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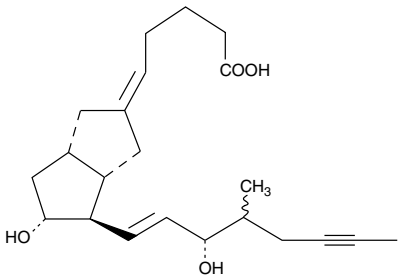
Product Information

Iloprost

Item No. 18215

CAS Registry No.: 78919-13-8
Formal Name: 6,9α-methylene-11α,15S-dihydroxy-16-methyl-prosta-5E,13E-dien-18-yn-1-oic acid
Synonym: Ciloprost
MF: $C_{22}H_{32}O_4$
FW: 360.5
Purity: ≥97%
Stability: ≥1 year at -20˚C
Supplied as: A solution in methyl acetate



Laboratory Procedures

For long term storage, we suggest that iloprost be stored as supplied at -20˚C. It should be stable for at least one year.

Iloprost 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 iloprost in these solvents is approximately 25 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 iloprost is needed, it can be prepared by evaporating the methyl acetate and directly dissolving the neat oil in aqueous buffers. The solubility of iloprost in PBS (pH 7.2) is approximately 1 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Iloprost is a second generation structural analog of prostacyclin (PGI) with about ten-fold greater potency than the first generation stable analogs, typified by carbaprostacyclin.[1] Iloprost binds with equal affinity to the human recombinant IP and EP_1 receptors with a K_i of 11 nM.[2] Iloprost constricts the isolated guinea pig ilium and fundus circular smooth muscle (an EP_1 receptor preparation) as strongly as prostaglandin E_2 (PGE_2) itself.[3]

Iloprost inhibits the ADP, thrombin, and collagen-induced aggregation of human platelets with an ED_{50} value of about 13 nM.[1] In whole animals, iloprost acts as a vasodilator, hypotensive, antidiuretic, and prolongs bleeding time.[4] It has been evaluated in several human clinical studies as a treatment for idiopathic pulmonary hypertension.[5,6] In these studies, an aerosolized dose of 30 µg/day was effective, and doses as high as 150 µg/day for up to a year were well tolerated.

References

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6. Olschewski, H., Simonneau, G., Galié, N., *et al.* Inhaled iloprost for severe pulmonary hypertension. *N. Engl. J.* ***Med.*** **347**(**5**), 322-329 (2002).

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