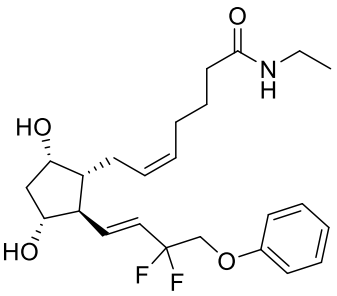
Product data sheet

MedKoo Cat#: 582048 Name: Taflpostamide CAS: 1185851-52-8 Chemical Formula: $C_{24}H_{33}F_2NO_4$ Exact Mass: 437.2378 Molecular Weight: 437.5278	
Product supplied as:	Powder
Purity (by HPLC):	≥ 98%
Shipping conditions	Ambient temperature
Storage conditions:	Powder: -20°C 3 years; 4°C 2 years.
	In solvent: -80°C 3 months; -20°C 2 weeks.

1. Product description:
Taflpostamide, also known as Tafluprost ethyl amide, is derived from 17-phenyl trinor Prostaglandin F2α(17-phenyl trinor PGF2α). As a free acid, fafluprost 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. This product is supplied as a solution in ethanol (10mg/mL).

2. CoA, QC data, SDS, and handling instruction
SDS and handling instruction, CoA with copies of QC data (NMR, HPLC and MS analytical spectra) can be downloaded from the product web page under "QC And Documents" section. Note: copies of analytical spectra may not be available if the product is being supplied by MedKoo partners. Whether the product was made by MedKoo or provided by its partners, the quality is 100% guaranteed.

3. Solubility data

Solvent	Max Conc. mg/mL	Max Conc. mM
DMF	30.0	68.57
DMSO	30.0	68.57
Ethanol	30.0	68.57

4. Stock solution preparation table:

Concentration / Solvent Volume / Mass	1 mg	5 mg	10 mg
1 mM	2.29 mL	11.43 mL	22.86 mL
5 mM	0.46 mL	2.29 mL	4.57 mL
10 mM	0.23 mL	1.14 mL	2.29 mL
50 mM	0.05 mL	0.23 mL	0.46 mL

5. Molarity Calculator, Reconstitution Calculator, Dilution Calculator
Please refer the product web page under section of "Calculator"

6. Recommended literature which reported protocols for in vitro and in vivo study
In vitro study

1. Valdés-Jiménez A, Jiménez-González D, Kiper AK, Rinné S, Decher N, González W, Reyes-Parada M, Núñez-Vivanco G. A New Strategy for Multitarget Drug Discovery/Repositioning Through the Identification of Similar 3D Amino Acid Patterns Among Proteins Structures: The Case of Tafluprost and its Effects on Cardiac Ion Channels. Front Pharmacol. 2022 Mar 18;13:855792. doi: 10.3389/fphar.2022.855792. PMID: 35370665; PMCID: PMC8971525.

In vivo study

1. Esaki Y, Shimazaki A, Pellinen P. Ocular Tolerability of Preservative-Free Tafluprost and Latanoprost: in vitro and in vivo Comparative Study. Open Ophthalmol J. 2016 May 31;10:146-53. doi: 10.2174/1874364101610010146. PMID: 27347250; PMCID: PMC4899509.
2. Pozarowska D. Safety and tolerability of tafluprost in treatment of elevated intraocular pressure in open-angle glaucoma and ocular hypertension. Clin Ophthalmol. 2010 Oct 21;4:1229-36. doi: 10.2147/OPTH.S6369. PMID: 21060677; PMCID: PMC2964963.

7. Bioactivity

Product data sheet

Biological target:

Tafluprost ethyl amide is a prostaglandin derivative. Tafluprost ethyl amide is capable of intraocular pressure (IOP) reduction and influencing eyelash growth. Tafluprost ethyl amide can be used in antiglaucoma ophthalmic compositions or cosmetics.

In vitro activity

As shown in Figure 9, tafluprost potently blocked TASK-1 outward currents in a concentration-dependent manner (EC_{50} = 186 ± 40 nM; Figures 9A,B). As the study reached 82% maximal inhibition, EC50 concentration corresponds to about 40% inhibition (not 50% inhibition). On the other hand, tafluprost also blocked NaV1.5 inward currents, although with much less potency than that observed at TASK-1 (estimated IC50 of about 76 µM Figure 9B).

Reference: Front Pharmacol. 2022 Mar 18;13:855792. https://pubmed.ncbi.nlm.nih.gov/35370665/

In vivo activity

Conjunctival hyperemia, swelling and discharge in rabbit eye were all observed with both drug solutions and they appeared to peak at 30 minutes after the last instillation. By 5 hours, conjunctival hyperemia was essentially recovered with PF tafluprost opposite to PF latanoprost for which mild/moderate hyperemia was still widely seen.

Reference: Open Ophthalmol J. 2016 May 31;10:146-53. https://pubmed.ncbi.nlm.nih.gov/27347250/

Note: The information listed here was extracted from literature. MedKoo has not independently retested and confirmed the accuracy of these methods. Customer should use it just for a reference only.