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Lieferung & Zahlungsart

siehe unsere Liefer- und Versandbedingungen

Zuschläge

- Mindermengenzuschlag
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Cinaciguat

Cat. No.: HY-14181

CAS No.: 329773-35-5

Molecular Formula: $C_{36}H_{39}NO_5$

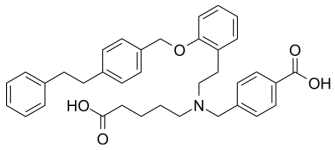
Molecular Weight: 565.7

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 : ≥ 50 mg/mL (88.39 mM)

* "≥" means soluble, but saturation unknown.

Preparing Stock Solutions

Solvent / Mass / Concentration	1 mg	5 mg	10 mg
1 mM	1.7677 mL	8.8386 mL	17.6772 mL
5 mM	0.3535 mL	1.7677 mL	3.5354 mL
10 mM	0.1768 mL	0.8839 mL	1.7677 mL

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

In Vivo

1. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: 2.5 mg/mL (4.42 mM); Suspended solution; Need ultrasonic
2. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.5 mg/mL (4.42 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

Cinaciguat is an activator of guanylate cyclase (sGC), and used for acute decompensated heart failure.

In Vitro

Cinaciguat (10 μM) significantly enhances intracellular cGMP generation. Cinaciguat does not dose-dependent effects on cell contraction and calcium transients[2].

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

In Vivo

Cinaciguat (10 mg/kg/day, p.o.) treatment in diabetic rats does not influence blood glucose levels, but leads to attenuated water intake. Cinaciguat treatment alleviates diabetes mellitus related oxidative stress, protects against DM related alteration of the NO-sGC-cGMP-PKG signalling, and alleviates DM related myocardium hypertrophy and apoptosis[1].

Cinaciguat (1, 10, 100 nM) induces concentration-dependent relaxations in gastrointestinal smooth muscle strips from both WT and apo-sGC mice, but does not have any effect on phasic activity induced by $PGF_{2\alpha}$ in WT or apo-sGC strips[3].

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

PROTOCOL

Animal Administration [1]

After confirmation of DM, rats are randomised into four groups: vehicle-treated control, cinaciguat-treated control, vehicle-treated diabetic and cinaciguat-treated diabetic groups. Animals are treated for 8 weeks with 0.5% methylcellulose vehicle or with the sGC activator cinaciguat in suspension p.o. (10 mg/kg/day), starting immeadiately after DM confirmation. Water bottles are filled every morning with the same amount of fresh tap water and daily water intake is measured. Animal cages are handled with care and are not moved after water bottle replacement to prevent spilling of water from the bottles. Body weight of the animals are recorded every 2 days and the dose of cinaciguat is adjusted accordingly.

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

CUSTOMER VALIDATION

- Biomed Pharmacother. 2019 Oct;118:109216.
- Oxid Med Cell Longev. 2021 Jun 17.
- Eberhard Karls Universität Tübingen. 2018 Jan.

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REFERENCES

[1]. Mátyás C, et al. The soluble guanylate cyclase activator cinaciguat prevents cardiac dysfunction in a rat model of type-1 diabetes mellitus. Cardiovasc Diabetol. 2015 Oct 31;14:145.

[2]. Reinke Y, et al. The soluble guanylate cyclase stimulator riociguat and the soluble guanylate cyclase activator cinaciguat exert no direct effects on contractility and relaxation of cardiac myocytes from normal rats. Format: AbstractSend to Eur J Pharmaco

[3]. Cosyns SM, et al. Influence of cinaciguat on gastrointestinal motility in apo-sGC mice. Neurogastroenterol Motil. 2014 Nov;26(11):1573-85.

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