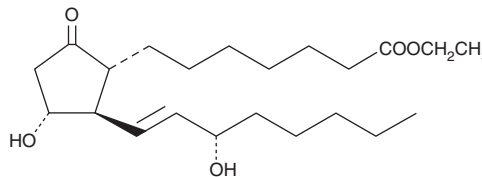


# PRODUCT INFORMATION



## Prostaglandin E<sub>1</sub> ethyl ester Item No. 9001730

**CAS Registry No.:** 35900-16-4  
**Formal Name:** 11 $\alpha$ ,15S-dihydroxy-9-oxo-prost-13E-en-1-oic acid, ethyl ester  
**Synonyms:** Alprostadil ethyl ester, PGE<sub>1</sub> ethyl ester  
**MF:** C<sub>22</sub>H<sub>38</sub>O<sub>5</sub>  
**FW:** 382.5  
**Purity:**  $\geq$ 95%  
**UV/Vis.:**  $\lambda_{\text{max}}$ : 288 nm  
**Supplied as:** A solution in methyl acetate  
**Storage:** -20°C  
**Stability:**  $\geq$ 2 years



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

### Laboratory Procedures

Prostaglandin E<sub>1</sub> (PGE<sub>1</sub>) 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 PGE<sub>1</sub> ethyl ester in ethanol is approximately 30 mg/ml and approximately 50 mg/ml in DMSO and DMF.

PGE<sub>1</sub> ethyl ester is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, the methyl acetate solution of PGE<sub>1</sub> ethyl ester should be diluted with the aqueous buffer of choice. The solubility of PGE<sub>1</sub> 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.

### Description

PGE<sub>1</sub> is the theoretical cyclooxygenase metabolite of dihomo- $\gamma$ -linolenic acid.<sup>1</sup> Its pharmacology includes vasodilation, hypotension, and anti-platelet activities. The IC<sub>50</sub> value of PGE<sub>1</sub> for the inhibition of ADP-induced human platelet aggregation is 40 nM.<sup>2,3</sup> PGE<sub>1</sub> is used to treat male erectile dysfunction and to maintain ductus arteriosus patency in infants.<sup>4,5</sup> PGE<sub>1</sub> 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(4)**, 1403-1407 (1997).
2. Kobzar, G., Mardla, V., Järving, I., *et al.* Antiaggregating potency of E-type prostaglandins in human and rabbit platelets. *Proc. Estonian Acad. Sci. Chem.* **40(N3)**, 179-180 (1991).
3. Okada, F., Nukada, T., Yamauchi, Y., *et al.* The hypotensive effect of prostaglandin E<sub>1</sub> on hypertensive cases of various types. *Prostaglandins* **7(2)**, 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)**, 1-7 (1997).
5. Olley, P.M. and Coceani, F. Prostaglandins and the ductus arteriosus. *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.

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