# Olprinone

**Cat. No.:** HY-14254A

**CAS No.:** 106730-54-5

**Molecular Formula:** $C_{14}H_{10}N_4O$

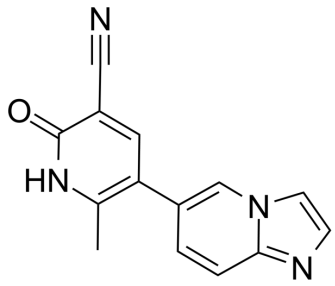
**Molecular Weight:** 250.26

**Target:** Phosphodiesterase (PDE)

**Pathway:** Metabolic Enzyme/Protease

**Storage:** 4°C, protect from light

* In solvent : -80°C, 6 months; -20°C, 1 month (protect from light)




## SOLVENT & SOLUBILITY

**In Vitro**

DMSO : 20.83 mg/mL (83.23 mM; ultrasonic and warming and heat to 60°C)

| Preparing Stock Solutions | Mass / Solvent / Concentration | 1 mg | 5 mg | 10 mg |
|---|---|---|---|---|
| | 1 mM | 3.9958 mL | 19.9792 mL | 39.9584 mL |
| | 5 mM | 0.7992 mL | 3.9958 mL | 7.9917 mL |
| | 10 mM | 0.3996 mL | 1.9979 mL | 3.9958 mL |

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

## BIOLOGICAL ACTIVITY

**Description**

Olprinone (Loprinone) is a potent phosphodiesterase (PDE) 3 inhibitor, with $IC_{50}$s of 150, 100, 0.35 and 14 μM for PDE1, PDE2, PDE3 and PDE4, respectively. Olprinone is used for the research of heart failure due to its positive inotropic and vasodilative effects. Anti-inflammatory activity[1][2].

**$IC_{50}$ & Target**

| PDE1 | PDE2 | PDE3 | PDE4 |
|---|---|---|---|
| 150 μM ($IC_{50}$) | 100 μM ($IC_{50}$) | 0.35 μM ($IC_{50}$) | 14 μM ($IC_{50}$) |

**In Vivo**

Olprinone (Loprinone) (0.2 mg/kg; i.p.) modulates the inflammation associated with myocardial ischemia-reperfusion injury in rats[1].

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

| | |
|---|---|
| Animal Model: | Male adult Wistar rats (250-300 g) (ischemia–reperfusion rats)[1] |
| Dosage: | 0.2 mg/kg |
| Administration: | I.p. (administered 15 min after ischemia) |

| | |
|---|---|
| Result: | Significantly reduced the: (1) histological evidence of myocardial injury, (2) pro-inflammatory cytokines: tumor necrosis factor-α (TNF-α) and Interleukin-1β (IL-1β), (3) adhesion molecules: Inter-Cellular Adhesion Molecule 1 (ICAM-1) and P-Selectin, (4) nitrotyrosine formation, (5) nuclear factor kappa-B (NF-κB) expression, (6) Poly (ADP-ribose) (PAR) formation, and (7) apoptosis (Bax, Bcl-2, Fas-L and terminal deoxynucleotidyl transferase-mediated UTP end labeling (TUNEL). |

## REFERENCES


[1]. Sugioka M, et al. Identification and characterization of isoenzymes of cyclic nucleotide phosphodiesterase in human kidney and heart, and the effects of new cardiotonic agents on these isoenzymes. Naunyn Schmiedebergs Arch Pharmacol. 1994;350(3):284-293.

[2]. Di Paola R, et al. Olprinone, a PDE3 inhibitor, modulates the inflammation associated with myocardial ischemia-reperfusion injury in rats. Eur J Pharmacol. 2011;650(2-3):612-620.





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