



LD Biopharma, Inc.
7384 Trade Street, Suite B
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- PRODUCT DATA SHEET -

Name of Product: Recombinant Human PTGDS Protein
Catalog Number: hRP-2456
Manufacturer: LD Biopharma, Inc.

Introduction

The protein encoded by human prostaglandin-H2 D-isomerase (PTGDS) gene is a glutathione-independent prostaglandin D synthase that 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. It 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. PTGDS is 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.

Full-length secreted form of human PTGDS (23-190aa) gene was constructed with codon optimization gene synthesis as 29 aa N-terminal T7_His_TEV cleavage site Tag and was expressed in E.coli as inclusion bodies. The final product was refolded using our unique “temperature shift inclusion body refolding” technology and chromatographically purified.

Gene Symbol: PTGDS (L-PGDS; PDS; PGD2; PGDS2)
Accession Number: NP_000945
Species: Human
Size: 25 µg / Vial
Composition: 0.25 mg/ml, sterile-filtered, in 20 mM pH 8.0 Tris-HCl Buffer, with proprietary formulation of NaCl, KCl, EDTA, Sucrose and DTT.
Storage: In Liquid. Keep at -80°C for long term storage. Product is stable at 4 °C for at least 30 days.



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Key References

Omori K, et al., *Lipocalin-type prostaglandin D synthase-derived PGD2 attenuates malignant properties of tumor endothelial cells*. J. Pathol. 244 (1), 84-96 (2018)

Morell-Garcia D, et al., *Sample-dependent diagnostic accuracy of prostaglandin D synthase in cerebrospinal fluid leak*. Clin. Biochem. 50 (1-2), 27-31 (2017)

Wong J, et al., *Predicting residual kidney function in hemodialysis patients using serum beta-trace protein and beta2-microglobulin*. Kidney Int. 89 (5), 1090-1098 (2016)

Mitson-Salazar A, et al., *Hematopoietic prostaglandin D synthase defines a proeosinophilic pathogenic effector human T(H)2 cell subpopulation with enhanced function*. J. Allergy Clin. Immunol. 137 (3), 907-18 (2016)

Applications

1. May be used for in vitro PTGDS mediated PGD2 signaling pathway regulation study with this protein either as soluble factor or as coating matrix protein.
2. May be used for PTGDS protein-protein interaction assay.
3. May be used as specific substrate protein for kinase, and ubiquitin (Sumo pathway) related enzyme functional screening assays.
4. May serve as a *Biomarker* for monitoring cerebrospinal fluid leak testing.
5. As immunogen for specific antibody production.

Quality Control

Purity: > 90% by SDS-PAGE.

Recombinant Protein Sequence

MASMTGGQQMGRGHHHHHENLYFQGGEFAPEAQVSVQPNFQQDKFLGRWFSAGLASNSSWLRE
KKAALSMCKSVVAPATDGLNLTSTFLRKNQCETRTMLLQPAGSLGSYSYRSPHWGSTYSVSVV
ETDYDQYALLYSQGSKGPGEDFRMATLYSRTQTTPRAELKEKFTAFCKAQGFTEDTIVFLPQTDK
CMTEQ