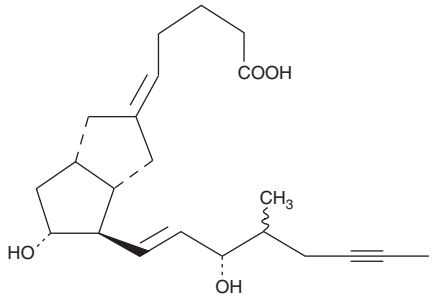
PRODUCT INFORMATION

Iloprost

Item No. 18215

CAS Registry No.:	78919-13-8
Formal Name:	(5E)-5-[(3aS,4R,5R,6aS)-hexahydro-5-hydroxy-4-[(1E,3S)-3-hydroxy-4-methyl-1-octen-6-yn-1-yl]-2(1H)-pentalenylidene]-pentanoic acid
Synonyms:	Ciloprost, ZK 36374
MF:	$C_{22}H_{32}O_4$
FW:	360.5
Purity:	≥97%
Supplied as:	A solution in methyl acetate
Storage:	-20°C
Stability:	≥2 years



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

Laboratory Procedures

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 (DMF) purged with an inert gas can be used. The solubility of iloprost in ethanol and DMF is approximately 30 mg/ml and approximately 25 mg/ml in DMSO.

Iloprost is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, the methyl acetate solution of iloprost should be diluted with the aqueous buffer of choice. 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.

Description

Iloprost is an agonist of the IP receptor and the prostaglandin E_2 (PGE_2) receptor subtype EP_1 and a derivative of PGI_2.[1,2] It selectively binds to IP and EP_1 receptors (K_i = 11 nM for both) over EP_2, EP_4, DP, FP, and TP receptors (K_is = 1,870, 284, 1,035, 619, and 6,487 nM, respectively) but also binds to the EP_3 receptor (K_i = 56 nM).[1] Iloprost increases cAMP levels in HEK293 cells expressing IP or EP_3 receptors (EC_{50}s = 0.37 and 27.5 nM, respectively) and increases calcium levels in HEK293 cells expressing the EP_1 receptor (EC_{50} = 0.3 nM).[2] It inhibits ADP-, thrombin-, and collagen-induced platelet aggregation in isolated human platelet-rich plasma (IC_{50}s = 1.07, 0.71, and 0.24 nM, respectively).[3] Iloprost (100 ng/kg per minute) increases the time to occlusive coronary artery thrombosis in a porcine model of electrically induced coronary artery thrombosis.[4] Aerosolized administration of iloprost (130-1,300 ng/kg per minute) reduces right ventricular systolic pressure and reverses vascular remodeling in rats in a model of chronic pulmonary hypertension induced by the alkaloid monocrotaline (Item No. 16666).[5] Formulations containing iloprost have been used in the treatment of pulmonary arterial hypertension and severe frostbite.

References

1. Abramovitz, M., Adam, M., Boie, Y., *et al. Biochim. Biophys. Acta* **1483(2)**, 285-293 (2000).
2. Whittle, B.J., Silverstein, A.M., Mottola, D.M., *et al. Biochem. Pharmacol.* **84(1)**, 68-75 (2012).
3. Schrör, K., Darius, H., Matzky, R., *et al. Naunyn Schmiedebergs Arch. Pharmacol.* **316(3)**, 252-255 (1981).
4. van der Giessen, W.J., Mooi, W.J., Rutteman, A.M., *et al. Thromb. Res.* **36(1)**, 45-51 (1984).
5. Schermuly, R.T., Yilmaz, H., Ghofrani, H.A., *et al. Am. J. Respir. Crit. Care Med.* **172(3)**, 358-363 (2005).

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