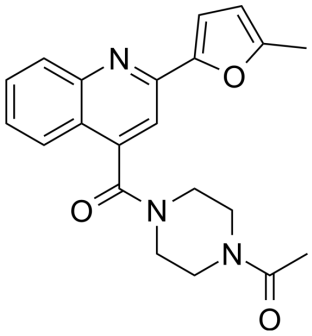
E1231

Cat. No.:	HY-117006
CAS No.:	1031195-19-3
Molecular Formula:	$C_{21}H_{21}N_3O_3$
Molecular Weight:	363.41
Target:	Sirtuin
Pathway:	Cell Cycle/DNA Damage; Epigenetics
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 : 100 mg/mL (275.17 mM; Need ultrasonic)

Preparing Stock Solutions	Solvent / Mass / Concentration	1 mg	5 mg	10 mg
	1 mM	2.7517 mL	13.7586 mL	27.5171 mL
	5 mM	0.5503 mL	2.7517 mL	5.5034 mL
	10 mM	0.2752 mL	1.3759 mL	2.7517 mL

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

In Vivo

1. Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline
   Solubility: ≥ 2.5 mg/mL (6.88 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 2.5 mg/mL (6.88 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

E1231 is an orally active activator of Sirtuin 1 (SIRT1) (EC_{50}=0.83 μM), to modulate cholesterol and lipid metabolism. E1231 interactes with SIRT1 (K_D=9.61 μM) and deacetylated liver X receptor-alpha (LXRα), and increases ATP-binding cassette transporter A1 (ABCA1) expression. E1231 also reduces atherosclerotic plaque development in ***ApoE***$^{-/-}$ mice model. E1231 can be used for research in cholesterol and lipid disorder-related diseases[1].

IC_{50} & Target

SIRT1
0.83 μM (EC50)

In Vitro

E1231 (0.1-10 μM; 18 h) promotes cholesterol efflux and inhibits lipid accumulation in RAW 264.7 cells[1].
E1231 (10 μM; 6 h) significantly increases deacetylation of Doxo-induced p53 in HepG2 cells[1].

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

In Vivo

E1231 (40 mg/kg; po; once daily for 7 days) regulates cholesterol and lipid metabolism in Golden hamsters fed with HFD diet [1].

E1231 (25, 50, and 100 mg/kg, in 0.5% CMC-Na; po; once daily for 12 weeks) reduces atherosclerosis development, without hepatotoxicity ornephrotoxicity in ApoE$^{-/-}$ mice fed with atherogenic diet[1].

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

Animal Model:	HFD-diet Golden hamsters (80-90 g)[1]
Dosage:	40 mg/kg
Administration:	PO; once daily for 7 days
Result:	Increased SIRT1 protein expression but not SIRT3, SIRT6, or SIRT7. And reduced liver and serum cholesterol in hamsters.

Animal Model:	Atherogenic diet ApoE$^{-/-}$ mice[1]
Dosage:	25, 50, and 100 mg/kg
Administration:	PO; once daily for 12 weeks
Result:	Modulated plaque composition, immunofluorescence staining. And reduced CD68 positive areas while increasing ABCA1 expression in the aortic sinus.

REFERENCES

[1]. Feng T, et al. SIRT1 activator E1231 protects from experimental atherosclerosis and lowers plasma cholesterol and triglycerides by enhancing ABCA1 expression. Atherosclerosis. 2018 Jul;274:172-181.

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