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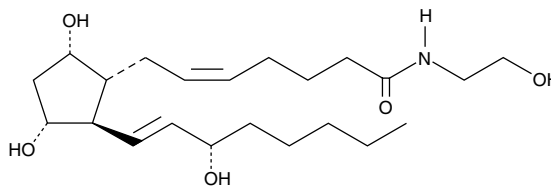
Product Information



Prostaglandin F_{2α} Ethanolamide

Item No. 16013

CAS Registry No.: 353787-70-9
Formal Name: N-(2-hydroxyethyl)-9α,11α,15S-trihydroxy-prosta-5Z,13E-dien-1-
amide
Synonyms: Dinoprost Ethanolamide, PGF_{2α}-EA
MF: C₂₂H₃₉NO₅
FW: 397.5
Purity: ≥98%
Stability: ≥2 years at -20°C
Supplied as: A solution in ethanol



Laboratory Procedures

For long term storage, we suggest that prostaglandin F_{2α} ethanolamide (PGF_{2α}-EA) be stored as supplied at -20°C. It should be stable for at least two years.

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. Solvents such as DMSO and dimethyl formamide (DMF) purged with an inert gas can be used. The solubility of PGF_{2α}-EA in DMSO is approximately 10 mg/ml, and it is miscible in DMF.

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_{2α}-EA is needed, it can be prepared by evaporating the ethanol and directly dissolving the neat oil in aqueous buffers. 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.

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} ethanolamide 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. 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).
3. Yu, M., Ives, D., and Ramesha, C.S. Synthesis of prostaglandin E₂ ethanolamide from anandamide by cyclooxygenase-2. *J. Biol. Chem.* **272**, 21181-21186 (1997).
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, *in* 11th International Conference on Advances in Prostaglandin and Leukotriene Research: Basic Science and New Clinical Applications. Giovanni Lorenzini Medical Foundation, Houston, TX, 27 (2000).

Related Products

For a list of related products please visit: www.caymanchem.com/catalog/16013

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

SAFETY DATA

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