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

3CAI

Catalog No: tcsc3179

Available Sizes

Size: 5mg

Size: 10mg

Size: 50mg

Specifications

CAS No:
28755-03-5

Formula:
$C_{10}H_8ClNO$

Pathway:
PI3K/Akt/mTOR

Target:
Akt

Purity / Grade:
>98%

Solubility:
10 mM in DMSO

Observed Molecular Weight:
193.63

Product Description

3CAI is a potent and specific **AKT1** and **AKT2** inhibitor.

IC50 & Target: AKT1 and AKT2[1]

In Vitro:

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3CAI is a potential inhibitor of AKT. Based on these screening data, the effect of 3CAI on the kinase activities of AKT1, MEK1, JNK1, ERK1 and TOPK is tested using in vitro kinase assays. The results show that 3CAI (1 μM) suppresses only AKT1 kinase activity and the other kinases tested are not affected by 3CAI. 3CAI is a much more potent AKT1 inhibitor than PI3K (60% inhibition at 1 vs 10 μM, respectively). 3CAI substantially suppresses AKT1 activity as well as AKT2 activity in a dose dependent manner. 3CAI inhibits down-stream targets of AKT and induces apoptosis. AKT-mediated phosphorlyation site of mTOR (Ser2448) and GSK3β (Ser9) are substantially decreased by 3CAI in a time-dependent manner. Furthermore, pro-apoptotic marker proteins p53 and p21 are also upregulated by 3CAI after 12 or 24 h of treatment. HCT116 and HT29 colon cancer cells are seeded on 6 cm dishes in 1% FBS/McCoy\'s 5A (HCT116) with 3CAI (4 μM), I3C or the AKT inhibitor and then incubated for 4 days. Results show that the number of apoptotic cells is significantly increased by 3CAI in HCT116 and HT29 colon cancer cells compared with untreated control cells[1].

In Vivo: To examine the antitumor activity of 3CAI in vivo, HCT116 cancer cells are injected into the right flank of individual athymic nude mice. Mice are orally administered 3CAI at 20 or 30 mg/kg, I3C at 100 mg/kg, or vehicle 5 times a week for 21 days. Treatment of mice with 30 mg/kg of 3CAI significantly suppresses HCT116 tumor growth by 50% relative to the vehicle-treated group (p[1].