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

Dp44mT

Catalog No: tcsc0014820

Available Sizes

Size: 10mg

Size: 25mg

Size: 50mg

Size: 100mg

Specifications

CAS No:
152095-12-0

Formula:
$C_{14}H_{15}N_5S$

Pathway:
Others

Target:
Others

Purity / Grade:
>98%

Solubility:
10 mM in DMSO

Observed Molecular Weight:
285.37

Product Description

Dp44mT is an **iron chelator** with selective anticancer activity.

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IC50 & Target: Target: Iron chelator[1]

In Vitro: Dp44mT is cytotoxic to breast cancer cells, at least in part, due to selective inhibition of top2α. Dp44mT alone induced selective cell killing in the breast cancer cell line MDA-MB-231 when compared with healthy mammary epithelial cells (MCF-12A). It induces G1 cell cycle arrest and reduces cancer cell clonogenic growth at nanomolar concentrations. Dp44mT, but not the iron chelator desferal, induces DNA double-strand breaks quantified as S139 phosphorylated histone foci (γ-H2AX) and Comet tails induced in MDA-MB-231 cells. Doxorubicin-induced cytotoxicity and DNA damage are both enhanced significantly in the presence of low concentrations of Dp44mT. The chelator caused selective poisoning of DNA topoisomerase IIα (top2α) as measured by an *in vitro* DNA cleavage assay and cellular topoisomerase-DNA complex formation[1]. Dp44mT targets lysosome integrity through copper binding. Copper binding is essential for the potent antitumor activity of Dp44mT, as coincubation with nontoxic copper chelators markedly attenuated its cytotoxicity[2].