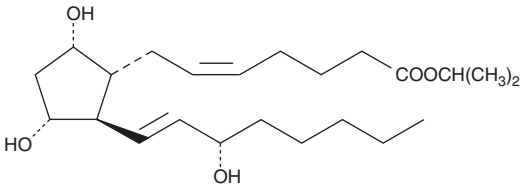
PRODUCT INFORMATION

Prostaglandin $F_{2\alpha}$ isopropyl ester

Item No. 16030

CAS Registry No.: 53764-90-2
Formal Name: 9α,11α,15S-trihydroxy-prosta-5Z,13E-dien-1-oic acid, 1-methylethyl ester
Synonyms: Dinoprost isopropyl ester, $PGF_{2\alpha}$ isopropyl ester
MF: $C_{23}H_{40}O_5$
FW: 396.6
Purity: ≥98%
Supplied as: A solution in methyl acetate
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 $F_{2\alpha}$ isopropyl ester ($PGF_{2\alpha}$ isopropyl ester) 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 (DMF) purged with an inert gas can be used. The solubility of $PGF_{2\alpha}$ isopropyl ester in ethanol and DMSO is approximately 50 mg/ml and approximately 30 mg/ml 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 $PGF_{2\alpha}$ isopropyl ester is needed, it can be prepared by evaporating the methyl acetate and directly dissolving the neat oil in aqueous buffers. The solubility of $PGF_{2\alpha}$ isopropyl ester in PBS (pH 7.2) is approximately 0.05 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

$PGF_{2\alpha}$ isopropyl ester is an ester prodrug of $PGF_{2\alpha}$ with enhanced lipid solubility. Due to better membrane penetration, $PGF_{2\alpha}$ isopropyl ester is more suitable than $PGF_{2\alpha}$ or $PGF_{2\alpha}$ tromethamine salt for topical application in studies on intraocular pressure. The ester functionality is readily hydrolyzed *in vivo* to release the active compound $PGF_{2\alpha}$. When administered topically to the eyes of cynomolgus monkeys, a 5 µg dose reduces intraocular pressure by 68% after the fourth day of treatment.[1]

Reference

1. Crawford, K.S. and Kaufman, P.L. Dose-related effects of prostaglandin $F_{2\alpha}$ isopropyl ester on intraocular pressure, refraction, and pupil diameter in monkeys. *Invest. Ophthalmol. Vis. Sci.* **32(3)**, 510-519 (1991).

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