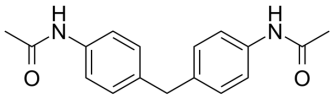
FH1

Cat. No.:	HY-12346
CAS No.:	2719-05-3
Molecular Formula:	$C_{17}H_{18}N_2O_2$
Molecular Weight:	282.34
Target:	Others
Pathway:	Others
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 : 13 mg/mL (46.04 mM; Need ultrasonic and warming)

Preparing Stock Solutions	Mass / Solvent / Concentration	1 mg	5 mg	10 mg
	1 mM	3.5418 mL	17.7091 mL	35.4183 mL
	5 mM	0.7084 mL	3.5418 mL	7.0837 mL
	10 mM	0.3542 mL	1.7709 mL	3.5418 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: ≥ 2.5 mg/mL (8.85 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 2.5 mg/mL (8.85 mM); Clear solution
3. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.5 mg/mL (8.85 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

FH1 (NSC 12407) enhances hepatocyte functions, and promotes the differentiation of induced pluripotent stem (iPS)-derived hepatocytes toward a phenotype more mature and the maturation of well-differentiated cultures of hepatocyte-like cells (iHeps)[1].

In Vitro

FH1 (NSC 12407, 5 μg/mL, 0-40 days) enhances hepatic maturation and maintain the hepatic differentiation state of hiPSC-HLCs[2].

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

RT-PCR[2]	
Cell Line:	hiPSC-HLCs in the differentiated hepatic state.
Concentration:	5 μg/mL.
Incubation Time:	0-40 days.
Result:	Kept more than 50% hiPSC-HLCs to produce the four factors till day 40. Can help hiPSC-HLCs to maintain a relatively mature hepatic differentiation state for about 40 days. Maintained a higher level of hALB in the supernatant than that in controls. Maintained relatively high mRNA levels of hNTCP, hRXR, hHNF4α, and hALB for over functional small molecule FH1 can help hiPSC-HLCs to maintain a relatively mature hepatic differentiation state for about 40 days.

REFERENCES

[1]. Shan J, et al. Identification of small molecules for human hepatocyte expansion and iPS differentiation. Nat Chem Biol. 2013 Aug;9(8):514-20.

[2]. Lunzhi Yuan, et al. A Chimeric Humanized Mouse Model by Engrafting the Human Induced Pluripotent Stem Cell-Derived Hepatocyte-Like Cell for the Chronic Hepatitis B Virus Infection. Front Microbiol. 2018 May 8;9:908.

Caution: Product has not been fully validated for medical applications. For research use only.

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