

# Product Information



## Prostaglandin F<sub>2α</sub> 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

Synonym: PGF<sub>2α</sub>-NEt

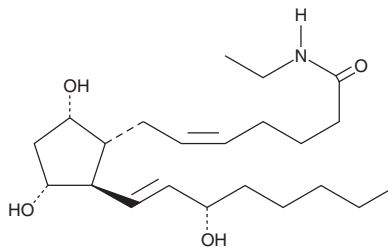
MF: C<sub>22</sub>H<sub>39</sub>NO<sub>4</sub>

FW: 381.6

Purity: ≥98%

Stability: ≥2 years at -20°C

Supplied as: A solution in methyl acetate



### Laboratory Procedures

For long term storage, we suggest that prostaglandin F<sub>2α</sub> ethyl amide (PGF<sub>2α</sub>-NEt) be stored as supplied at -20°C. It will be stable for at least two years.

PGF<sub>2α</sub>-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<sub>2α</sub>-NEt in these solvents is at least 16 mg/ml. PGF<sub>2α</sub>-NEt is stable for approximately six months in these solvents if stored at -20°C.

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 PGF<sub>2α</sub>-NEt is needed, it can be prepared by evaporating the methyl acetate and directly dissolving the neat oil in aqueous buffers. The solubility of PGF<sub>2α</sub>-NEt in PBS (pH 7.2) is approximately 300 µg/ml. We do not recommend storing the aqueous solution for more than one day.

PGF<sub>2α</sub>-NEt is an analog of PGF<sub>2α</sub> in which the C-1 carboxyl group has been modified to an N-ethyl amide. Prostaglandin esters have been shown to have ocular hypotensive activity.<sup>1</sup> Prostaglandin N-ethyl amides were recently introduced as alternative prostaglandin ocular hypotensive prodrugs.<sup>2</sup>

Although it has been claimed that prostaglandin ethyl amides are not converted to the free acids in vivo,<sup>2</sup> studies in our laboratories have shown that human and bovine 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.<sup>3</sup> PGF<sub>2α</sub>-NEt would be expected to show the typical intraocular effects of PGF<sub>2α</sub> free acid, but with the much slower hydrolysis pharmacokinetics of the prostaglandin N-amides.

### References

1. Bito, L.Z. Comparison of the ocular hypotensive efficacy of eicosanoids and related compounds. *Exp. Eye Res.* **38**, 181-184 (1984).
2. Woodward, D.F., Krauss, A.H.-P., Chen, J., *et al.* The pharmacology of Bimatoprost (Lumigan<sup>TM</sup>). *Survey of Ophthalmology* **45**, S337-S345 (2001).
3. Maxey, K.M., Johnson, J., Camras, C.B., *et al.* The hydrolysis of bimatoprost in corneal tissue generates a potent prostanoid FP receptor agonist, *Survey of Ophthalmology* **47**(4), 34-40 (2002).

### Related Products

Prostaglandin F<sub>2α</sub> - Item No. 16010 • Prostaglandin F<sub>2α</sub> diethyl amide - Item No. 16023 • Prostaglandin F<sub>2α</sub> dimethyl amide - Item No. 16032 • 17-phenyl trinor Prostaglandin F<sub>2α</sub> ethyl amide - Item No. 16820 • Latanoprost ethyl amide - Item No. 16822 • 17-phenyl trinor Prostaglandin F<sub>2α</sub> diethyl amide - Item No. 16823 • 17-chlorophenyl trinor Prostaglandin F<sub>2α</sub> ethyl amide - Item No. 10010460

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

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