Web: www.taiclone.com
Tel: +886-2-2735-9682
Email: order@taiclone.com

MK-3903

Catalog No: tcsc0031105

Available Sizes

Size: 1mg

Size: 5mg

Size: 10mg

Size: 50mg

Size: 100mg

Specifications

CAS No:
1219737-12-8

Formula:
$C_{27}H_{19}ClN_2O_3$

Pathway:
Epigenetics;PI3K/Akt/mTOR

Target:
AMPK;AMPK

Purity / Grade:
>98%

Solubility:
DMSO : 75 mg/mL (164.87 mM; Need ultrasonic and warming)

Observed Molecular Weight:
454.9

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Product Description

MK-3903 is a potent and selective **AMP-activated protein kinase** (**AMPK**) activator with an **EC_{50}** of 8 nM.

IC50 & Target: EC50: 8 nM (AMPK)[1]

In Vitro: MK-3903 (compound 42) is a potent and selective AMP-activated protein kinase (AMPK) activator with an EC_{50} of 8 nM. MK-3903 activates 10 of the 12 phosphorylated AMPK (pAMPK) complexes with EC_{50} values in the range of 8 to 40 nM and maximal activation >50%. MK-3903 partially activates pAMPK5 (36% max) and it does not activate pAMPK6. MK-3903 demonstrates low permeability ($P_{app}=6\times10^{-6}$ cm/s) in LLC-PK1 cells42 and is a substrate of human liver uptake transporters OATP1B1 and OATP1B3 (organic anion transporter proteins). Results show that MK-3903 binds moderately to the prostanoid DP2 (CRTH2) receptor (binding IC_{50}=1.8 μM) but not in the presence of 10% human serum (binding IC_{50}>86 μM)[1].

In Vivo: The pharmacokinetics of MK-3903 (compound 42) in C57BL/6 mice, Sprague to Dawley rats, and beagle dogs are characterized by moderate systemic plasma clearance (5.0 to13 mL/min/kg), a volume of distribution at steady state of 0.6 to 1.1 L/kg, and a terminal halflife of ~2h. Acute oral administration of MK-3903 (3, 10, and 30 mg/kg) to high-fructose fed db/+ mice results in significant inhibition of hepatic fatty acid synthesis (FAS) for all three doses[1].