

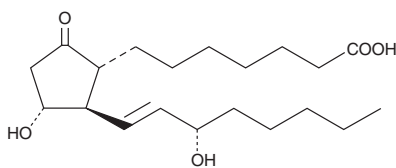
PRODUCT INFORMATION



Prostaglandin E₁ Quant-PAK Item No. 10006844

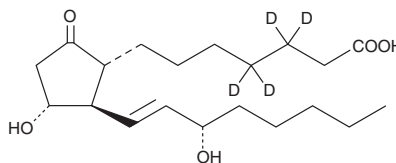
Prostaglandin E₁

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: \geq 98%
Stability: \geq 2 years at -20°C
Supplied as: A crystalline solid



Prostaglandin E₁-d₄

CAS Registry No.: 211105-33-8
Formal Name: 9-oxo-11 α ,15S-dihydroxy-prost-13E-en-1-oic-3,3,4,4-d₄ acid
Synonyms: Alprostadil-d₄, PGE₁-d₄
MF: C₂₀H₃₀D₄O₅
FW: 358.5
Chemical Purity: \geq 99% Prostaglandin E₁
Deuterium Incorporation: \geq 99% deuterated forms (d₁-d₄); \leq 1% d₀
Stability: \geq 1 year at -20°C
Supplied as: A solution in methyl acetate



This prostaglandin E₁ (PGE₁) Quant-PAK contains 50 μ g of PGE₁-d₄ and 2-4 mg of PGE₁ (please see the vial for exact amount and concentration). For long term storage, we suggest that PGE₁ and PGE₁-d₄ be stored as supplied at -20°C. They should be stable for at least one year.

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 (DMF). The solubility of PGE₁ in ethanol and DMSO is approximately 50 mg/ml and approximately 100 mg/ml in DMF.

PGE₁-d₄ 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-d₄ in ethanol and DMSO is approximately 50 mg/ml and approximately 100 mg/ml in DMF.

PGE₁-d₄ contains four deuterium atoms at the 3, 3', 4, and 4' positions. It is intended for use as an internal standard for the quantification of PGE₁ by GC- or LC-mass spectrometry. The accuracy of the sample weight in the PGE₁-d₄ vial is between 5% over and 2% under the weight indicated on the vial. For better precision we have provided a precisely weighed unlabeled PGE₁, with the precise weight (2-4 mg) indicated on the vial. Using this vial the deuterated standard can be quantified by constructing a standard curve of peak intensity ratios (deuterated versus unlabeled).

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.¹ Its pharmacology includes vasodilation, hypotension, and anti-platelet activities. The IC₅₀ of PGE₁ for the inhibition of ADP-induced human platelet aggregation is 40 nM.^{2,3} 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.^{4,5} 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.⁴

References

1. Cawello, W., Schweer, H., Dietrich, B., *et al.* *J. Urol.* **158**, 1403-1407 (1997).
2. Kobzar, G., Mardla, V., Järving, I., *et al.* *Proc. Estonian Acad. Sci. Chem.* **40**, 179-180 (1991).
3. Okada, F., Nukada, T., Yamauchi, Y., *et al.* *Prostaglandins* **7**, 99-106 (1974).
4. Padma-Nathan, H., Hellstrom, W.J.G., Kaiser, F.E., *et al.* *N. Engl. J. Med.* **336**, 1-7 (1997).
5. Olley, P.M. and Coceani, F. *Annu. Rev. Med.* **32**, 375-3785 (1981).

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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