

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

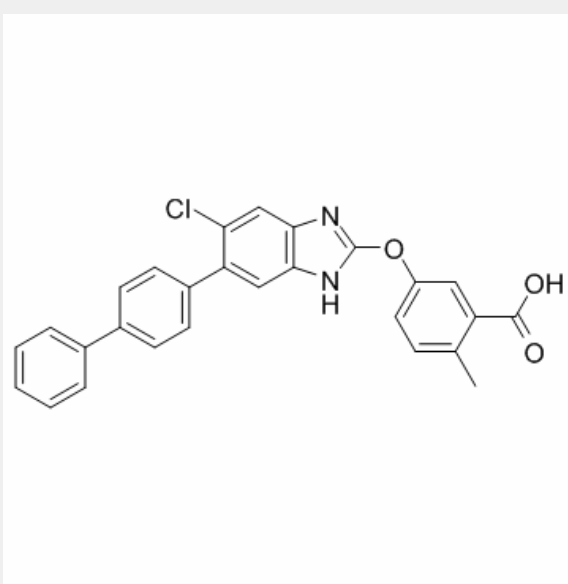
Product Description

MK-3903 is a potent and selective **AMP-activated protein kinase (AMPK)** activator with an **EC₅₀** 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 EC₅₀ of 8 nM. MK-3903 activates 10 of the 12 phosphorylated AMPK (pAMPK) complexes with EC₅₀ 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}=6×10⁻⁶ 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 IC₅₀=1.8 μM) but not in the presence of 10% human serum (binding IC₅₀>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 to 13 mL/min/kg), a volume of distribution at steady state of 0.6 to 1.1 L/kg, and a terminal half-life 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].



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