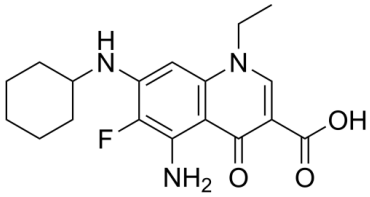
Data Sheet

Product Name:	AS1842856
Cat. No.:	CS-6192
CAS No.:	836620-48-5
Molecular Formula:	$C_{18}H_{22}FN_3O_3$
Molecular Weight:	347.38
Target:	Autophagy
Pathway:	Autophagy
Solubility:	DMSO : 5 mg/mL (ultrasonic;warming;heat to 60°C)



BIOLOGICAL ACTIVITY:

AS1842856, a specific **Foxo1** inhibitor (**IC_{50}**=30 nM), potently suppresses **autophagy**[1]. AS1842856 reduces **Foxo1** activity and, to a lesser extent, inhibits **Foxo1** protein expression by simply binding to **Foxo1**[2]. IC50 & 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]. ***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].

PROTOCOL (Extracted from published papers and Only for reference)

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]. **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].

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.

CAIndexNames:

3-Quinolinecarboxylic acid, 5-amino-7-(cyclohexylamino)-1-ethyl-6-fluoro-1,4-dihydro-4-oxo-

SMILES:

O=C(C1=CN(CC)C2=C(C(N)=C(F)C(NC3CCCCC3)=C2)C1=O)O

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

Tel: 610-426-3128 Fax: 888-484-5008 E-mail: sales@ChemScene.com

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