Tafluprost ethyl amide  
Item No. 9000843

CAS Registry No.: 1185851-52-8  
Formal Name: N-ethyl-9α,11α-di-hydroxy-15,15-difluoro-16-phenoxy-17,18,19,20-tetranor-prosta-5Z,13E-dien-1-amide  
MF: C35H33F3NO4  
FW: 437.5  
Purity: ≥98%  
Stability: ≥1 year at -20°C  
Supplied as: A solution in methyl acetate

Laboratory Procedures
For long term storage, we suggest that tafluprost ethyl amide be stored as supplied at -20°C. It should be stable for at least one year.

Tafluprost ethyl amide 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 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 is approximately 30 mg/ml.

Tafluprost ethyl amide is derived from 17-phenyl trinor Prostaglandin F2α (17-phenyl trinor PGF2α). A number of 17-phenyl trinor PGF2α 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-phenoxo analog of PGF2α with the 15,15-difluoro substitution. As a free acid, tafluprost is a very potent FP receptor agonist (Kᵢ = 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.

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References

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