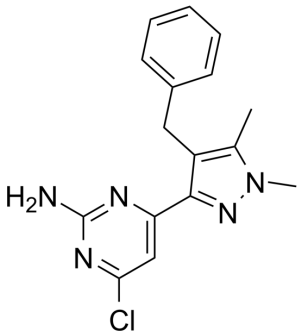
TDI-10229

Cat. No.:	HY-132298
CAS No.:	2810887-45-5
Molecular Formula:	$C_{16}H_{16}ClN_5$
Molecular Weight:	313.78
Target:	Adenylate Cyclase
Pathway:	GPCR/G Protein
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 : 125 mg/mL (398.37 mM; Need ultrasonic)

Preparing Stock Solutions	Solvent / Mass / Concentration	1 mg	5 mg	10 mg
	1 mM	3.1869 mL	15.9347 mL	31.8695 mL
	5 mM	0.6374 mL	3.1869 mL	6.3739 mL
	10 mM	0.3187 mL	1.5935 mL	3.1869 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: ≥ 2.08 mg/mL (6.63 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.08 mg/mL (6.63 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

TDI-10229 is a potent and orally bioavailable inhibitor of soluble adenylyl cyclase (sAC, ADCY10). TDI-10229 displays nanomolar inhibition of sAC in both biochemical and cellular assays (IC_{50} of 195 nM) and exhibits mouse pharmacokinetic properties sufficient to warrant its use as an in vivo tool compound[1][2].

IC_{50} & Target

IC_{50}: 195 nM (sAC)[2].

In Vitro

TDI-10229 exhibits good permeability with an IC_{50} of 92 nM for human 4-4 cells[2].

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

In Vivo

TDI-10229 (5 mg/kg; p.o.) treatment shows the C_{max}, AUC and MRT were 15.5 μM, 94 μg h/mL and 3.95 hours, respectively.

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

Animal Model:	Mouse[2]
Dosage:	20 mg/kg
Administration:	P.o.(Pharmacokinetic Analysis)
Result:	The C_{max}, AUC and MRT were 15.5 μM, 94 μg h/mL and 3.95 hours, respectively.

REFERENCES

[1]. Balbach M, et al. Soluble adenylyl cyclase inhibition prevents human sperm functions essential for fertilization [published online ahead of print, 2021 Aug 31]. Mol Hum Reprod. 2021;gaab054.

[2]. Fushimi M, et al. Discovery of TDI-10229: A Potent and Orally Bioavailable Inhibitor of Soluble Adenylyl Cyclase (sAC, ADCY10). ACS Med Chem Lett. 2021;12(8):1283-1287. Published 2021 Jul 14.

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