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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 D₂ Dopamine Item No. 9002504

Formal Name: 9 α ,15S-dihydroxy-11-oxo-prosta-5Z,13E-dien-1-oic N-[2-(3,4-dihydroxyphenyl)ethyl] amide

Synonyms: PGD₂ DA, PGD₂ Dopamine

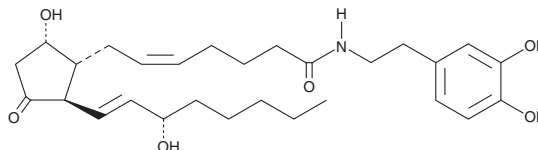
MF: C₂₈H₄₁NO₆

FW: 487.6

Purity: \geq 95%

Stability: \geq 1 year at -20°C

Supplied as: A solution in ethanol



Laboratory Procedures

For long term storage, we suggest that prostaglandin D₂ dopamine (PGD₂ dopamine) be stored as supplied at -20°C. It should be stable for at least one year.

PGD₂ dopamine is supplied as a solution in ethanol. To change the solvent, simply evaporate the ethanol under a gentle stream of nitrogen and immediately add the solvent of choice. Solvents such as ethanol, DMSO, and dimethyl formamide purged with an inert gas can be used. The solubility of PGD₂ dopamine in these solvents is approximately 50, 20, and 30 mg/ml, respectively.

PGD₂ dopamine is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, the ethanolic solution of PGD₂ dopamine should be diluted with the aqueous buffer of choice. PGD₂ dopamine has a solubility of approximately 0.5 mg/ml in a 1:1 solution of ethanol:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Description

PGD₂ (Item No. 12010), the major eicosanoid product of mast cells in the immune system, is also produced in the brain where it is involved in sleep regulatory mechanisms.^{1,2} Further pharmacological actions include inhibition of platelet aggregation, relaxation of vascular smooth muscle, and regulation of reproductive development.³ Dopamine-containing neurons in the brain are involved in reward-motivated behavior, motor control, and hormone release.⁴ Peripheral, paracrine actions of dopamine include the control of vasodilation, sodium excretion, insulin production, gastrointestinal motility, and the activity of lymphocytes.^{2,5} Catecholamines are known to stimulate prostanoid synthesis by acting as co-substrates.⁶ PGD₂ dopamine is a conjugate of the neurotransmitter dopamine and PGD₂. It can be used to study the biological function of PGD₂ in the brain and periphery.

References

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2. Hayaishi, O. *J. Appl. Physiol.* **92**, 863-868 (2015).
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4. Missale, C., Nash, S.R., Robinson, S.W., et al. *Physiol. Rev.* **78(1)**, 190-225 (1998).
5. Garza, Jr.H.H. and Carr, D.J.J. *Chem. Immunol.* **69**, 132-154 (1997).
6. Alanko, J., Riutta, A., and Vapaatalo, H. *Free Radic. Biol. Med.* **13**, 677-688 (1992).

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.

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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