y S V S V V E T D Y D Q Y A L L Y S Q G S K G P G E D<br>F R M A T L Y S R T Q T P R A E L K E K F T A F C K A Q G F T E D T I V F L P Q<br>T D K C M T E Q |
| **Biological Activity** | The enzyme activity of this recombinant protein is testing in progress, we cannot offer a guarantee yet. |
| **Appearance** | Solution. |
| **Formulation** | Supplied as a 0.2 μm filtered solution of 20 mM Tris-HCl, 150 mM NaCl, 10%Glycerol, pH 7.5. |
| **Endotoxin Level** | <1 EU/μg, determined by LAL method. |
| **Reconsititution** | N/A |
| **Storage & Stability** | Stored at -80°C for 1 year. It is stable at -20°C for 3 months after opening. It is recommended to freeze aliquots at -80°C for extended storage. Avoid repeated freeze-thaw cycles. |
| **Shipping** | Shipping with dry ice. |

## DESCRIPTION

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| **Background** | The PTGDS protein serves a multifaceted role in various physiological processes. It catalyzes the conversion of PGH2 to PGD2, a prostaglandin with implications in smooth muscle contraction/relaxation and a potent inhibitor of platelet aggregation. Beyond its involvement in these vascular functions, PTGDS plays a crucial role in diverse central nervous system (CNS) activities, including sedation, NREM sleep, and PGE2-induced allodynia, and may exhibit an anti-apoptotic function in oligodendrocytes. Notably, PTGDS has a broad substrate-binding capacity, interacting with small non-substrate lipophilic molecules such as biliverdin, bilirubin, retinal, retinoic acid, and thyroid hormone. This suggests its potential role |

as a scavenger for harmful hydrophobic molecules and as a transporter for secretory retinoids and thyroid hormones. Additionally, PTGDS is implicated in the development and maintenance of various blood barriers, including the blood-brain, blood-retina, blood-aqueous humor, and blood-testis barriers, indicating its significance in barrier function. Furthermore, it plays essential roles in the maturation and maintenance of the central nervous system and the male reproductive system, as well as participates in PLA2G3-dependent maturation of mast cells, further emphasizing its intricate involvement in diverse biological processes.



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