CYT296

Cat. No.: HY-141591

CAS No.: 1799392-31-6

Molecular Formula: $C_{18}H_{16}O_2S$

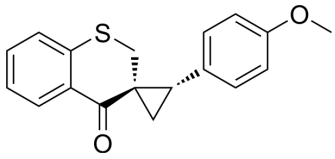
Molecular Weight: 296.38

Target: Others

Pathway: Others

Storage:

Pure form	-20°C	3 years
	4°C	2 years
In solvent	-80°C	6 months
	-20°C	1 month



SOLVENT & SOLUBILITY

In Vitro

DMSO : 100 mg/mL (337.40 mM; ultrasonic and warming and heat to 80°C)

Preparing Stock Solutions	Solvent / Mass / Concentration	1 mg	5 mg	10 mg
	1 mM	3.3740 mL	16.8702 mL	33.7405 mL
	5 mM	0.6748 mL	3.3740 mL	6.7481 mL
	10 mM	0.3374 mL	1.6870 mL	3.3740 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 (8.44 mM); Clear solution; Need ultrasonic
2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: 2.5 mg/mL (8.44 mM); Suspended solution; Need ultrasonic
3. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: 2.5 mg/mL (8.44 mM); Clear solution; Need ultrasonic

BIOLOGICAL ACTIVITY

Description

CYT296 is a target chromatin de-condensation compound. CYT296 can improve the induction of induced pluripotent stem cell (iPSCs) mediated by defined factors (OSKM) and induce an open chromatin state in Mouse Embryonic Fibroblast (MEFs) to facilitate somatic cell reprogramming. CYT296 can be used for cell replacement therapies and drug screening research[1].

In Vitro

CYT296 (250nM, 72 h) changes the MEF chromatin and allows easier access of Yamanaka factors and facilitates the reprogramming process[1].
CYT296 (250nM, 72 h) block heterochromatin assembly of MEFs to improve the generation of iPSC[1].

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

Immunofluorescence[1]

Cell Line:	MEFs
Concentration:	250 nM
Incubation Time:	72 h
Result:	Reduced the number and total intensity of $HP1\alpha^+$ and $H3K9me3^+$ foci in the nuclei of MEFs.

Western Blot Analysis[1]

Cell Line:	MEFs
Concentration:	250 nM
Incubation Time:	72 h
Result:	Speeded up the expression of Nanog during 4F-mediated reprogramming and appeared as early as day 8. Reduced the protein level of HP1α during reprogramming.

In Vivo

CYT296 (10-15 4F- and 2F -iPSC clones for subcutaneous injection, once) generates the iPSCs are pluripotent in the NOD-SCID mice[1].

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

Animal Model:	4F- and 2F-iPSC clones mice[1]
Dosage:	10-15 4F- and 2F -iPSC clones
Administration:	Subcutaneous injection (s.c.)
Result:	Obtained 6 out of 10 born mice from clone 4F-1 and 9 out of 15 born mice from clone 2F-1 were chimeras.

REFERENCES

[1]. Wei X, et al. Small molecule compound induces chromatin de-condensation and facilitates induced pluripotent stem cell generation. J Mol Cell Biol. 2014 Oct;6(5):409-20.

[2]. Wei X, et al. Small molecule compound induces chromatin de-condensation and facilitates induced pluripotent stem cell generation. J Mol Cell Biol. 2014 Oct;6(5):409-20.

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