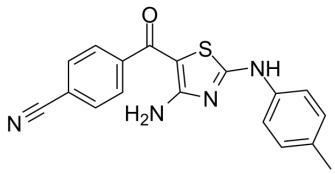
ABC1183

Cat. No.:	HY-100950
CAS No.:	1042735-18-1
Molecular Formula:	$C_{18}H_{14}N_4OS$
Molecular Weight:	334.39
Target:	GSK-3; CDK
Pathway:	PI3K/Akt/mTOR; Stem Cell/Wnt; Cell Cycle/DNA Damage
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 : 125 mg/mL (373.81 mM; Need ultrasonic)

Preparing Stock Solutions

Solvent / Mass / Concentration	1 mg	5 mg	10 mg
1 mM	2.9905 mL	14.9526 mL	29.9052 mL
5 mM	0.5981 mL	2.9905 mL	5.9810 mL
10 mM	0.2991 mL	1.4953 mL	2.9905 mL

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

BIOLOGICAL ACTIVITY

Description

ABC1183 is an orally active selective dual GSK3 and CDK9 inhibitor. ABC1183 inhibits GSK3β, GSK3α and CDK9/cyclin T1 with the IC_{50} values of 657 nM, 327 nM and 321 nM, respectively. ABC1183 has anti-inflammatory and anti-tumor activities[1].

IC_{50} & Target

CDK9- Cyclin T1	GSK-3α	GSK-3β
321 nM (IC_{50})	327 nM (IC_{50})	657 nM (IC_{50})

In Vitro

ABC1183 (3 μM, 24 h) can block cell cycle progression and thus affect cell proliferation[1].

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

Cell Cycle Analysis[1]

Cell Line:	LNCaP human prostate cancer cells
Concentration:	3 μM
Incubation Time:	24 hours

Result:	Significantly reduced cells in the G1 and S phases and increased cells in the G2/M and sub-G1 cycle phases.

In Vivo

ABC1183 (oral gavage, 5 or 50 mg/kg) inhibits tumor proliferation through negative regulation of cell growth and pro-inflammatory signalling in male C57BL/6 mice[1].

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

Animal Model:	Male C57BL/6 mice with melanoma B16[1]
Dosage:	5 mg/kg
Administration:	Oral gavage; 5 times per week; 22 days
Result:	Reduced tumor size and no observed toxicity. Decreased the expression levels of GSK3 α /β, pSer21/9 and GS pSer641 but no change of total GS expression.

Animal Model:	Male C57BL/6 mice infected crohn's disease[1]
Dosage:	50 mg/kg
Administration:	Oral gavage; everyday; 3 days
Result:	Reduced TNF-α by 65%, IL-6 by 30% and IL-1β by 45%.

Animal Model:	Male C57BL/6 mice with ulcerative colitis[1]
Dosage:	50 mg/kg
Administration:	Oral gavage; once daily; 6 days
Result:	Increased the expression of the anti-inflammatory factor IL-10, while decreasing the pro-inflammatory factor IL-6.

REFERENCES

[1]. Randy S Schrecengost, et al. In Vitro and In Vivo Antitumor and Anti-Inflammatory Capabilities of the Novel GSK3 and CDK9 Inhibitor ABC1183. J Pharmacol Exp Ther. 2018 Apr;365(1):107-116.

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