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

SQ109

Catalog No: tcsc1188

Available Sizes

Size: 5mg

Size: 10mg

Size: 50mg

Size: 100mg

Specifications

CAS No:
502487-67-4

Formula:
$C_{22}H_{38}N_2$

Pathway:
Anti-infection

Target:
Parasite

Purity / Grade:
>98%

Solubility:
DMSO : ≥ 25 mg/mL (75.63 mM)

Alternative Names:
NSC 722041

Observed Molecular Weight:
330.55

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Product Description

SQ109 is a potent inhibitor of the **trypomastigote** form of the parasite, with **IC_{50}** for cell killing of 50±8 nM.

IC50 & Target: IC50: 50±8 nM (trypomastigote cell)[1]

In Vitro: SQ109 also inhibits extracellular epimastigotes (IC_{50}, 4.6±1 μM) and the clinically relevant intracellular amastigotes (IC_{50}, ~0.5 to 1 μM), with a selectivity index of ~10 to 20. SQ109 has little effect (EC_{50}, ~80 μM) in a red blood cell hemolysis assay. Besides, SQ109 causes major ultrastructural changes in all three life cycle forms, as observed by light microscopy, scanning electron microscopy (SEM), and transmission electron microscopy (TEM)[1].

In Vivo: Oral administration of SQ109 (0.1-25 mg/kg per day) to the mice for 28 days results in dose-dependent reductions of mycobacterial load in both spleen and lung comparable to that of EMB administered at 100 mg/kg per day, but is less potent than isoniazid (INH) at 25 mg/kg per day. Pharmacokinetic profiles of SQ109 in mice following a single administration showed its C_{max} as 1038 (intravenous (i.v.)) and 135 ng/mL (p.o.), with an oral T_{max} of 0.31 h. The elimination $t_{1/2}$ of SQ109 is 3.5 (i.v.) and 5.2 h (p.o.). The oral bioavailability is 4%[2]. The terminal half-life ($t_{1/2}$) of SQ109 in dogs (12-29 h, mean 29.3 h) is longer than in rats (7-8 h, mean 7.4 h), as reflected by the significantly larger volume of distribution of SQ109 in dogs. The oral bioavailability of SQ109 in rats and dogs is determined to be 12% and 5%, respectively[3].