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

Miltefosine

Catalog No: tcsc2933

Available Sizes

Size: 100mg

Size: 500mg

Size: 1g

Specifications

CAS No:
58066-85-6

Formula:
$C_{21}H_{46}NO_4P$

Pathway:
PI3K/Akt/mTOR;Anti-infection

Target:
Akt;HIV

Purity / Grade:
>98%

Solubility:
H2O : 50 mg/mL (122.68 mM; Need ultrasonic); DMSO : 5 mg/mL (12.27 mM; Need ultrasonic)

Alternative Names:
HePC;Hexadecyl phosphocholine

Observed Molecular Weight:
407.57

Product Description

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Miltefosine is an **Akt** inhibitor, dramatically reduces **HIV-1** production from long-living virus-infected macrophages.

IC50 & Target: PI3K/Akt[1]

In Vitro: Treatment of HIV-1 infected macrophages with Miltefosine inhibits the recruitment of PH-AktGFP to the plasma membrane. Since Miltefosine inhibits Akt through mimicry of the PH domain, it is likely that Miltefosine binds to PIP3, blocking the recruitment of PH-Akt to the membrane[1]. Miltefosine (HePC) inhibits protein kinase C (PKC) from NIH3T3 cells in cell-free extracts with a IC_{50} of about 7 μM. Inhibition is competitive with regard to phosphatidylserine with a K_i of 0.59 μM[2]. Miltefosine is an alkylphospholipid that inhibit activation of Akt. Miltefosine is a direct inhibitor of Akt, and induces dose-dependent inhibition of primary effusion lymphoma (PEL) in culture and also inhibits the downstream targets of Akt, such as mTOR, leading to reduced phosphorylation and activation of S6K and S6. Importantly, Miltefosine also inhibits Akt targets that are not part of the mTOR pathway, eg, FOXO1, and are therefore expected to have a greater therapeutic impact than mTORC1 inhibitors alone[3].

In Vivo: Mice are randomized into groups of 5 and injected intraperitoneally 5 days a week with 50 mg/kg of either Miltefosine or Perifosine dissolved in PBS, or equivalent volume of vehicle (PBS). Both Miltefosine and Perifosine inhibit the growth rate of tumors compared with vehicle-treated mice. By day 14 after treatment, there is an approximately 50% decrease in average tumor volume in Perifosine- and Miltefosine-treated mice, compared with vehicle-treated mice (P[3].