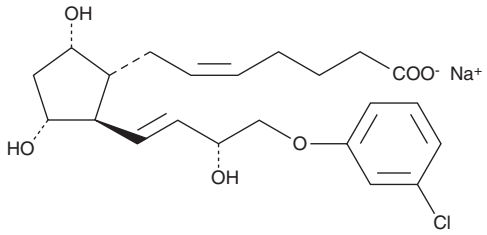
PRODUCT INFORMATION

(±)-Cloprostenol (sodium salt)

Item No. 16764

CAS Registry No.: 55028-72-3
Formal Name: (5Z)-*rel*-7-[(1R,2R,3R,5S)-2-[(1E,3R)-4-(3-chlorophenoxy)-3-hydroxy-1-buten-1-yl]-3,5-dihydroxycyclopentyl]-5-Heptenoic acid, monosodium salt
Synonyms: (±)-16-*m*-chlorophenoxy tetranor $PGF_{2\alpha}$, (±)-16-*m*-chlorophenoxy tetranor Prostaglandin $F_{2\alpha}$, DL-Cloprostenol
MF: $C_{22}H_{28}O_6Cl \bullet Na$
FW: 446.9
Purity: ≥98%
UV/Vis.: λ_{max}: 275, 282 nm
Supplied as: A crystalline 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

(±)-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 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. 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 1 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 than the free acid. Cloprostenol is a synthetic analog of prostaglandin $F_{2\alpha}$ ($PGF_{2\alpha}$; Item No. 16010). It is an FP receptor agonist and a potent luteolytic agent in rats and hamsters. 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 was also 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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