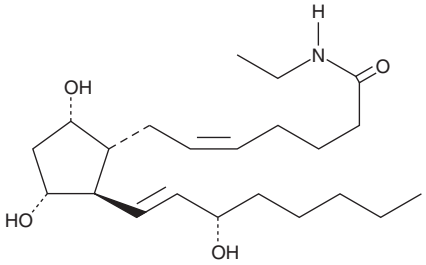
PRODUCT INFORMATION

Prostaglandin $F_{2\alpha}$ ethyl amide

Item No. 16016

CAS Registry No.:	54130-36-8
Formal Name:	N-ethyl-9α,11α,15S-trihydroxy-prosta-5Z,13E-dien-1-amide
Synonyms:	Dinoprost ethyl amide, $PGF_{2\alpha}$-NEt
MF:	$C_{22}H_{39}NO_4$
FW:	381.6
Purity:	≥98%
Supplied as:	A solution in methyl acetate
Storage:	-20°C
Stability:	≥2 years



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

Laboratory Procedures

Prostaglandin $F_{2\alpha}$ ethyl amide ($PGF_{2\alpha}$-NEt) 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 purged with an inert gas can be used. The solubility of $PGF_{2\alpha}$-NEt in these solvents is approximately 20, 16, and 33 mg/ml, respectively.

$PGF_{2\alpha}$-NEt is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, the methyl acetate solution of $PGF_{2\alpha}$-NEt should be diluted with the aqueous buffer of choice. The solubility of $PGF_{2\alpha}$-NEt in PBS (pH 7.2) is approximately 0.3 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

$PGF_{2\alpha}$-NEt is an analog of $PGF_{2\alpha}$ in which the C-1 carboxyl group has been modified to an N-ethyl amide. PG esters have been shown to have ocular hypotensive activity.[1] PG N-ethyl amides were recently introduced as alternative prostaglandin ocular hypotensive prodrugs.[2] Although it has been claimed that PG ethyl amides are not converted to the free acids *in vivo*, studies in our laboratories have shown that bovine and human corneal tissue converts the N-ethyl amides of various prostaglandins to the free acids with a conversion rate of about 2.5 µg/g corneal tissue/hr.[2,3] $PGF_{2\alpha}$-NEt would be expected to show the typical intraocular effects of $PGF_{2\alpha}$ free acid, but with the much slower hydrolysis pharmacokinetics of the PG N-amides.

References

1. Bito, L.Z. Comparison of the ocular hypotensive efficacy of eicosanoids and related compounds. *Exp. Eye Res.* **38(2)**, 181-184 (1984).
2. Woodward, D.F., Krauss, A.H., Chen, J., *et al.* The pharmacology of bimatoprost (Lumigan™). *Surv. Ophthalmol.* **45(Suppl. 4)**, S337-S345 (2001).
3. Maxey, K.M., Johnson, J., and LaBrecque, J. The hydrolysis of bimatoprost in corneal tissue generates a potent prostanoid FP receptor agonist. *Surv. Ophthalmol.* **47(Suppl. 1)**, S34-S40 (2002).

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