

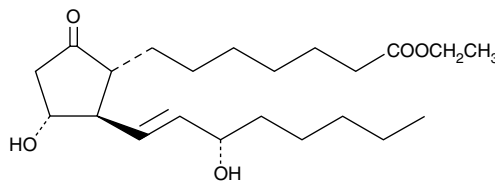
Product Information



Prostaglandin E₁ ethyl ester

Item No. 9001730

CAS Registry No.: 35900-16-4
Formal Name: 11 α ,15S-dihydroxy-9-oxo-prost-13E-en-1-oic acid, ethyl ester
Synonyms: Alprostadil ethyl ester, PGE₁ ethyl ester
MF: C₂₂H₃₈O₅
FW: 382.5
Purity: \geq 95%
Stability: \geq 2 years at -20°C
Supplied as: A solution in methyl acetate
UV/Vis.: λ_{max} : 288 nm



Laboratory Procedures

For long term storage, we suggest that prostaglandin E₁ (PGE₁) ethyl ester be stored as supplied at -20°C. It should be stable for at least two years.

PGE₁ ethyl ester is supplied as a solution in methyl acetate. To change the solvent, simply evaporate the methyl acetate under a gentle stream of nitrogen and immediately add the solvent of choice. Solvents such as ethanol, DMSO, and dimethyl formamide (DMF) purged with an inert gas can be used. The solubility of PGE₁ ethyl ester in ethanol is approximately 30 mg/ml and approximately 50 mg/ml in DMSO and DMF.

Further dilutions of the stock solution into aqueous buffers or isotonic saline should be made prior to performing biological experiments. Ensure that the residual amount of organic solvent is insignificant, since organic solvents may have physiological effects at low concentrations. If an organic solvent-free solution of PGE₁ ethyl ester is needed, it can be prepared by evaporating the methyl acetate and directly dissolving the neat oil in aqueous buffers. The solubility of PGE₁ ethyl ester in PBS, pH 7.2, is approximately 0.25 mg/ml. We do not recommend storing the aqueous solution for more than one day.

PGE₁ is the theoretical cyclooxygenase metabolite of dihomo- γ -linolenic acid.¹ Its pharmacology includes vasodilation, hypotension, and anti-platelet activities. The IC₅₀ value of PGE₁ for the inhibition of ADP-induced human platelet aggregation is 40 nM.^{2,3} PGE₁ is used to treat male erectile dysfunction and to maintain ductus arteriosus patency in infants.^{4,5} PGE₁ ethyl ester is an esterified form of the free acid which may be more amenable for certain applications.

References

1. Cawello, W., Schweer, H., Dietrich, B., *et al.* Pharmacokinetics of prostaglandin E₁ and its main metabolites after intracavernous injection and short-term infusion of prostaglandin E₁ in patients with erectile dysfunction. *J. Urol.* **158**, 1403-1407 (1997).
2. Kobzar, G., Mardla, V., Järving, I., *et al.* Antiaggregating potency of E-type prostaglandins in human and rabbit platelets. *Proc. Est. Acad. Sci. Chem.* **40**, 179-180 (1991).
3. Okada, F., Nukada, T., Yamauchi, Y., *et al.* The hypotensive effect of prostaglandin E₁ on hypertensive cases of various types. *Prostaglandins* **7**, 99-106 (1974).
4. Padma-Nathan, H., Hellstrom, W.J.G., Kaiser, F.E., *et al.* Treatment of men with erectile dysfunction with transurethral alprostadil. *N. Engl. J. Med.* **336**, 1-7 (1997).
5. Olley, P.M. and Coceani, F. Prostaglandins and the ductus arteriosus. *Annu. Rev. Med.* **32**, 375-3785 (1981).

Related Products

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WARNING: THIS PRODUCT IS FOR LABORATORY RESEARCH ONLY: NOT FOR ADMINISTRATION TO HUMANS. NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA

This material should be considered hazardous until information to the contrary becomes available. Do not ingest, swallow, or inhale. Do not get in eyes, on skin, or on clothing. Wash thoroughly after handling. This information contains some, but not all, of the information required for the safe and proper use of this material. 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

Mailing address

1180 E. Ellsworth Road
Ann Arbor, MI
48108 USA

Phone

(800) 364-9897
(734) 971-3335

Fax

(734) 971-3640

E-Mail

custserv@caymanchem.com

Web

www.caymanchem.com