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

MK-8245

Catalog No: tcsc0410

Available Sizes

Size: 2mg

Size: 5mg

Size: 10mg

Size: 50mg

Size: 100mg

Specifications

CAS No:
1030612-90-8

Formula:
$C_{17}H_{16}BrFN_6O_4$

Pathway:
Metabolic Enzyme/Protease

Target:
Stearoyl-CoA Desaturase (SCD)

Purity / Grade:
>98%

Solubility:
DMSO : 19 mg/mL (40.66 mM; Need ultrasonic and warming)

Observed Molecular Weight:
467.25

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Product Description

MK-8245 is a liver-targeting inhibitor of stearoyl-CoA desaturase (SCD) with IC50 of 1 nM for human SCD1 and 3 nM for both rat SCD1 and mouse SCD1, with anti-diabetic and anti-dyslipidemic efficacy.

IC50 value: 1 nM (hSCD1) [1]

Target: SCD1

in vitro: MK-8245, a phenoxy piperidine isoxazole derivative, has been identified as a potent and liver-specific SCD inhibitor. It contains a tetrazole acetic acid moiety, which is the key molecule for OATPs recognition and liver-targeting. MK-8245 displays similar potencies against human, rat and mouse SCD1 with IC50 values of 1 nM for human SCD1 and 3 nM for both rat SCD1 and mouse SCD1. MK-8245 exhibits a significant SCD inhibition in the rat hepatocyte assay which contains functional, active OATPs with IC50 of 68 nM, while being only weakly active in the HepG2 cell assay which is devoid of active OATPs with IC50 of ~1 μM. MK-8245 displays highly selective activity for the Δ-5 and Δ-6 desaturases (i.e., >100000 μM vs rat and human Δ5D and Δ6D as assessed in the HepG assay [1].

in vivo: Administration of MK-8245 at 10 mg/kg in mice exhibits a tissue distribution profile concentrated in the liver. It shows a liver-to-Harderian gland ratio of 21, suggesting a high degree of liver-targeting compared to a systemically distributed compound with liver-to-Harderian gland ratio of 1.5. Oral dosing of MK-8245 in mice, rats, dogs, and rhesus monkeys demonstrates that MK-8245 is distributed mainly to the liver, with low exposure in tissues associated with potential adverse events. The liver-to-skin ratios are >30:1 in all four species. Administration of MK-8245 to eDIO mice before the glucose challenge improves glucose clearance in a dose-dependent manner with ED50 of 7 mg/kg.