# **PRODUCT** INFORMATION



Prostaglandin D Synthase (hematopoietic-type; human) Polyclonal Antibody Item No. 10004337

# **Overview and Properties**

Contents: Synonyms:	This vial contains 100 μg of protein A-purified polyclonal antibody. H-PGD Synthase, H-PGDS, Hematopoietic-PGDS, hH-PGDS, PGD Synthase (hematopoietic-type)
Immunogen:	Recombinant human H-PGD
Cross Reactivity:	(+) H-PGDS
<b>Species Reactivity:</b>	(+) Human and mouse; other species not tested
Uniprot No.:	O60760
Form:	Liquid
Storage:	-20°C (as supplied)
Stability:	≥3 years
Storage Buffer:	PBS, pH 7.2, with 50% glycerol and 0.02% sodium azide
Host:	Rabbit
Applications:	Immunohistochemistry (IHC) and Western blot (WB); the recommended starting dilution for WB is 1:200 for a 1 hour incubation at room temperature, and 1:1,000 for IHC. Other applications were not tested, therefore optimal working concentration/ dilution should be determined empirically.

### Image



Lane 1: PGDS (hematopoietic-type; human) (Item no. 10006593) (10 ng) Lane 2: PGDS (hematopoietic-type; human) (Item no. 10006593) (20 ng)

WARNING THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

### SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

WARRANTY AND LIMITATION OF REMEDY Buyer agrees to purchase the material subject to Cayman's Terms and Conditions. Complete Terms and Conditions including Warranty and Limitation of Liability information can be found on our website.

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# CAYMAN CHEMICAL

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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<sub>2</sub> (Item No. 17020) to PGD<sub>2</sub> (Item No. 12010), an eicosanoid that has numerous biological functions, including vasorelaxation, recruitment of inflammatory cells, and inhibition of platelet aggregation.<sup>1-3</sup> There are two types of PGDS: lipocalin PGDS (L-PGDS; Item Nos. 10006788 | 10006787) and hematopoietic PGDS (H-PGDS; Item No. 10006593).<sup>3</sup> 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.<sup>2</sup> 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 PGD2 in mouse bone marrow-derived macrophages (BMDMs).<sup>4</sup> Transgenic overexpression of HPGDS in mice increases croton oil-induced ear swelling and PGD<sub>2</sub> production, and genome-wide deletion of Hpgds exacerbates hypotension and vascular permeability in a mouse model of anaphylaxis.<sup>5,6</sup> 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.<sup>1,3</sup> Cayman's Prostaglandin D Synthase (hematopoietic-type; human) Polyclonal Antibody can be used for immunohistochemistry (IHC) and Western blot (WB) applications. The antibody recognizes H-PGDS at ~24 kDa from human and mouse samples.

# References

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- Thurairatnam, S. Hematopoietic prostaglandin D synthase inhibitors. Prog. Med. Chem. 51, 97-133 (2012). 2.
- 3. Rittchen, S. and Heinemann, A. Therapeutic potential of hematopoietic prostaglandin D<sub>2</sub> synthase in allergic inflammation. Cells 8(6), 619 (2019).
- Zhao, G., Yu, R., Deng, J., et al. Pivotal role of reactive oxygen species in differential regulation of 4. 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<sub>2</sub> during the progression of skin inflammation. J. Immunol. 192(1), 459-465 (2014).
- Nakamura, T., Fujiwara, Y., Yamada, R., et al. Mast cell-derived prostaglandin D<sub>2</sub> attenuates anaphylactic 6. reactions in mice. J. Allergy Clin. Immunol. 140(2), 630-632 (2017).

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