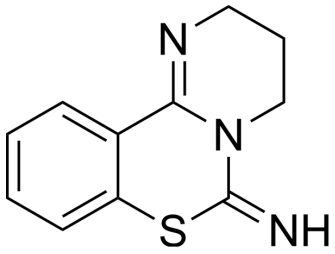
PD 404182

Cat. No.:	HY-16958
CAS No.:	72596-74-8
Molecular Formula:	$C_{11}H_{11}N_3S$
Molecular Weight:	217.29
Target:	Antibiotic
Pathway:	Anti-infection
Storage:	Powder -20°C 3 years 4°C 2 years In solvent -80°C 6 months -20°C 1 month



SOLVENT & SOLUBILITY

In Vitro

DMSO : 50 mg/mL (230.11 mM; Need ultrasonic)

Preparing Stock Solutions

Solvent / Mass / Concentration	1 mg	5 mg	10 mg
1 mM	4.6021 mL	23.0107 mL	46.0214 mL
5 mM	0.9204 mL	4.6021 mL	9.2043 mL
10 mM	0.4602 mL	2.3011 mL	4.6021 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: ≥ 2.5 mg/mL (11.51 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: 2.5 mg/mL (11.51 mM); Suspended solution; Need ultrasonic
3. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.5 mg/mL (11.51 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

PD 404182 is a potent and competitive inhibitor of human dimethylarginine dimethylaminohydrolase 1 (DDAH1), with an IC_{50} of 9 μM. PD 404182 exhibits antiangiogenic and antiviral activity in vitro[1][2].

IC_{50} & Target

IC50: 9 μM (DDAH1)[1]

In Vitro

PD 404182 (20 μM) increases asymmetric dimethylarginine (ADMA) approximately 70% in ECs[1].
PD 404182 (50-100 μM; 18 hours) attenuates endothelial tube formation in virto and does not perturb cell membrane

integrity or induces cytotoxicity[1].
PD 404182 inhibits HIV-1 in seminal plasma, with an IC_{50} of 1 μM[2].
PD 404182 (300 μM;30 minutes) exhibits low toxicity toward several human cell lines , freshly activated PBMCs, primary CD^{4+} T lymphocytes, macrophages, and dendritic cells, and lactobacilli found in the normal vaginal flora[2].
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Cell Viability Assay[1]

Cell Line:	Human dermal microvascular endothelial cells (ECs)
Concentration:	10-300 μM
Incubation Time:	24 hours
Result:	Did not induce cytotoxicity.

CUSTOMER VALIDATION

- Front Immunol. 05 August 2022.

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REFERENCES

[1]. Ghebremariam YT, et, al. A novel and potent inhibitor of dimethylarginine dimethylaminohydrolase: a modulator of cardiovascular nitric oxide. J Pharmacol Exp Ther. 2014 Jan; 348(1): 69-76.

[2]. Chamoun-Emanuelli AM, et, al. Evaluation of PD 404,182 as an anti-HIV and anti-herpes simplex virus microbicide. Antimicrob Agents Chemother. 2014; 58(2): 687-97.

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