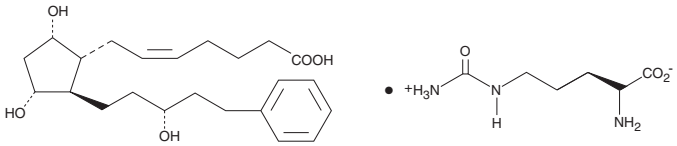
PRODUCT INFORMATION

Latanoprost (free acid) (L-arginine salt)

Item No. 10008432

Formal Name: (Z)-7-((1R,2R,3R,5S)-3,5-dihydroxy-2-((R)-3-hydroxy-5-phenylpentyl)cyclopentyl)hept-5-enoic acid, L-arginine salt
Synonyms: PhXA-85, 17-phenyl-13,14-dihydro trinor Prostaglandin $F_{2\alpha}$
MF: $C_{29}H_{48}N_4O_7$
FW: 564.8
Purity: ≥95%
Supplied as: A solid
Storage: -20°C
Stability: ≥4 years



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

Laboratory Procedures

Latanoprost (free acid) (L-arginine salt) is supplied as a solid. A stock solution may be made by dissolving the latanoprost (free acid) (L-arginine salt) in the solvent of choice, which should be purged with an inert gas. Latanoprost (free acid) (L-arginine salt) is slightly soluble (0.1-1 mg/ml) in acetonitrile and methanol.

Description

Latanoprost (free acid) (L-arginine salt) is a salt form of latanoprost (free acid) (Item No. 16811) that results in a crystalline solid.[1] This solid form of latanoprost improves ease of handling, making it ideal for use as a synthetic intermediate and for compounding it into mixtures with other components. Latanoprost (free acid) is a derivative of prostaglandin F_{50} (PGF_{50}; Item Nos. 16010 | 16020), an FP receptor agonist, and an active metabolite of the prodrug latanoprost (Item No. 16812).[2] It selectively binds to the FP receptor (K_i = 0.098 µM) over the EP_1, EP_1, EP_3, and EP_4 receptors (K_is = 2.06, 39.667, 7.519, and 75 µM, respectively), as well as the DP, IP, and TP receptors (K_is = ≥20, ≥90, and ≥60 µM, respectively). It induces phosphoinositide turnover in isolated human ciliary muscle and human trabecular meshwork cells, mouse NIH3T3 fibroblasts, and rat A7r5 vascular smooth muscle cells, which all endogenously express FP receptors (EC_{50}s = 124, 35, 32, and 35 nM, respectively), as well as HEK293 cells expressing human ocular FP receptors (EC_{50} = 45.7 nM). It also increases intracellular calcium levels in hEP_1-5/293-AEQ17 cells expressing EP_1 receptors in an aequorin-based calcium assay (EC_{50} = 119 nM).[3] Latanoprost (free acid) induces contraction of isolated cat iris sphincter smooth muscle (EC_{50} = 29.9 nM).[4]

References

1. DeLong, M.A. and Sturdivant, J.M. Amino acid salts of prostaglandins. *Aerie Phamaceuticals Inc.* **WO2010/096123A2** (2009).
2. Sharif, N.A., Kelly, C.R., Crider, J.Y., *et al*. Ocular hypotensive FP prostaglandin (PG) analogs: PG receptor subtype binding affinities and selectivities, and agonist potencies at FP and other PG receptors in cultured cells. *J. Ocul. Pharmacol. Ther.* **19(6)**, 501-515 (2003).
3. Ungrin, M.D., Carrière, M.C., Denis, D., *et al*. Key structural features of prostaglandin E_2 and prostanoid analogs involved in binding and activation of the human EP_1 prostanoid receptor. *Mol. Pharmacol.* **59(6)**, 1446-1456 (2001).
4. Sharif, N.A., Kaddour-Djebbar, I., and Abdel-Latif, A.A. Cat iris sphincter smooth-muscle contraction: Comparison of FP-class prostaglandin analog agonist activities. *J. Ocul. Pharmacol. Ther.* **24(2)**, 152-163 (2008).

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.

WARRANTY AND LIMITATION OF REMEDY
Buyer agrees to purchase the material subject to Cayman's Terms and Conditions. Complete Terms and Conditions including Warranty and Limitation of Liability information can be found on our website.

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