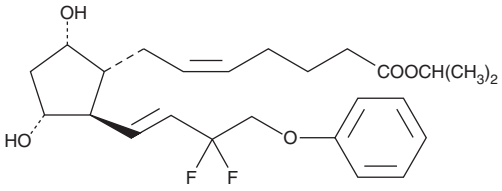
PRODUCT INFORMATION

Tafluprost

Item No. 10005440

CAS Registry No.: 209860-87-7
Formal Name: (5Z)-7-[(1R,2R,3R,5S)-2-[(1E)-3,3-difluoro-4-phenoxy-1-buten-1-yl]-3,5-dihydroxycyclopentyl]-5-heptenoic acid, 1-methylethyl ester
Synonym: AFP-168
MF: $C_{25}H_{34}F_2O_5$
FW: 452.5
Purity: ≥98%
Storage: -20°C
Stability: ≥2 years
Supplied as: A solution in methyl acetate



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Laboratory Procedures

Tafluprost 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 purged with an inert gas can be used. The solubility of tafluprost in these solvents is at least 30 mg/ml.

Tafluprost is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, the methyl acetate solution of tafluprost should be diluted with the aqueous buffer of choice. Tafluprost has a solubility of 0.5 mg/ml in a 1:1 solution of ethanol:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Description

Tafluprost is a prodrug form of the FP receptor agonist tafluprost (free acid) (Item No. 10005439) and a derivative of prostaglandin $F_{2\alpha}$ ($PGF_{2\alpha}$; Item Nos. 16010 | 16020).[1] It decreases pupillary diameter in cats when applied topically at doses of 0.0001 or 0.001% v/v. Ocular administration of tafluprost (0.0005% v/v) reduces intraocular pressure in normotensive monkeys. Formulations containing tafluprost have been used in the treatment of open-angle glaucoma and ocular hypertension.

Reference

1. Nakajima, T., Matsugi, T., Goto, W., *et al.* New fluoroprostaglandin $F_{2\alpha}$ derivatives with prostanoid FP-receptor agonistic activity as potent ocular-hypotensive agents. *Biol. Pharm. Bull.* **26(12)**, 1691-1695 (2003).

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