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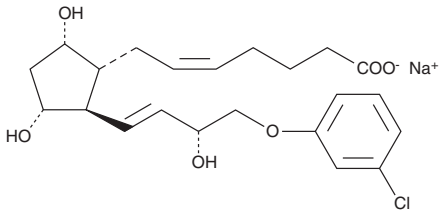
PRODUCT INFORMATION

(+)-Cloprostenol (sodium salt)

Item No. 16766

CAS Registry No.: 62561-03-9
Formal Name: (+)-9α,11α,15R-trihydroxy-16-(3-chlorophenoxy)-17,18,19,20-tetranor-prosta-5Z,13E-dien-1-oic acid, monosodium salt
Synonyms: D-Cloprostenol, (+)-16-*m*-chlorophenoxy tetranor Prostaglandin $F_{2\alpha}$
MF: $C_{22}H_{28}ClO_6 \bullet Na$
FW: 446.9
Purity: ≥98%
UV/Vis.: λ_{max}: 220, 275, 282 nm
Supplied as: A cryalline solid
Storage: -20°C
Stability: As supplied, 2 years from the QC date provided on the Certificate of Analysis, when stored properly



Laboratory Procedures

(+)-Cloprostenol (sodium salt) is supplied as a crystalline solid. A stock solution may be made by dissolving the (+)-cloprostenol (sodium salt) in an organic solvent. (+)-Cloprostenol (sodium salt) is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide. The solubility of (+)-cloprostenol (sodium salt) in these solvents is approximately 50, 60, and 130 mg/ml, respectively.

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. Organic solvent-free aqueous solutions of (+)-cloprostenol (sodium salt) can be prepared by directly dissolving the crystalline compound in aqueous buffers. The solubility of (+)-cloprostenol (sodium salt) in PBS (pH 7.2) is approximately 35 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

(+)-Cloprostenol (sodium salt) is a more water soluble, crystalline form of cloprostenol. (+)-Cloprostenol is a synthetic analog of prostaglandin $F_{2\alpha}$ ($PGF_{2\alpha}$). It is an FP receptor agonist and a potent luteolytic agent in rats and hamsters. (+)-Cloprostenol is the optically active, 15(R) enantiomer of cloprostenol responsible for the majority of its biological activity. It is 200 times more potent than $PGF_{2\alpha}$ in terminating pregnancy when given subcutaneously at a daily dose of 0.125 µg/kg in rats and hamsters, without the side effects associated with $PGF_{2\alpha}$.[1] (+)-Cloprostenol has also been shown to be a potent inhibitor of rat adipose precursor differentiation in primary cultures with an IC_{50} value of 3×10^{-12} M.[2]

References

1. Dukes, M., Russell, W., and Walpole, A.L. Potent luteolytic agents related to prostaglandin $F_{2\alpha}$. *Nature* **250**, 330-331 (1974).
2. Serrero, G. and Lepak, N.M. Prostaglandin $F_{2\alpha}$ receptor (FP receptor) agonists are potent adipose differentiation inhibitors for primary culture of adipocyte precursors in defined medium. *Biochem. Biophys. Res. Commun.* **233**, 200-202 (1997).

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