Web: www.taiclone.com
Tel: +886-2-2735-9682
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LX2343

Catalog No: tcsc0040305

Available Sizes

Size: 5mg

Size: 10mg

Size: 50mg

Size: 100mg

Specifications

CAS No:
333745-53-2

Formula:
$C_{22}H_{19}ClN_2O_6S$

Pathway:
Neuronal Signaling;PI3K/Akt/mTOR;Neuronal Signaling;Autophagy

Target:
Amyloid-β;PI3K;Beta-secretase;Autophagy

Purity / Grade:
>98%

Solubility:
DMSO : ≥ 155 mg/mL (326.38 mM)

Observed Molecular Weight:
474.91

Product Description

LX2343 is a **BACE1** enzyme inhibitor with an **IC_{50}** value of 11.43±0.36 μM. LX2343 acts as a non-ATP competitive **PI3K** inhibitor

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with an **IC_{50}** of 15.99±3.23 μM. LX2343 stimulates **autophagy** in its promotion of **Aβ** clearance.

IC50 & Target: IC50: 11.43±0.36 μM (BACE1), 15.99±3.23 μM (PI3K)[1]

Amyloid-β, Autophagy[1]

In Vitro: LX2343 (5-20 μM) dose-dependently decreased Aβ accumulation in HEK293-APPsw and CHO-APP cells, and promotes Aβ clearance in SH-SY5Y cells and primary astrocytes. LX2343 ameliorates cognitive dysfunction in APP/PS1 transgenic mice via both Aβ production inhibition and clearance promotion, which highlights the potential of LX2343 in the treatment of AD. Western blot results in both HEK293-APP_{sw} cells and CHO-APP cells demonstrate that LX2343 fails to regulate BACE1 protein levels, while in vitro BACE1 enzymatic activity assays indicated that LX2343 dose-dependently decreases BACE1 activity (TDC as a positive control) with an IC_{50} of 11.43±0.36 μM. To test whether competition exists between LX2343 and ATP, we investigated the effects of ATP at different concentrations on the inhibitory activity of LX2343. The result demonstrated that the inhibition of LX2343 against PI3K is virtually unaffected by ATP. Thus, this result suggested that LX2343 is a non-ATP competitive inhibitor of PI3K. In the presence of 10 μM of ATP, the IC_{50} of LX2343 is 13.11±1.47 μM, in the presence of 50 μM ATP, the IC_{50} of LX2343 is 13.86±1.12 μM, in the presence of 100 μM ATP, the IC_{50} of LX2343 is 15.99±3.23 μM [1].

In Vivo: APP/PS1 mice express chimeric human Swedish mutant APP and a mutant human presenilin 1 protein and are widely used as an effective animal model for AD dementia. The amelioration of memory impairment by LX2343 is evaluated t in this model using the MWM test. In 8-d training trials, the path lengths and escape latencies used to find the platform for APP/PS1 transgenic mice are remarkably longer than those for non-transgenic mice, while 10 mg/kg LX2343 administration obviously antagonizes the prolonged path lengths and escape latencies at d 7 and 8. In the probe trial assay, the LX2343-administered transgenic mice cross over the hidden location of the platform more frequently compared with the vehicle-administered transgenic mice[1].