

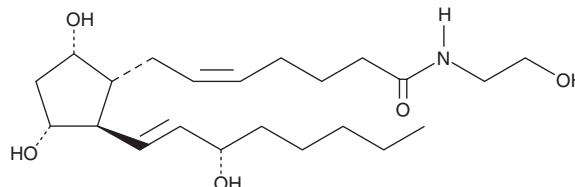
PRODUCT INFORMATION



Prostaglandin F_{2α} Ethanolamide

Item No. 16013

CAS Registry No.: 353787-70-9
Formal Name: 9α,11α,15S-trihydroxy-N-(2-hydroxyethyl)-prosta-5Z,13E-dien-1-amide
Synonyms: Dinoprost Ethanolamide, PGF_{2α}-EA
MF: C₂₂H₃₉NO₅
FW: 397.5
Purity: ≥98%
Supplied as: A solution in ethanol
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_{2α} ethanolamide (PGF_{2α}-EA) is supplied as a solution in ethanol. To change the solvent, simply evaporate the ethanol under a gentle stream of nitrogen and immediately add the solvent of choice. PGF_{2α}-EA is soluble in the organic solvent DMSO at a concentration of approximately 10 mg/ml. PGF_{2α}-EA is also miscible in dimethyl formamide.

PGF_{2α}-EA is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, the ethanolic solution of PGF_{2α}-EA should be diluted with the aqueous buffer of choice. The solubility of PGF_{2α}-EA in PBS (pH 7.2) is approximately 10 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

PGF_{2α}-EA is produced by COX-2 metabolism of the endogenous cannabinoid, arachidonoyl ethanolamide (AEA), found in brain, liver, and other mammalian tissues.¹ AEA can be metabolized directly by the sequential action of COX-2 and specific PG synthases to produce ethanolamide congeners of the classical PGs.^{2,3} PGF_{2α}-EA has also been reported to be biosynthesized by this mechanism when AEA was infused into the lung and liver of living mice. PGF_{2α}-EA is a potent dilator (EC₅₀ = 58 nM) of the cat iris sphincter, which is a model system for testing potential intraocular hypotensive agents.⁴

References

1. Bachur, N.R., Masek, K., Melmon, K.L., *et al.* Fatty acid amides of ethanolamine in mammalian tissues. *J. Biol. Chem.* **240**, 1019-1024 (1965).
2. Yu, M., Ives, D., and Ramesha, C.S. Synthesis of prostaglandin E₂ ethanolamide from anandamide by cyclooxygenase-2. *J. Biol. Chem.* **272**(34), 21181-21186 (1997).
3. Kozak, K.R., Crews, B.C., Morrow, J.D., *et al.* Metabolism of the endocannabinoids, 2-arachidonylglycerol and anandamide, into prostaglandin, thromboxane, and prostacyclin glycerol esters and ethanolamides. *J. Biol. Chem.* **277**(47), 44877-44885 (2002).
4. Woodward, D.F., Tang-Liu, D.D.S., Madhu, C., *et al.* Prostaglandin F_{2α} (PGF_{2α}) 1-ethanolamide: A pharmacologically unique local hormone biosynthesized from anandamide. *11th International conference on advances in prostaglandin and leukotriene research: Basic science and new clinical applications.* Springer (2000).

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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