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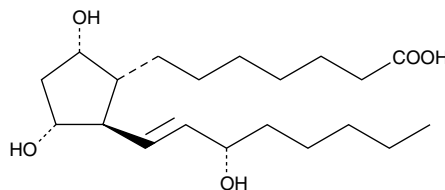
Product Information



Prostaglandin F_{1α}

Item No. 15010

CAS Registry No: 745-62-0
Formal Name: 9α,11α,15S-trihydroxy-prost-13E-en-1-oic acid
Synonym: PGF_{1α}
MF: C₂₀H₃₆O₅
FW: 356.5
Purity: ≥98%
Stability: ≥2 years at -20°C
Supplied as: A crystalline solid



Laboratory Procedures

Prostaglandin F_{1α} (PGF_{1α}) is the putative product of dihomo-γ-linoleic acid. For long term storage, we suggest that PGF_{1α} be stored as supplied at -20°C. It will be stable for at least two years.

PGF_{1α} is supplied as a crystalline solid. A stock solution may be made by dissolving the PGF_{1α} in an organic solvent purged with an inert gas. PGF_{1α} is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide. The solubility of PGF_{1α} in these solvents is approximately 50 mg/ml. PGF_{1α} will be stable for at least 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. Organic solvent-free aqueous solutions of PGF_{1α} can be prepared by directly dissolving the crystalline compound in aqueous buffers. The solubility of PGF_{1α} in PBS (pH 7.2) is approximately 2.1 mg/ml. We do not recommend storing the aqueous solution for more than one day.

PGF_{1α} is the putative metabolite of dihomo-γ-linolenic acid (DGLA) via the COX pathway. Both PGF_{1α} and PGF_{2α} have been shown to act as priming pheromones for male Atlantic salmon with a threshold concentration of 10⁻¹¹ M.³ PGF_{1α} binds to the ovine corpus luteum FP receptor at only 8% of the relative potency of PGF_{2α}.¹ It is only half as active as PGF_{2α} in inducing human respiratory smooth muscle contractions in vitro.²

References

1. Balapure, A.K., Rexroad, C.E., Jr., Kawada, K., *et al.* Structural requirements for prostaglandin analog interaction with the ovine corpus luteum prostaglandin F_{2α} receptor. Implications for development of a photoaffinity probe. *Biochem. Pharmacol.* **38**, 2375-2381 (1989).
2. Karim, S.M.M., Adaikan, P.G., and Kottegoda, S.R. Prostaglandins and human respiratory tract smooth muscle: Structure activity relationship. *Adv. Prostaglandin Thromboxane Res.* **7**, 969-980 (1980).
3. Moore, A. and Waring, C.P. Electrophysiological and endocrinological evidence that F-series prostaglandins function as priming pheromones in mature male Atlantic salmon (*Salmo salar*) PARR. *J. Exp. Biol.* **199**, 2307-2316 (1996).

Related Products

For a list of related products please visit: www.caymanchem.com/catalog/15010

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

SAFETY DATA

This material should be considered hazardous until information to the contrary becomes available. Do not ingest, swallow, or inhale. Do not get in eyes, on skin, or on clothing. Wash thoroughly after handling. This information contains some, but not all, of the information required for the safe and proper use of this material. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

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