

## PGD2 Synthase/PTGDS Protein, Mouse (HEK293, His)

Cat. No.:	HY-P73710
Synonyms:	Prostaglandin-H2 D-isomerase; L-PGDS; PGDS2; PTGDS
Species:	Mouse
Source:	HEK293
Accession:	O09114 (M1-E189)
Gene ID:	19215
Molecular Weight:	Approximately 19.9 kDa

### PROPERTIES

Biological Activity	The enzyme activity of this recombinant protein is testing in progress, we cannot offer a guarantee yet.
Appearance	Lyophilized powder.
Formulation	Lyophilized from a 0.2 $\mu$ m filtered solution of PBS, pH 7.4. Normally 5 % - 8 % trehalose, mannitol and 0.01% Tween 80 are added as protectants before lyophilization.
Endotoxin Level	<1 EU/ $\mu$ g, determined by LAL method.
Reconstitution	It is not recommended to reconstitute to a concentration less than 100 $\mu$ g/mL in ddH <sub>2</sub> O.
Storage & Stability	Stored at -20°C for 2 years. After reconstitution, it is stable at 4°C for 1 week or -20°C for longer (with carrier protein). It is recommended to freeze aliquots at -20°C or -80°C for extended storage.
Shipping	Room temperature in continental US; may vary elsewhere.

### DESCRIPTION

#### Background

The PGD2 Synthase/PTGDS protein serves as a catalyst for the conversion of PGH2 to PGD2, a prostaglandin that plays a crucial role in smooth muscle contraction/relaxation and acts as a potent inhibitor of platelet aggregation. It is implicated in various central nervous system (CNS) functions, including sedation, NREM sleep, PGE2-induced allodynia, and potentially acts as an anti-apoptotic factor in oligodendrocytes. Additionally, this protein binds to small non-substrate lipophilic molecules such as biliverdin, bilirubin, retinal, retinoic acid, and thyroid hormone, potentially functioning as a scavenger for harmful hydrophobic compounds and acting as a secretory transporter for retinoids and thyroid hormones. It is likely involved in the development and maintenance of the blood-brain, blood-retina, blood-aqueous humor, and blood-testis barriers. Furthermore, it plays significant roles in the maturation and maintenance of the central nervous system and male reproductive system. It is also engaged in the maturation of mast cells through its involvement in the PLA2G3-dependent pathway, where PLA2G3 secreted by immature mast cells acts on neighboring fibroblasts upstream of PTGDS, leading to the synthesis of PGD2, which ultimately promotes mast cell maturation and degranulation via PTGDR.

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**Caution: Product has not been fully validated for medical applications. For research use only.**

Tel: 609-228-6898

Fax: 609-228-5909

E-mail: [tech@MedChemExpress.com](mailto:tech@MedChemExpress.com)

Address: 1 Deer Park Dr, Suite Q, Monmouth Junction, NJ 08852, USA