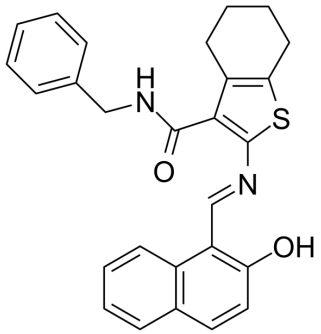
JGB1741

Cat. No.:	HY-111329
CAS No.:	1256375-38-8
Molecular Formula:	$C_{27}H_{24}N_2O_2S$
Molecular Weight:	440.56
Target:	Sirtuin; Apoptosis
Pathway:	Cell Cycle/DNA Damage; Epigenetics; Apoptosis
Storage:	4°C, protect from light * In solvent : -80°C, 6 months; -20°C, 1 month (protect from light)



SOLVENT & SOLUBILITY

In Vitro

DMSO : 5 mg/mL (11.35 mM; Need ultrasonic)

Preparing Stock Solutions	Solvent / Mass / Concentration	1 mg	5 mg	10 mg
	1 mM	2.2698 mL	11.3492 mL	22.6984 mL
	5 mM	0.4540 mL	2.2698 mL	4.5397 mL
	10 mM	0.2270 mL	1.1349 mL	2.2698 mL

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

BIOLOGICAL ACTIVITY

Description

JGB1741 (ILS-JGB-1741) is a potent and specific SIRT1 activity inhibitor with an IC_{50} of ~15 μM. JGB1741 is a weak SIRT2 and SIRT3 inhibitor with an all IC_{50}>100 μM. JGB1741 increases the acetylated p53 levels leading to p53-mediated apoptosis with modulation of Bax/Bcl2 ratio, cytochrome c release and PARP cleavage. JGB1741 has the potential for breast cancer research[1].

IC_{50} & Target

SIRT1	SIRT2	SIRT3
~15 μM (IC_{50})	>100 μM (IC_{50})	>100 μM (IC_{50})

In Vitro

JGB1741 (ILS-JGB-1741; 1-10000 nM; 24 h) inhibits MDA-MB 231 cell proliferation[1].
JGB1741 (0.01-1 μM; 24 h) induces apoptosis of MDA-MB 231 cells[1].
JGB1741 (0.01-1 μM; 24 h) shows a cell cycle arrest at G1 phase with more and more cells entering into sub G0/G1 phase[1].
JGB1741 (0.01-1 μM; 24 h) shows an increase in the global acetylation of H3K9, p53 expression and acetylated p53K382 levels [1].

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

Cell Proliferation Assay[1]

Cell Line:	K562, HepG2 and MDA-MB 231 cell lines
Concentration:	1, 10, 50, 100, 500, 1000, 10000 nM
Incubation Time:	24 hours
Result:	Inhibited MDA-MB 231 cell proliferation more potently with an IC_{50} of 0.5 μM than K562 and HepG2 cell proliferation (IC_{50}>1 μM).

Apoptosis Analysis[1]

Cell Line:	MDA-MB 231 cells
Concentration:	0.01, 0.1, 0.5, 1 μM
Incubation Time:	
Result:	Showed an increase in the percent apoptotic cells in a dose-dependent fashion with ☒70% apoptosis at 1 μM concentration.

Cell Cycle Analysis[1]

Cell Line:	MDA-MB 231 cells
Concentration:	0.01, 0.1, 0.5, 1 μM
Incubation Time:	
Result:	Showed a cell cycle arrest at G1 phase with more and more cells entering into sub G0/G1 phase, the apoptotic phase, in a dose-dependent fashion.

Western Blot Analysis[1]

Cell Line:	MDA-MB 231 cells
Concentration:	0.01, 0.1, 0.5, 1 μM
Incubation Time:	
Result:	Caused a dose-dependent increase in the global acetylation of H3K9. Showed an increase in both p53 expression and acetylated p53K382 levels.

REFERENCES

[1]. Arunasree M Kalle, et al. Inhibition of SIRT1 by a small molecule induces apoptosis in breast cancer cells. Biochem Biophys Res Commun. 2010 Oct 8;401(1):13-9.