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

3BDO

Catalog No: tcsc0035372

Available Sizes

Size: 5mg

Size: 10mg

Size: 25mg

Specifications

CAS No:
890405-51-3

Formula:
$C_{18}H_{17}NO_5$

Pathway:
PI3K/Akt/mTOR;Autophagy

Target:
mTOR;Autophagy

Purity / Grade:
>98%

Solubility:
DMSO : ≥ 150 mg/mL (458.25 mM)

Observed Molecular Weight:
327.33

Product Description

3BDO is a new **mTOR** activator which can also inhibit **autophagy**.

IC50 & Target: mTOR, autophagy[1]

In Vitro:

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Phosphorylation of RPS6KB1 and EIF4EBP1 is significantly increased by 3BDO with vector alone but suppressed with FKBP1A overexpression. Rapamycin fails to decrease the phosphorylation of MTOR and RPS6KB1 in the presence of 3BDO. 3BDO suppresses the increase in MAP1LC3B puncta induced with rapamycin. 3BDO also inhibits the effect of rapamycin in HUVECs. The phosphorylation of Ser residues is decreased in HUVECs treated with 10 μM rapamycin, and 60 μM 3BDO reverses the phosphorylation. The results show that 3BDO suppresses the increased MAP1LC3B puncta number, MAP1LC3B-II level and decreased SQSTM1 protein level induced by rapamycin. 3BDO could dose- and time-dependently decrease *FLJ11812* level in HUVECs. Overexpression of *FLJ11812* reverses the inhibition of autophagy induced by 3BDO[1].

In Vivo: Immunofluorescence assay reveals that 3BDO treatment increases the level of p-p70S6K and decreases the protein level of ATG13 in plaque endothelium of mice. 3BDO does not affect the phosphorylation of mTOR direct downstream targets p70S6K and 4EBP1. As compare with controls, apoE$^{-/-}$ mice show inhibited endothelium autophagy and apoptosis with 3BDO treatment, so 3BDO protects against endothelium injury in atherosclerosis. 3BDO treatment stabilizes established atherosclerotic lesions in apoE$^{-/-}$ mice. In apoE$^{-/-}$mice, as compare with controls, with 3BDO treatment, the serum level of IL-6 and IL-8 is significantly decreased[2].