# (+)-Cloprostenol

**Cat. No.:** HY-107381

**CAS No.:** 54276-21-0

**Molecular Formula:** $C_{22}H_{29}ClO_6$

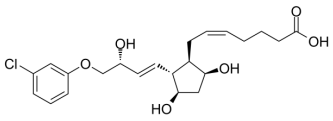
**Molecular Weight:** 424.92

**Target:** Prostaglandin Receptor

**Pathway:** GPCR/G Protein

**Storage:**

| | | |
|---|---|---|
| Pure form | -20°C | 3 years |
| | 4°C | 2 years |
| In solvent | -80°C | 6 months |
| | -20°C | 1 month |




## SOLVENT & SOLUBILITY

**In Vitro**

DMSO : 100 mg/mL (235.34 mM; Need ultrasonic)
Ethanol : 50 mg/mL (117.67 mM; Need ultrasonic)

**Preparing Stock Solutions**

| Solvent / Mass / Concentration | 1 mg | 5 mg | 10 mg |
|---|---|---|---|
| 1 mM | 2.3534 mL | 11.7669 mL | 23.5338 mL |
| 5 mM | 0.4707 mL | 2.3534 mL | 4.7068 mL |
| 10 mM | 0.2353 mL | 1.1767 mL | 2.3534 mL |

Please refer to the solubility information to select the appropriate solvent.

**In Vivo**

1. Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline
   Solubility: 5 mg/mL (11.77 mM); Suspended solution; Need ultrasonic
2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 5 mg/mL (11.77 mM); Clear solution
3. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 5 mg/mL (11.77 mM); Clear solution
4. Add each solvent one by one: 10% EtOH >> 40% PEG300 >> 5% Tween-80 >> 45% saline
   Solubility: ≥ 2.5 mg/mL (5.88 mM); Clear solution
5. Add each solvent one by one: 10% EtOH >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 2.5 mg/mL (5.88 mM); Clear solution
6. Add each solvent one by one: 10% EtOH >> 90% corn oil
   Solubility: ≥ 2.5 mg/mL (5.88 mM); Clear solution

## BIOLOGICAL ACTIVITY

| | |
|---|---|
| **Description** | (+)-Cloprostenol is a prostaglandin F2α (PGF2α) analogue, and shows selective agonistic activity at the prostaglandin receptor. |
| **$IC_{50}$ & Target** | $PGF_{2\alpha}$ |
| **In Vitro** | D-Cloprostenol and PGF2 alpha are equipotent, about 150 times more potent than dl-cloprostenol ($P < 0.05$) and approximately 280 times more potent than PGE1 in inhibiting [$^3$H]PGF2 alpha binding to corpus luteum cell membranes. However, d-cloprostenol and PGF2 alpha are about 10 times more potent than dl-cloprostenol and approximately 95 times more potent than PGE1 in myometrial cell membranes[2].<br>MCE has not independently confirmed the accuracy of these methods. They are for reference only. |
| **In Vivo** | D-cloprostenol (15 g per head) is the lowest dose that consistently achieves abortion; D-cloprostenol causes mild adverse effects including salivation, defecation and hyperventilation in bitches weighing less than 10 kg. Intra-vesicle administration of a single low dose of d-cloprostenol is a safe and successful technique to induce abortion in the bitch[1].<br>MCE has not independently confirmed the accuracy of these methods. They are for reference only. |

## REFERENCES


[1]. Manca R, et al. Intra-vesicle administration of D-cloprostenol for induction of abortion in mid-gestation bitches. Anim Reprod Sci. 2008 Jun;106(1-2):133-42. Epub 2007 Apr 21.

[2]. Re G, et al. Specific binding of dl-cloprostenol and d-cloprostenol to PGF2 alpha receptors in bovine corpus luteum and myometrial cell membranes. J Vet Pharmacol Ther. 1994 Dec;17(6):455-8.





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