

PRODUCT INFORMATION



Tafluprost ethyl amide

Item No. 9000843

CAS Registry No.: 1185851-52-8
Formal Name: N-ethyl-9 α ,11 α -dihydroxy-15,15-difluoro-16-phenoxy-17,18,19,20-tetranor-prosta-5Z,13E-dien-1-amide

MF: C₂₄H₃₃F₂NO₄

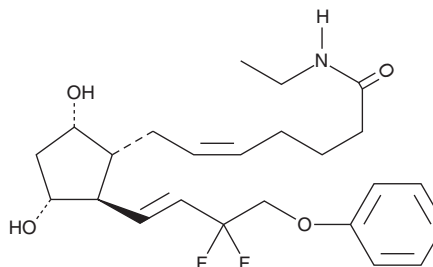
FW: 437.5

Purity: \geq 98%

Supplied as: A solution in ethanol

Storage: -20°C

Stability: \geq 1 year



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

Laboratory Procedures

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

Tafluprost ethyl amide is sparingly soluble in aqueous solutions. To enhance aqueous solubility, dilute the organic solvent solution into aqueous buffers or isotonic saline. If performing biological experiments, ensure the residual amount of organic solvent is insignificant, since organic solvents may have physiological effects at low concentrations. We do not recommend storing the aqueous solution for more than one day.

Description

Tafluprost ethyl amide is derived from 17-phenyl trinor Prostaglandin F_{2 α} (17-phenyl trinor PGF_{2 α}). A number of 17-phenyl trinor PGF_{2 α} derivatives have been approved for the treatment of glaucoma.¹⁻⁴ Of these, the ones wherein the 13,14-double bond has been hydrogenated retain relatively good potency, but show a significantly reduced incidence of local irritant side effects.⁵ Alternatively, it was recently reported that analogs incorporating a 15-deoxy-15,15-difluoro modification also had a favorable ophthalmic activity profile.⁶ Tafluprost is a 2-series, 16-phenoxy analog of PGF_{2 α} with the 15,15-difluoro substitution. As a free acid, tafluprost is a very potent FP receptor agonist (K_i = 0.4 nM).⁶ Ethyl amides of PGs tend to increase lipid solubility, to improve uptake into tissues and to further lower the effective concentration.

References

1. Woodward, D.F., Krauss, A.H.-P., Chen, J., *et al. Surv. Ophthalmol.* **45**, S337-S345 (2001).
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3. Sorbera, L.A. and Castañer, J. *. Drugs Future* **25**, 41-45 (2000).
4. Maxey, K.M., Johnson, J., Camras, C.B., *et al. Surv. Ophthalmol.* **47(4)**, 34-40 (2002).
5. Resul, B., Stjernschantz, J., No, K., *et al. J. Med. Chem.* **36**, 243-248 (1993).
6. Nakajima, T., Matsugi, T., Goto, W., *et al. Biol. Pharm. Bull.* **26(12)**, 1691-1695 (2003).

WARNING

THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

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CAYMAN CHEMICAL

1180 EAST ELLSWORTH RD
ANN ARBOR, MI 48108 · USA

PHONE: [800] 364-9897

[734] 971-3335

FAX: [734] 971-3640

CUSTSERV@CAYMANCHEM.COM

WWW.CAYMANCHEM.COM