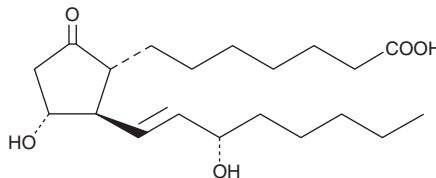


PRODUCT INFORMATION

Prostaglandin E₁ Analytical Reference Standard

Item No. 13010.1

CAS Registry No.: 745-65-3
Formal Name: 9-oxo-11 α ,15S-dihydroxy-prost-13E-en-1-oic acid
Synonyms: Alprostadil, PGE₁
MF: C₂₀H₃₄O₅
FW: 354.5
Purity: ≥99%
Stability: ≥2 years at -20°C
Supplied as: Light yellow to white needles



Laboratory Procedures

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

PGE₁ is supplied as a crystalline solid. A stock solution may be made by dissolving the PGE₁ in an organic solvent. PGE₁ is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide. The solubility of PGE₁ in these solvents is approximately 50 mg/ml.

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. Organic solvent-free aqueous solutions of PGE₁ can be prepared by directly dissolving the crystalline compound in aqueous buffers. The solubility of PGE₁ in PBS (pH 7.2) is approximately 1.67 mg/ml. Avoid adding PGE₁ to basic solutions (pH >7.4), since base treatment will degrade PGE₁ to Prostaglandin A and Prostaglandin B compounds. Also, ensure that the residual amount of organic solvent is insignificant, since organic solvents may have physiological effects at low concentrations. We do not recommend storing the aqueous solution for more than one day.

Description

PGE₁ is a clinically useful vasodilator and an inhibitor of platelet aggregation. This compound conforms to quality specifications set by USP.¹ PGE₁ is the theoretical cyclooxygenase metabolite of dihomo- γ -linolenic acid (DGLA), but it is virtually undetectable in the plasma of normal humans or other animals.³ PGE₁ pharmacology includes vasodilation, hypotension, and anti-platelet activities.⁴ The IC₅₀ value of PGE₁ for the inhibition of ADP-induced human platelet aggregation is 40 nM.^{2,5} The vasorelaxant and anti-hypertensive effects of PGE₁ are used to treat male erectile dysfunction and to provide emergency vasodilation of the patent ductus arteriosus in infants whose cardiac anomalies require pulmonary shunting for survival.^{3,5} In human males, the intracavernosal effective dose range for PGE₁ is 2 to 80 μ g, and the transurethral range is 125 to 1,000 μ g.³

References

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3. Cawello, W., Schweer, H., Dietrich, B., et al. *J. Urol.* **158**, 1403-1407 (1997).
4. Padma-Nathan, H., Hellstrom, W.J.G., Kaiser, F.E., et al. *N. Engl. J. Med.* **336**, 1-7 (1997).
5. Okada, F., Nukada, T., Yamauchi, Y., et al. *Prostaglandins* **7**, 99-106 (1974).
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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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