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

Acoziborole

Catalog No: tcsc0016944

Available Sizes

Size: 1mg

Size: 5mg

Size: 10mg

Size: 50mg

Size: 100mg

Specifications

CAS No:
1266084-51-8

Formula:
$C_{17}H_{14}BF_4NO_3$

Pathway:
Anti-infection

Target:
Parasite

Purity / Grade:
>98%

Solubility:
DMSO : ≥ 125 mg/mL (340.51 mM)

Alternative Names:
SCYX-7158;AN5568

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

Observed Molecular Weight:
367.1

Product Description

SCYX-7158 is an effective, safe and orally active treatment for human african trypanosomiasis (**HAT**). In the ***T. b. brucei*** S427 strain, the **MIC** value for SCYX-7158 is 0.6 μg/mL.

IC50 & Target: MIC: SCYX-7158 (*T. b. brucei* S427 strain)[1]

In Vitro: SCYX-7158 is active in vitro against relevant strains of *Trypanosoma brucei*, including *T. b. rhodesiense* and *T. b. gambiense*.In whole cell assays, SCYX-7158 exhibits potent activity against representative *T. b. brucei*, *T. b. rhodesiense* and *T. b. gambiense* strains. IC_{50} values for SCYX-7158 are approximately 0.07 μg/mL to 0.37 μg/mL following incubation of the parasite strains with SCYX-7158 for 72 h. In the *T. b. brucei* S427 strain, the MIC value for SCYX-7158 is 0.6 μg/mL, approximately two times the IC_{50} measured for this strain. In contrast to the potent activity of SCYX-7158 against trypanosomes, no significant inhibition of cell proliferation is observed in an in vitro mammalian cell (L929 mouse cell line) assay at drug concentrations up to 50 μg/mL. The potential for SCYX-7158 to inhibit cytochrome P450 (CYP) enzymes is evaluated using P450-Glo assays for the human isoforms CYP3A4, CYP1A2, CYP2C19, CYP2C9 and CYP2D6. The IC_{50} values for SCYX-7158 in these assays are all above 10 μM[1].

In Vivo: In uninfected mice, 4.3 mg/kg intravenous dose of SCYX-7158 show an apparent elimination half-life ($t_{1/2}$) of 26.6 h; systemic clearance (CL) of 0.089 L/h/kg; a volume of distribution (Vd_{ss}) of 1.69 L/kg and area under the concentration-time curve ($AUC_{0\text{-}24\ h}$) of 48 h•μg/mL. Following an oral dose of 13.4 mg/kg, which corresponds to the lowest efficacious dose in the murine stage 2 HAT model, SCYX-7158 is rapidly absorbed, as a C_{max} of 6.96 μg/mL is achieved in plasma at 6 h after dose, with an oral clearance (Cl/F) value of 0.163 L/h/kg, an $AUC_{0\text{-}24\ h}$ of 82 h•μg/mL and absolute oral bioavailability of 55%. After a 26 mg/kg oral dose, which corresponds to the dose giving a 100% cure rate in the murine stage 2 HAT model, C_{max} increases to 9.8 μg/mL and the $AUC_{0\text{-}24\ h}$ is 113 h•μg/mL. In uninfected rats, following oral administration of SCYX-7158 at a nominal dose of 25 mg/kg (dose affording a 100% cure rate in mice), C_{max} increases approximately 2 fold more than that in mice (C_{max}=18.2 μg/mL) and $AUC_{0\text{-}24\ h}$, and hence oral clearance, improves approximately 4 fold ($AUC_{0\text{-}24\ h}$ 291 h•μg/mL and CL/F=0.092 L/kg/h). The time to maximum concentration is similar to that in mice (t_{max}=8 h). Uninfected male and female cynomolgus monkeys are treated with SCYX-7158 at 2 mg/kg (IV) on study day 1 and 10 mg/kg (NG) on study day 8. SCYX-7158 exhibits excellent plasma pharmacokinetics, with CL of 0.022 L/h/kg; Vd_{ss} of 0.656 L/kg and area under the concentration-time curve 78.8 h•μg/mL, and 94.4 for $AUC_{0\text{-}24\ h}$ and $AUC_{0\text{-}inf}$, respectively, following intravenous administration[1].