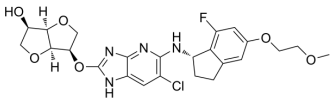
AMPK activator 10

Cat. No.:	HY-148684
CAS No.:	1914176-03-6
Molecular Formula:	$C_{24}H_{26}ClFN_4O_6$
Molecular Weight:	520.94
Target:	AMPK
Pathway:	Epigenetics; PI3K/Akt/mTOR
Storage:	Please store the product under the recommended conditions in the Certificate of Analysis.



BIOLOGICAL ACTIVITY

Description	AMPK activator 10 is an orally active, potent AMPK activator with EC_{150} of 44.3 nM by cell-ELISA. AMPK activator 10 increases the phosphorylation levels of ACC. AMPK activator 10 exhibits a glucose lowering effect[1].
IC_{50} & Target	AMPK
In Vivo	AMPK activator 10 (compound 14d; 0.3, 1, 3 mg/kg; Orally; bid; for 21 days) exhibits a glucose lowering effect[1]. AMPK activator 10 (0.06, 0.19, 0.56, 1.67, 5 mg/kg; orally; single dose) leads to increase in the phosphorylation levels of ACC, which is a downstream target molecule of AMPK, in a dose-dependent manner[1]. AMPK activator 10 (0.5 mg/kg by iv or 1.0 mg/kg by po) has a CL of 9.02 mL/min•kg, a C_{max} of 65.4 ng/mL and an AUC of 347 ng•h/mL for rats[1]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Animal Model:	KKAy mice[1]
Dosage:	0.3, 1, 3 mg/kg
Administration:	Orally; bid; for 21 days
Result:	Exhibited a glucose lowering effect. The increase in hemoglobin A1c (ΔHbA1c) between day 0 and day 21 was dose-dependently suppressed in the 14d dosed group.

Animal Model:	Rats[1]
Dosage:	0.5 mg/kg by iv or 1.0 mg/kg by po
Administration:	IV or po
Result:	Had a CL of 9.02 mL/min•kg, a C_{max} of 65.4 ng/mL and an AUC of 347 ng•h/mL.

REFERENCES

[1]. Yuusuke Tamura, et al. Identification of novel benzimidazole derivatives as highly potent AMPK activators with anti-diabetic profiles. Bioorg Med Chem Lett. 2023 Jan 1;79:129059.

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