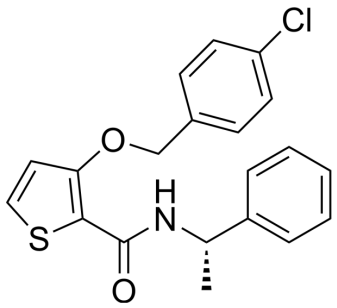
AS1949490

Cat. No.:	HY-18686
CAS No.:	1203680-76-5
Molecular Formula:	$C_{20}H_{18}ClNO_2S$
Molecular Weight:	371.88
Target:	Akt; Phosphatase
Pathway:	PI3K/Akt/mTOR; Metabolic Enzyme/Protease
Storage:	Powder -20°C 3 years In solvent -80°C 6 months -20°C 1 month



SOLVENT & SOLUBILITY

In Vitro

DMSO : 50 mg/mL (134.45 mM; Need ultrasonic and warming)

Preparing Stock Solutions	Mass / Solvent / Concentration	1 mg	5 mg	10 mg
	1 mM	2.6890 mL	13.4452 mL	26.8904 mL
	5 mM	0.5378 mL	2.6890 mL	5.3781 mL
	10 mM	0.2689 mL	1.3445 mL	2.6890 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: ≥ 2.08 mg/mL (5.59 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

AS1949490 is a potent, orally active, selective SHIP2 phosphatase inhibitor with IC_{50} values of 0.34, 0.62, 13, >50, >50, and >50 μM for Mouse SHIP2, Human SHIP2, Human SHIP1, Human PTEN, Human synaptojanin, and Human myotubularin, respectively. AS1949490 increases the phosphorylation of Akt, glucose consumption and glucose uptake. AS1949490 activates intracellular insulin signalling pathways. AS1949490 can be used for research of diabetes[1][2].

IC_{50} & Target

IC50: 0.34 nM (Mouse SHIP2), 0.62 nM (Human SHIP2), 13 nM (Human SHIP1), >50 nM (Human PTEN), >50 nM (Human synaptojanin), and >50 μM (Human myotubularin)[1].

In Vitro

AS1949490 (0-16 μM; 15 min; L6 myotubes) increases insulin-induced phosphorylation of Akt[1].
AS1949490 (0-10 μM; 48 h) activates glucose metabolism and stimulates glucose uptake activity in L6 myotubes[1].
AS1949490 (0-10 μM; 24 h; L6 myotubes) decreases the level of insulin-induced gluconeogenesis[1].
AS1949490 (10 μM; 48 h) activates glucose metabolism via up-regulation of GLUT1 gene in L6 myotubes[2].
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Western Blot Analysis[1]

Cell Line:	L6 myotubes
Concentration:	0, 4, 8, and 16 μM; 1 nM (insulin)
Incubation Time:	15 minutes
Result:	Increased insulin-induced phosphorylation of Akt in a dose-dependent manner.

Western Blot Analysis[2]

Cell Line:	L6 myotubes
Concentration:	10 μM
Incubation Time:	48 hours
Result:	Increased GLUT1 but not GLUT4 mRNA expression in L6 myotubes.

In Vivo

AS1949490 (300 mg/kg; p.o.; twice daily, for 7 or 10 d) decreases plasma glucose and activates intracellular insulin signalling in diabetic mice[1]. AS1949490 (300 mg/kg; p.o.; once, for 8 h; male ICR mice) suppresses gluconeogenesis and the expression of related genes[1].

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

Animal Model:	Male C57BL/KsJ Jcl-dbm mice and db/+db mice[1]
Dosage:	300 mg/kg
Administration:	Oral administration; twice daily, for 7 or 10 days
Result:	Decreased plasma glucose (23% reduction, relative to vehicle). Reduced fasting blood glucose (37% reduction, relative to vehicle) and the area under the blood glucose concentration time curve (AUC). Increased the phosphorylation of GSK3β in the liver without changing the overall levels of GSK3β protein.

Animal Model:	Male ICR mice (6 weeks of age)[1]
Dosage:	300 mg/kg
Administration:	Oral administration; once, for 8 hours
Result:	Reduced an approximately 50% of both PEPCK and G6Pase mRNA levels.

REFERENCES

[1]. Suwa A, et, al. Discovery and functional characterization of a novel small molecule inhibitor of the intracellular phosphatase, SHIP2. Br J Pharmacol. 2009 Oct;158(3):879-87.

[2]. Suwa A, et, al. Glucose metabolism activation by SHIP2 inhibitors via up-regulation of GLUT1 gene in L6 myotubes. Eur J Pharmacol. 2010 Sep 10;642(1-3):177-82.

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