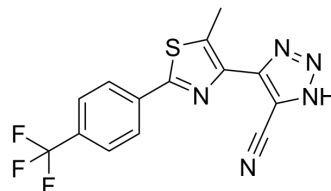


OPC-163493

Cat. No.:	HY-134769									
CAS No.:	1644467-84-4									
Molecular Formula:	C ₁₄ H ₈ F ₃ N ₅ S									
Molecular Weight:	335.31									
Target:	Mitochondrial Metabolism; Reactive Oxygen Species									
Pathway:	Metabolic Enzyme/Protease; Immunology/Inflammation; NF-κB									
Storage:	<table border="0"> <tr> <td>Powder</td> <td>-20°C</td> <td>3 years</td> </tr> <tr> <td>In solvent</td> <td>-80°C</td> <td>6 months</td> </tr> <tr> <td></td> <td>-20°C</td> <td>1 month</td> </tr> </table>	Powder	-20°C	3 years	In solvent	-80°C	6 months		-20°C	1 month
Powder	-20°C	3 years								
In solvent	-80°C	6 months								
	-20°C	1 month								



SOLVENT & SOLUBILITY

In Vitro

DMSO : 125 mg/mL (372.79 mM; Need ultrasonic)

Concentration	Solvent	Mass		
		1 mg	5 mg	10 mg
Preparing Stock Solutions	1 mM	2.9823 mL	14.9116 mL	29.8231 mL
	5 mM	0.5965 mL	2.9823 mL	5.9646 mL
	10 mM	0.2982 mL	1.4912 mL	2.9823 mL

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

BIOLOGICAL ACTIVITY

Description

OPC-163493 is an orally active and liver-targeted mitochondrial uncoupling agent. OPC-163493 reduces the production of mitochondrial $\Delta\psi$ and ROS. OPC-163493 has anti-diabetic and lipid-lowering effects. In addition, OPC-163493 has a protective effect on cardiovascular disease^{[1][2]}.

In Vitro

OPC-163493 (0.5-10 μ M; 15 min) inhibits the production of $\Delta\psi$ and ROS in isolated rat liver mitochondria^[1]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

In Vivo

OPC-163493 (1 mg/kg; Oral administration; Single dose) is quickly absorbed and the peak plasma concentration reaches 0.393 μ g/mL (1.17 μ M), 3.5 h after administration, with a half-life of 3.74 h and bioavailability of 53.5% in rats^[1]. OPC-163493 (1-10 mg/kg; Oral administration; 6 weeks) has an improved effect in diabetic rat model^[1]. OPC-163493 (2-4 mg/kg; Oral administration; 2 weeks) has a lipid-lowering effect in rat models with high fat diet^[1]. OPC-163493 (0.06% mixed chow; 51 days) has a protective effect in spontaneously hypertensive rat models^[1]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Animal Model:	Zucker diabetic fatty rats aged 11 weeks old ^[1]
---------------	-------------------------------------------------------------

Dosage:	1, 2, 4 and 10 mg/kg
Administration:	Oral administration (p.o.); 6 weeks
Result:	Suppressed HbA1c elevation in a dose-dependent manner. Significantly lowered fasting blood glucose levels at doses of 4 and 10 mg/kg. Had no significant effect on plasma insulin levels.
Animal Model:	HFD SD rats aged 12 weeks old ^[1]
Dosage:	2 and 4 mg/kg
Administration:	Oral administration (p.o.); 2 weeks
Result:	Did not affect body weight and food intake during the treatment period. Slightly but significantly reduced fasting blood glucose after 2-week treatment. Significantly reduced hepatic total TG, total diacylglycerol (DAG), and total cholesterol ester (CE) by 57%, 25%, and 26%, respectively even in the low-dose group. Significantly reduced long-chain acylcarnitines (AC, C16 and C18).
Animal Model:	Salt-loaded stroke-prone spontaneously hypertensive rats (SHRSPs) aged 6 weeks old ^[1]
Dosage:	0.06% mixed chow
Administration:	Oral administration (p.o.); 51 days
Result:	Delayed stroke symptoms and death, lowered blood pressure. Improved kidney function and urinary albumin-to-creatinine ratio, lowered urinary albumin excretion by 68%.

REFERENCES

- [1]. Kanemoto N, et al. Antidiabetic and cardiovascular beneficial effects of a liver-localized mitochondrial uncoupler. *Nat Commun.* 2019 May 15;10(1):2172.
- [2]. Inoue Y, et al. Preclinical safety profile of a liver-localized mitochondrial uncoupler: OPC-163493. *EXCLI J.* 2022 Jan 11;21:213-235.

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

Tel: 609-228-6898

Fax: 609-228-5909

E-mail: tech@MedChemExpress.com

Address: 1 Deer Park Dr, Suite Q, Monmouth Junction, NJ 08852, USA