ATF3 inducer 1

Cat. No.: HY-151923

Molecular Formula: $C_{12}H_{10}N_2O_3$

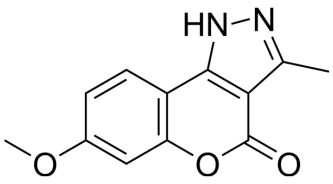
Molecular Weight: 230.22

Target: Others

Pathway: Others

Storage:

Powder	-20°C	3 years
In solvent	-80°C	6 months
	-20°C	1 month



SOLVENT & SOLUBILITY

In Vitro

DMSO : 65 mg/mL (282.34 mM; Need ultrasonic)

Preparing Stock Solutions	Solvent / Mass / Concentration	1 mg	5 mg	10 mg
	1 mM	4.3437 mL	21.7184 mL	43.4367 mL
	5 mM	0.8687 mL	4.3437 mL	8.6873 mL
	10 mM	0.4344 mL	2.1718 mL	4.3437 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 (9.03 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.08 mg/mL (9.03 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

ATF3 inducer 1 is a potent ATF3 inducer. ATF3 inducer 1 increases the ATF3 protein and ATF3 mRNA expression. ATF3 inducer 1 shows anti-MetS activity in mouse[1].

In Vitro

ATF3 inducer 1 (compound 16c) (50 μM; 8 days) increases the ATF3 protein and ATF3 mRNA expression in 3T3-L1 cells[1].

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

Western Blot Analysis[1]

Cell Line:	3T3-L1 cells
Concentration:	50 μM

Incubation Time:	8 days
Result:	Increased the ATF3 protein and ATF3 mRNA expression, showed no lipid accumalation.

In Vivo

ATF3 inducer 1 (40 mg/kg; i.p.; three times a week for 10-weeks) shows anti-MetS (managing metabolic syndrome) activity in mouse[1].

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

Animal Model:	Eight-week-old C57BL/6 male mice[1]
Dosage:	40 mg/kg
Administration:	I.p.; three times a week for 10-weeks
Result:	Decreased the bodyweight and the size of epididymal white adipose tissue (eWAT) adipocytes was notably diminished.

REFERENCES

[1]. Chang YH, et al. Exploration and biological evaluation of 7-methoxy-3-methyl-1H-chromeno[4,3-c]pyrazol-4-one as an activating transcription factor 3 inducer for managing metabolic syndrome. Eur J Med Chem. 2022 Nov 25;246:114951.

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