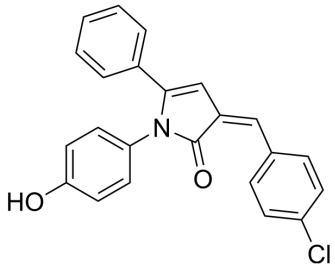
inS3-54A18

Cat. No.:	HY-103128
CAS No.:	328998-53-4
Molecular Formula:	$C_{23}H_{16}ClNO_2$
Molecular Weight:	373.83
Target:	STAT
Pathway:	JAK/STAT Signaling; Stem Cell/Wnt
Storage:	Powder -20°C 3 years 4°C 2 years In solvent -80°C 2 years -20°C 1 year



SOLVENT & SOLUBILITY

In Vitro

DMSO : 100 mg/mL (267.50 mM; Need ultrasonic)

Preparing Stock Solutions

Solvent / Mass / Concentration	1 mg	5 mg	10 mg
1 mM	2.6750 mL	13.3751 mL	26.7501 mL
5 mM	0.5350 mL	2.6750 mL	5.3500 mL
10 mM	0.2675 mL	1.3375 mL	2.6750 mL

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

BIOLOGICAL ACTIVITY

Description

inS3-54A18 is a potent STAT3 inhibitor, with anti-cancer properties.

IC_{50} & Target

STAT3

In Vitro

inS3-54A18 (5 μM) reduces wound healing to 64% and 76% for A549 and MDA-MB-231 cells, respectively. inS3-54A18 at 10 μM further reduces the healing to 47% and 39%, respectively. inS3-54A18 inhibits the expression of STAT3 downstream target genes and the binding of STAT3 to its endogenous target sequences. inS3-54A18 does not affect the constitutive or IL-6-induced STAT3 activation (Tyr705 phosphorylation) but represses STAT3 target gene (survivin) expression[1].

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

In Vivo

inS3-54A18 (200 mg/kg, p.o.) inhibits tumor growth, metastasis and expression of STAT3 target genes in a mouse xenograft model of A549 cells[1].

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PROTOCOL

Animal Administration [1]

Briefly, 5×10^6 A549 cells are injected subcutaneously in the flanks of 5-6-week-old male NOD/SCID mice. When the tumor volume reach about 50.0 mm^3, the mice are randomized using online program into two different groups (6/group) with one group treated by formulation vehicle control and the other by A18 at 200 mg/kg with oral dosing 2-3 times a week for 4 weeks. One mouse in each group dies during the study and is eliminated. Tumor volume and body weight of the remaining five mice in each group are measured twice a week without blinding. On the thirty-fifth day after implant, mice are euthanized and the tumor tissues are harvested and weighed. Necropsy is also performed to determine changes in the heart, lungs, kidneys, liver and spleen.

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

REFERENCES

[1]. Huang W, et al. Small-molecule inhibitors targeting the DNA-binding domain of STAT3 suppress tumor growth, metastasis and STAT3 target gene expression in vivo. Oncogene. 2016 Feb 11;35(6):783-92

[2]. Huang W, et al. Small-molecule inhibitors targeting the DNA-binding domain of STAT3 suppress tumor growth, metastasis and STAT3 target gene expression in vivo. Oncogene. 2016 Feb 11;35(6):783-92.

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