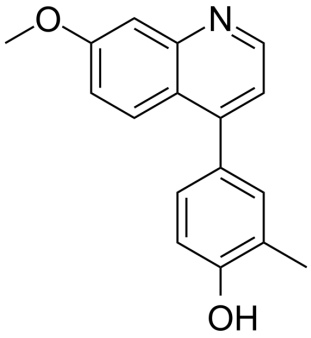
CU-CPT-9a



Cat. No.: HY-112667

CAS No.: 2165340-32-7

Molecular Formula: $C_{17}H_{15}NO_2$

Molecular Weight: 265.31

Target: Toll-like Receptor (TLR)

Pathway: Immunology/Inflammation

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 : 135 mg/mL (508.84 mM; Need ultrasonic)

Preparing Stock Solutions	Solvent / Mass / Concentration	1 mg	5 mg	10 mg
	1 mM	3.7692 mL	18.8459 mL	37.6918 mL
	5 mM	0.7538 mL	3.7692 mL	7.5384 mL
	10 mM	0.3769 mL	1.8846 mL	3.7692 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 (9.42 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 2.5 mg/mL (9.42 mM); Clear solution
3. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.5 mg/mL (9.42 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

CU-CPT-9a is a specific TLR8 antagonist, with an IC_{50} of 0.5 nM.

IC_{50} & Target

TLR8
0.5 nM (IC_{50})

In Vitro

CU-CPT-9a is a specific TLR8 antagonist, with an IC_{50} of 0.5±0.1 nM. The elevation of the downstream protein levels induced by R848 can be reversed by CU-CPT-9a in a dose-dependent manner. By contrast, the expression of TRIF and IRF3

(cytoplasmic and nuclear) are only responsive to TLR4 and TLR3, independent of TLR837. The expression levels of TRIF and IRF3 do not show significant change in THP-1 cells upon treatment of R848, nor do they change with the treatment of CU-CPT-9a. CU-CPT8m and CU-CPT-9a both significantly suppress the TNF-α level in a dose-dependent manner, which is in agreement with previous reports of TLR8 involvement in these autoimmune diseases[1].

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

CUSTOMER VALIDATION

- Int J Mol Sci. 2023, 24(1), 653.
- Eur J Pharmacol. 2019 Mar 5;846:12-22.

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REFERENCES

[1]. Zhang S, et al. Small-molecule inhibition of TLR8 through stabilization of its resting state. Nat Chem Biol. 2018 Jan;14(1):58-64.

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