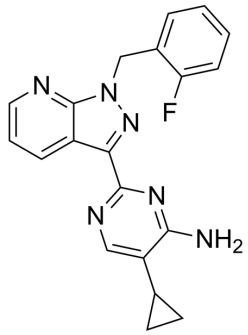
BAY 41-2272

Cat. No.:	HY-12376
CAS No.:	256376-24-6
Molecular Formula:	$C_{20}H_{17}FN_6$
Molecular Weight:	360.39
Target:	Guanylate Cyclase
Pathway:	GPCR/G Protein
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 : 17.5 mg/mL (48.56 mM; Need ultrasonic)

Preparing Stock Solutions	Solvent / Mass / Concentration	1 mg	5 mg	10 mg
	1 mM	2.7748 mL	13.8739 mL	27.7477 mL
	5 mM	0.5550 mL	2.7748 mL	5.5495 mL
	10 mM	0.2775 mL	1.3874 mL	2.7748 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: ≥ 1.75 mg/mL (4.86 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 1.75 mg/mL (4.86 mM); Clear solution
3. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 1.75 mg/mL (4.86 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

BAY 41-2272 is an orally active and soluble guanylate cyclases (sGC) activator, which increases sGC activity by 400-fold in synergy with NO. BAY 41-2272 potently unloaded the heart, increased cardiac output, thus can be used for cardiovascular diseases research[1][2].

In Vitro

BAY 41-2272 (10 μM; 15 min) increases cGMP levels by itself and synergizes with the NO donor SNP (100 μM) in A7r5 rat aortic smooth muscle cells[1].

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

In Vivo

BAY 41-2272 (0.3-3 mg/kg; p.o.; single dose; monitored for 12 h) has inhibitory effect in hypertensive dog[2].

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Animal Model:	Hypertensive beagle dogs[2]
Dosage:	0.3 mg/kg, 1 mg/kg, 3 mg/kg
Administration:	Oral gavage; single dose; monitored for 12 hr
Result:	Decreased the mean BP (MBP) in a dose-dependent manner with a decrease of −0.29 ± 5.40 mmHg (p = 0.7960) at the lowest dose of 0.3 mg/kg, −5.51 ± 11.45 mmHg (p = 0.1625) after 1.0 mg/kg and −14.05 ± 1.81 mmHg (p = 0.0042) after 3.0 mg/kg.

CUSTOMER VALIDATION

- Cells. 2022 May 10;11(10):1597.
- Eur J Pharmacol. 2023 May 25;175789.
- Am J Physiol Lung Cell Mol Physiol. 2014 Jan;306(2):L207-15.

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REFERENCES

[1]. Makrynitsa GI, et al. Mapping of the sGC Stimulator BAY 41-2272 Binding Site on H-NOX Domain and Its Regulation by the Redox State of the Heme. Front Cell Dev Biol. 2022 Jun 17;10:925457.

[2]. Vogel J, et al. sGC stimulation lowers elevated blood pressure in a new canine model of resistant hypertension. Hypertens Res. 2021 Dec;44(12):1568-1577.

Caution: Product has not been fully validated for medical applications. For research use only.

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