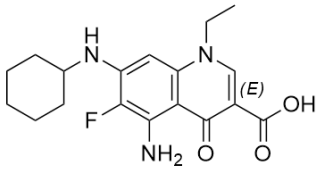
AS1842856

Cat. No.:	HY-100596
CAS No.:	836620-48-5
Molecular Formula:	$C_{18}H_{22}FN_3O_3$
Molecular Weight:	347.38
Target:	Autophagy
Pathway:	Autophagy
Storage:	Powder -20°C 3 years 4°C 2 years In solvent -80°C 6 months -20°C 1 month



SOLVENT & SOLUBILITY

In Vitro

DMSO : 5 mg/mL (14.39 mM; Need ultrasonic)

Preparing Stock Solutions	Solvent / Mass / Concentration	1 mg	5 mg	10 mg
	1 mM	2.8787 mL	14.3935 mL	28.7869 mL
	5 mM	0.5757 mL	2.8787 mL	5.7574 mL
	10 mM	0.2879 mL	1.4393 mL	2.8787 mL

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

BIOLOGICAL ACTIVITY

Description

AS1842856, a specific Foxo1 inhibitor (IC_{50}=30 nM), potently suppresses autophagy[1]. AS1842856 only reduces the activity of FoxO1 by binding with it, without affecting its transcription and protein expression[2].

IC_{50} & Target

IC50: 30 nM (Foxo1)[1]

In Vitro

AS1842856 potently inhibits human Foxo1 transactivation and reduces glucose production through the inhibition of glucose-6 phosphatase and phosphoenolpyruvate carboxykinase mRNA levels in a rat hepatic cell line[1]. After AS1842856 treatment, there is no significant difference in the protein expression of p-FoxO1 and FoxO1 compared with the control group, but the expression of p-Akt is decreased compared with the control group[2].

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

In Vivo

Oral administration of AS1842856 to diabetic db/db mice leads to a drastic decrease in fasting plasma glucose level via the inhibition of hepatic gluconeogenic genes, whereas administration to normal mice has no effect on the fasting plasma glucose level. Treatment with AS1842856 also suppresses an increase in plasma glucose level caused by pyruvate injection in both normal and db/db mice[1].

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

PROTOCOL

Cell Assay [1]	Rat hepatoma Fao cells are cultured in DMEM with 5.5 mM glucose and 10% FBS. Glucose production rate is measured using glucose CII-test reagent. In brief, after 18 h of treatment with AS1842856 at the indicated concentrations, the cells are ished three times with PBS. The cells are then incubated for 3 h at 37°C in 5% CO_2 in a glucose production buffer (glucose-free DMEM, pH 7.4, containing 20 mM sodium pyruvate, without phenol red)[1]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.
Animal Administration [1]	AS1842856 is dissolved in 6% cyclodextrin for oral administration. Pyruvate or glucose tolerance tests are performed in male mice aged 7 to 9 weeks. Mice are orally administered either AS1842856 dissolved in 6% cyclodextrin or vehicle (6% cyclodextrin only) at three time points (8 AM, 6 PM, and 8 AM on the second day). Food is removed after initial dosing and withheld throughout the study (26-h fasting)[1]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

CUSTOMER VALIDATION

- Cell Death Dis. 2019 May; 10(5): 329.
- FASEB J. 2020 Aug 17.
- J Nutr Biochem. 2020 Jun;80:108380.
- FEBS J. 2020 Jan;287(1):94-107.
- J Biol Chem. 2020 Mar 27;295(13):4265-4276.

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REFERENCES

[1]. Nagashima T, et al. Discovery of novel forkhead box O1 inhibitors for treating type 2 diabetes: improvement of fasting glycemia in diabetic db/db mice. Mol Pharmacol. 2010 Nov;78(5):961-70.

[2]. He J, et al. The resistant effect of SIRT1 in oxidative stress-induced senescence of rat nucleus pulposus cell is regulated by Akt-FoxO1 pathway. Biosci Rep. 2019 May 10;39(5). pii: BSR20190112.

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

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