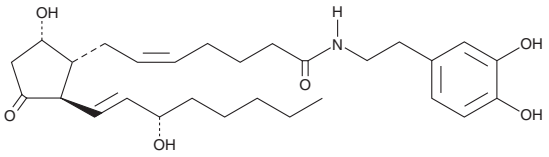
PRODUCT INFORMATION

Prostaglandin D_2 Dopamine

Item No. 9002504

Formal Name: 9α,15S-dihydroxy-11-oxo-prosta-5Z,13E-dien-1-oic N-[2-(3,4-dihydroxyphenyl)ethyl amide
Synonyms: PGD_2 DA, PGD_2 Dopamine
MF: $C_{28}H_{41}NO_6$
FW: 487.6
Purity: ≥95%
Stability: ≥1 year at -20°C
Supplied as: A solution in ethanol



Laboratory Procedures

For long term storage, we suggest that prostaglandin D_2 dopamine (PGD_2 dopamine) be stored as supplied at -20°C. It should be stable for at least one year.

PGD_2 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 PGD_2 dopamine in these solvents is approximately 50, 20, and 30 mg/ml, respectively.

PGD_2 dopamine is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, the ethanolic solution of PGD_2 dopamine should be diluted with the aqueous buffer of choice. PGD_2 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

PGD_2 (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] PGD_2 dopamine is a conjugate of the neurotransmitter dopmaine and PGD_2. It can be used to study the biological function of PGD_2 in the brain and periphery.

References

1. Roberts, L.J., II and Sweetman, B.J. *Prostaglandins* **30**, 383-400 (1985).
2. Hayaishi, O. *J. Appl. Physiol.* **92**, 863-868 (2015).
3. Giles, H. and Leff, P. *Prostaglandins* **35**, 277-300 (1988).
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).

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