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SZABO-SCANDIC HandelsgmbH

Quellenstraße 110, A-1100 Wien

T. +43(0)1 489 3961-0

F. +43(0)1 489 3961-7

mail@szabo-scandic.com

www.szabo-scandic.com

[linkedin.com/company/szaboscandic](https://www.linkedin.com/company/szaboscandic) 

PRODUCT INFORMATION



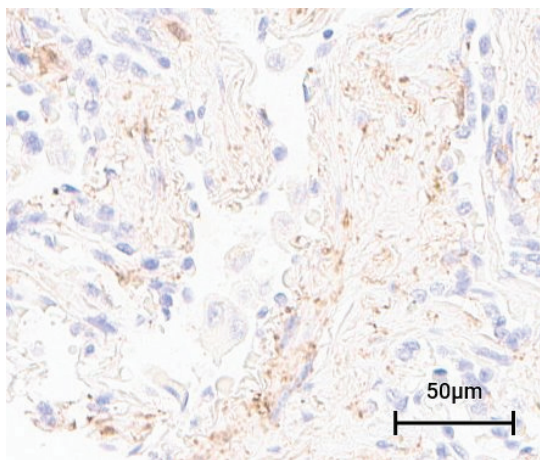
Prostaglandin D Synthase (hematopoietic-type; human) Monoclonal Antibody (Clone 2A5)

Item No. 10004345

Overview

Contents:	This vial contains 100 µg purified monoclonal antibody.
Synonyms:	Hematopoietic-PGDS, H-PGDS, H-PGD Synthase, PGD Synthase (hematopoietic-type)
Immunogen:	Recombinant human H-PGDS
Cross Reactivity:	(+) H-PGDS
Species Reactivity:	(+) Human, mouse; other species not tested
Form:	Liquid
Storage:	-20°C (as supplied)
Stability:	≥3 years
Storage Buffer:	PBS, pH 7.2, with 50% glycerol, 0.5 mg/ml BSA, and 0.02% sodium azide
Clone:	2A5
Host:	Mouse
Isotype:	IgG2bk
Applications:	Immunohistochemistry (IHC) and Western blot (WB); the recommended starting dilution is 1:200 and 1:1,000. Other applications were not tested, therefore optimal working concentration/dilution should be determined empirically.

Image



Immunohistochemistry analysis of formalin-fixed, paraffin-embedded (FFPE) human lung tissue after heat induced antigen retrieval in pH 6.0 citrate buffer. After incubation with Prostaglandin D Synthase (hematopoietic; human) Monoclonal Antibody (Clone 2A5) (Item No. 10004345) at a 1:200 dilution, slides were incubated with biotinylated secondary antibody, followed by alkaline phosphatase-streptavidin and chromogen (DAB).

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

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CAYMAN CHEMICAL

1180 EAST ELLSWORTH RD

ANN ARBOR, MI 48108 · USA

PHONE: [800] 364-9897

[734] 971-3335

FAX: [734] 971-3640

CUSTSERV@CAYMANCHEM.COM

WWW.CAYMANCHEM.COM

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) and hematopoietic PGDS (H-PGDS; Item No. 10006593).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.^{1,7} Cayman's Prostaglandin D Synthase (hematopoietic-type; human) Monoclonal Antibody (Clone 2A5) can be used for immunohistochemistry (IHC) and Western blot (WB) applications.

References

1. Kanaoka, Y., Fujimori, K., Kikuno, R., *et al.* Structure and chromosomal localization of human and mouse genes for hematopoietic prostaglandin D synthase. *Eur. J. Biochem.* **267**, 3315-3322 (2000).
2. Thurairatnam, S. Hematopoietic prostaglandin D synthase inhibitors. *Prog. Med. Chem.* **51**, 97-133 (2012).
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).
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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).
7. Rittchen, S. and Heinemann, A. Therapeutic potential of hematopoietic prostaglandin D_2 synthase in allergic inflammation. *Cells* **8(6)**, 619 (2019).