Cilostamide

Cat. No.: HY-101312

CAS No.: 68550-75-4

Molecular Formula: $C_{20}H_{26}N_2O_3$

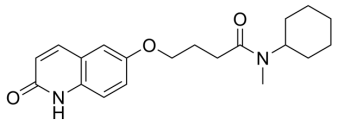
Molecular Weight: 342.43

Target: Phosphodiesterase (PDE)

Pathway: Metabolic Enzyme/Protease

Storage:

Powder	-20°C	3 years
	4°C	2 years
In solvent	-80°C	2 years
	-20°C	1 year



SOLVENT & SOLUBILITY

In Vitro

DMSO : 31 mg/mL (90.53 mM; Need ultrasonic and warming)

Preparing Stock Solutions

Solvent / Mass / Concentration	1 mg	5 mg	10 mg
1 mM	2.9203 mL	14.6015 mL	29.2030 mL
5 mM	0.5841 mL	2.9203 mL	5.8406 mL
10 mM	0.2920 mL	1.4602 mL	2.9203 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: ≥ 1.67 mg/mL (4.88 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 1.67 mg/mL (4.88 mM); Clear solution
3. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 1.67 mg/mL (4.88 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

Cilostamide is a selective and potent PDE3 inhibitor, with IC_{50}s of 27 nM and 50 nM for PDE3A and PDE3B, respectively, and has antithrombotic and anti-intimal hyperplastic activity.

IC_{50} & Target

PDE3

In Vitro

Cilostamide is a selective and potent PDE3 inhibitor, with IC_{50}s of 27 nM and 50 nM for PDE3A and PDE3B, respectively, and has antithrombotic and anti-intimal hyperplastic activity. Cilostamide weakly inhibits PDE2, PDE4, PDE5, PDE7, and PDE1,

with IC_{50}s of 12.5, 88.8, 15.2, 22.0 and > 300 μM, respectively. Cilostamide potently inhibits thrombin-induced platelet aggregation (IC_{50}, 1.1 μM)[1].

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

PROTOCOL

Animal Administration [1]

Platelet aggregation is investigated in the assay. Washed platelets (200 μL of a suspension containing 3×10^8 cells/mL in Tyrode HEPES buffer, pH 7.4) are incubated for 3 min at 37°C in the presence or absence of different concentrations of OPC-33540, OPC-33536, and Cilostamide alone, or in combination with 3 nM PGE1, followed by incubation with 5 μL of 2 units/mL of thrombin for 5 min at 37°C. The intensity of light transmitted over 5 min is measured using a PAM-8C aggregometer. The inhibition rate is calculated by comparison of maximum aggregation rates with the control value[1].

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

CUSTOMER VALIDATION

- Int J Mol Sci. 2023, 24(1), 320.

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REFERENCES

[1]. Sudo T, et al. Potent effects of novel anti-platelet aggregatory cilostamide analogues on recombinant cyclic nucleotide phosphodiesterase isozyme activity. Biochem Pharmacol. 2000 Feb 15;59(4):347-56.

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