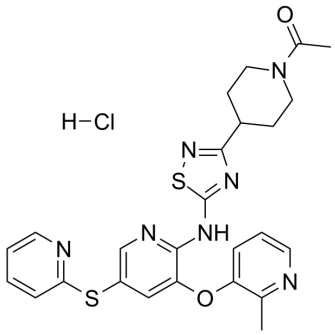
AR453588 hydrochloride

Cat. No.:	HY-133127A
CAS No.:	1065606-97-4
Molecular Formula:	$C_{25}H_{26}ClN_7O_2S_2$
Molecular Weight:	556.1
Target:	Glucokinase
Pathway:	Metabolic Enzyme/Protease
Storage:	Please store the product under the recommended conditions in the Certificate of Analysis.



BIOLOGICAL ACTIVITY

Description

AR453588 hydrochloride is a potent and orally bioavailable anti-diabetic glucokinase activator, with an EC_{50} of 42 nM. AR453588 hydrochloride shows anti-hyperglycemic activity[1].

In Vivo

AR453588 hydrochloride (3-30 mg/kg; p.o) lowers post-prandial glucose in normal C57BL/6J mice[1].

AR453588 hydrochloride (3-30 mg/kg; p.o.; once-daily for 14 days) shows anti-hyperglycemic activity in a dose-ranging 14 day ob/ob mouse[1].

AR453588 hydrochloride (10 mg/kg; p.o.) treatment shows that the T_{max}, AUC_{inf}, Vss, C_{max} and F are 1.0 mL/min/kg, 4.65 h μg /mL, 1.67 μg /mL and 60.3%, respectively[1].

AR453588 hydrochloride (1 mg/kg; i.v.) treatment shows that the CL, AUC_{inf}, Vss, and $t_{1/2}$ are 21.6 mL/min/kg, 0.77 h μg /mL, 0.746 L/kg and 1.28 hours, respectively[1].

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

Animal Model:	Male diabetic ob/ob mice[1]
Dosage:	3, 10, 30 mg/kg
Administration:	Orally once-daily for 14 days
Result:	Lowered the fasted blood glucose from the control animals on day 14 as well as the AUC of the OGTT (oral glucose tolerance tests).

Animal Model:	Male CD-1 mice[1]
Dosage:	10 mg/kg
Administration:	p.o. (Pharmacokinetic Analysis)
Result:	The T_{max}, AUC_{inf}, Vss, C_{max} and F were 1.0 mL/min/kg, 4.65 h μg /mL, 1.67 μg /mL and 60.3%, respectively

REFERENCES

[1]. Hinklin RJ, et al. Discovery and preclinical development of AR453588 as an anti-diabetic glucokinase activator. Bioorg Med Chem. 2020 Jan 1;28(1):115232.

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