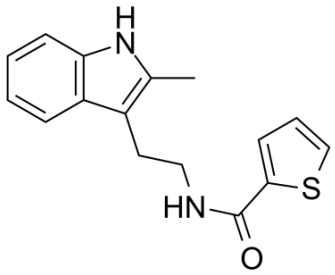
CK-636

Cat. No.:	HY-15892
CAS No.:	442632-72-6
Molecular Formula:	$C_{16}H_{16}N_2OS$
Molecular Weight:	284.38
Target:	Arp2/3 Complex
Pathway:	Cytoskeleton
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 : ≥ 49 mg/mL (172.30 mM)

H_2O : < 0.1 mg/mL (insoluble)

* "≥" means soluble, but saturation unknown.

Preparing Stock Solutions

Concentration \ Solvent \ Mass	1 mg	5 mg	10 mg
1 mM	3.5164 mL	17.5821 mL	35.1642 mL
5 mM	0.7033 mL	3.5164 mL	7.0328 mL
10 mM	0.3516 mL	1.7582 mL	3.5164 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 (8.79 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: 2.5 mg/mL (8.79 mM); Suspended solution; Need ultrasonic
3. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.5 mg/mL (8.79 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

CK-636 is a cell permeable inhibitor of Arp2/3 complex, that could inhibit actin polymerization, with IC_{50} values of 4 μM, 24 μM and 32 μM for human, fission yeast and bovine, respectively.

IC_{50} & Target

IC50: 4/24/32 μM (Human/fission yeast/bovine Arp2/3)[1].

In Vitro	CK-636 binds between Arp2 and Arp3, where it appears to block movement of Arp2 and Arp3 into their active conformation. CK-636 inserts into the hydrophobic core of Arp3 and alters its conformation. CK-636 prevents actin polymerization and the formation of actin filament comet tails by Listeria in infected SKOV3 cells (IC_{50}=22 μM)[1]. Additionally, CK-636-treated T cells exhibits elongated morphology with sharp pseudopodia at the leading edges, while the breadth of the CK-636-treated T cells is about 30% less than that of DMSO-treated T cells[2]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

REFERENCES

[1]. Nolen BJ, et al. Characterization of two classes of small molecule inhibitors of Arp2/3 complex. Nature. 2009 Aug 20;460(7258):1031-4.

[2]. Kwon KW, et al. Migration of T cells on surfaces containing complex nanotopography. PLoS One. 2013 Sep 12;8(9):e73960.

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