

Produktinformation



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Diagnostik & molekulare Diagnostik



Laborgeräte & Service

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Product Information



15(R)-17-phenyl trinor Prostaglandin $F_{2\alpha}$

Item No. 16814

CAS Registry No.: 41639-71-8

Formal Name: 9α,11α,15R-trihydroxy-17-phenyl-18,19,20-

trinor-prosta-5Z,13E-dien-1-oic acid

Synonyms: 15(R)-Bimatoprost (free acid), 15-epi

Bimatoprost (free acid), 15(R)-17-phenyl trinor

MF: $C_{23}H_{32}O_5$ FW: 388.5 **Purity:** ≥98%

Stability: ≥1 year at -20°C

Supplied as: A solution in methyl acetate

OH COOH

Laboratory Procedures

For long term storage, we suggest that 15(R)-17-phenyl trinor prostaglandin $F_{2\alpha}$ (15(R)-17-phenyl trinor PGF_{2\alpha}) be stored as supplied at -20°C. It should be stable for at least one year.

15(R)-17-phenyl trinor PGF $_{2\alpha}$ 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 15(R)-17-phenyl trinor PGF₂₀ in these solvents is approximately 30 mg/ml.

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 15(R)-17-phenyl trinor $PGF_{2\alpha}$ is needed, it can be prepared by evaporating the methyl acetate and directly dissolving the neat oil in aqueous buffers. The solubility of 15(R)-17-phenyl trinor $PGF_{2\alpha}$ in PBS (pH 7.2) is approximately 1 mg/ml. We do not recommend storing the aqueous solution for more than one day.

17-phenyl trinor PGF₂₀ N-ethyl amide is an F-series PG analog which has been approved for use as an ocular hypotensive drug, sold under the Allergan trade name Bimatoprost. I Investigations in our lab have shown that 17-phenyl trinor PGF₂₀ ethyl amide is converted by an amidase enzymatic activity in the human cornea to yield the corresponding free acid, with a conversion rate of about 25 μ g/cornea/24 hours.² The free acid, 17-phenyl trinor PGF₂₀, is a potent FP receptor agonist. 3 15(R)-17-phenyl trinor PGF₂₀ is the 15-epi, or "unnatural" isomer of this active free acid metabolite. It has much diminished FP receptor-mediated activity, which is generally 1.5 to 2 logs less than the 15(S)-isomer.⁴ In human and animal models of glaucoma, FP receptor agonist activity corresponds very closely with intraocular hypotensive activity.

References

- 1. Woodward, D.F., Krauss, A.H.-P., Chen, J., et al. Survey of Ophthalmology 45, S337-S345 (2001).
- Maxey, K.M., Johnson, J., Camras, C.B., et al. Survey of Ophthalmology 47(4), 34-40 (2002).
- Abramovitz, M., Adam, M., Boie, Y., et al. Biochim. Biophys. Acta 1483, 285-293 (2000).
- Resul, B., Stjernschantz, J., No, K., et al. J. Med. Chem. 36, 243-248 (1993).

Related Products

For a list of related products please visit: www.caymanchem.com/catalog/16814

WARNING: This product is for laboratory research only: not for administration to humans. Not for human or veterinary DIAGNOSTIC OR THERAPEUTIC USE.

This material should be considered hazardous until information to the contrary becomes available. Do not ingest, swallow, or inhale. Do not get in eyes, on skin, or on clothing. Wash thoroughly after handling. This information contains some, but not all, of the information required for the safe and proper use of this material. Before use, the user must review the complete Material Safety Data Sheet, which has been sent via email to your institution.

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