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Produktinformation

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Lieferung & Zahlungsart

siehe unsere Liefer- und Versandbedingungen

Zuschläge

- Mindermengenzuschlag
- Trockeneiszuschlag
- Gefahrgutzuschlag
- Expressversand

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PRODUCT INFORMATION

Prostaglandin D Synthase (hematopoietic-type; human, recombinant)

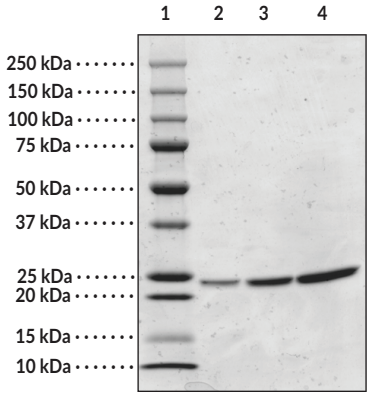
Item No. 10006593

Overview and Properties

Synonyms:	H-PGDS, hH-PGDS, Hematopoietic-PGDS, PGD Synthase (hematopoietic-type; human recombinant)
Source:	Active recombinant human N-terminal His-tagged H-PGDS expressed in *E. coli*
Amino Acids:	1-199 (full length)
Uniprot No.:	O60760
Molecular Weight:	24.3 kDa
Storage:	-80°C (as supplied)
Stability:	≥2 years
Purity:	***batch specific*** (≥95% estimated by SDS-PAGE)
Supplied in:	50 mM sodium phosphate, pH 7.2, containing 20% glycerol, 100 mM sodium chloride, 1 mM DTT, and 0.5 mM EDTA
Protein Concentration:	***batch specific*** mg/ml
Specific Activity:	***batch specific*** U/mg
Unit Definition:	One unit of enzyme produces 1 µmole of PGD_2 per minute at 25°C in 100 mM Tris-HCl, pH 8.0, 1 mM GSH, 1 mM magnesium chloride and 40 µM PGH_2.

Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Image



Lane 1: MW Markers
Lane 2: hH-PGDS (1 µg)
Lane 3: hH-PGDS (2 µg)
Lane 4: hH-PGDS (4 µg)

Representative gel image shown; actual purity may vary between each batch.

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PRODUCT INFORMATION

Description

Prostaglandin D synthase (PGDS) is a glutathione-dependent enzyme and member of the sigma class of glutathione-S-transferases (GSTs) that catalyzes the conversion of PGH_2 (Item No. 17020) to PGD_2 (Item No. 12010), an eicosanoid that has numerous biological functions, including vasorelaxation, recruitment of inflammatory cells, and inhibition of platelet aggregation.[1-3] There are two types of PGDS: lipocalin PGDS (L-PGDS; Item Nos. 10006788 | 10006787 | 10010548) and hematopoietic PGDS (H-PGDS; Item Nos. 10006593 | 10004347).[3] H-PGDS is found in peripheral tissues and immune cells, including Th2 cells, antigen-presenting cells, mast cells, megakaryocytes, and eosinophils, where it is localized to the cytosol.[2] H-PGDS activity is increased by a variety of stimuli, including LPS, anti-IgE antibodies, phorbol 12-myristate 13-acetate (TPA; Item No. 10008014), ionomycin (Item No. 10004974), and inflammatory cytokines such as IL-13, IL-3, or IL-4.[3] siRNA silencing of *Hpgds* decreases LPS-induced production of PGD_2 in mouse bone marrow-derived macrophages (BMDMs).[4] Transgenic overexpression of *HPGDS* in mice increases croton oil-induced ear swelling and PGD_2 production, and genome-wide deletion of *Hpgds* exacerbates hypotension and vascular permeability in a mouse model of anaphylaxis.[5,6] H-PGDS protein levels are increased in the nasal mucosa of patients with allergic rhinitis, and *HPGDS* SNPs have been found in individuals with asthma.[1,3] Cayman's Prostaglandin D Synthase (hematopoietic-type; human, recombinant) can be used for enzyme activity assays.

References

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3. Rittchen, S. and Heinemann, A. Therapeutic potential of hematopoietic prostaglandin D_2 synthase in allergic inflammation. *Cells* **8(6)**, 619 (2019).
4. Zhao, G., Yu, R., Deng, J., *et al*. Pivotal role of reactive oxygen species in differential regulation of lipopolysaccharide-induced prostaglandins production in macrophages. *Mol. Pharmacol.* **83(1)**, 167-178 (2013).
5. Sarashina, H., Tsubosaka, Y., Omori, K., *et al*. Opposing immunomodulatory roles of prostaglandin D_2 during the progression of skin inflammation. *J. Immunol.* **192(1)**, 459-465 (2014).
6. Nakamura, T., Fujiwara, Y., Yamada, R., *et al*. Mast cell-derived prostaglandin D_2 attenuates anaphylactic reactions in mice. *J. Allergy Clin. Immunol.* **140(2)**, 630-632 (2017).

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