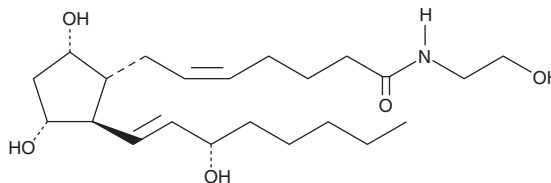


# Product Information



## Prostaglandin F<sub>2α</sub> Ethanolamide Catalog 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<sub>2α</sub>-EA  
**MF:** C<sub>22</sub>H<sub>39</sub>NO<sub>5</sub>  
**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<sub>2α</sub> ethanolamide (PGF<sub>2α</sub>-EA) be stored as supplied at -20°C. It should be stable for at least two years.

PGF<sub>2α</sub>-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<sub>2α</sub>-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<sub>2α</sub>-EA is needed, it can be prepared by evaporating the ethanol and directly dissolving the neat oil in aqueous buffers. The solubility of PGF<sub>2α</sub>-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<sub>2α</sub>-EA is produced by COX-2 metabolism of the endogenous cannabinoid, arachidonoyl ethanolamide (AEA), found in brain, liver, and other mammalian tissues.<sup>1</sup> AEA can be metabolized directly by the sequential action of COX-2 and specific PG synthases to produce ethanolamide congeners of the classical PGs.<sup>2,3</sup> PGF<sub>2α</sub>-EA has also been reported to be biosynthesized by this mechanism when AEA was infused into the lung and liver of living mice. PGF<sub>2α</sub> ethanolamide is a potent dilator (EC<sub>50</sub> = 58 nM) of the cat iris sphinctor, which is a model system for testing potential intraocular hypotensive agents.<sup>4</sup>

### 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 E<sub>2</sub> 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<sub>2α</sub> (PGF<sub>2α</sub>) 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

Prostaglandin D<sub>2</sub> Ethanolamide - Cat. No. 12012 • Prostaglandin E<sub>1</sub> Ethanolamide - Cat. No. 13012 • Prostaglandin E<sub>2</sub> Ethanolamide - Cat. No. 14012 • Prostaglandin F<sub>2α</sub> - Cat. No. 16010 • Arachidonic Acid - Cat. No. 90010 • Arachidonoyl Ethanolamide - Cat. No. 90050 • Prostaglandin F<sub>2α</sub> Ethanolamide-d<sub>4</sub> - Cat. No. 316013 • Prostaglandin F<sub>2α</sub> Ethanolamide Lipid Maps MS Standard - Cat. No. 10007222

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

#### MATERIAL SAFETY DATA

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