

# 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:**

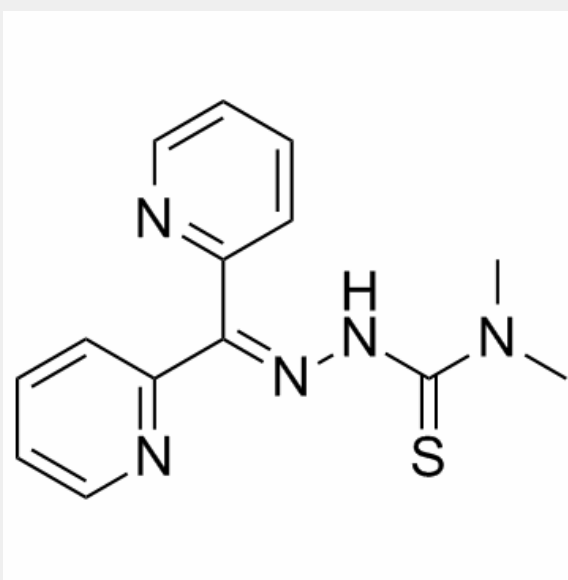
285.37

## Product Description

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

IC50 & Target: Target: Iron chelator<sup>[1]</sup>

***In Vitro:*** Dp44mT is cytotoxic to breast cancer cells, at least in part, due to selective inhibition of top2 $\alpha$ . 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 ( $\gamma$ -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 II $\alpha$  (top2 $\alpha$ ) as measured by an *in vitro* DNA cleavage assay and cellular topoisomerase-DNA complex formation<sup>[1]</sup>. Dp44mT targets lysosome integrity through copper binding. Copper binding is essential for the potent antitumor activity of Dp44mT, as incubation with nontoxic copper chelators markedly attenuated its cytotoxicity<sup>[2]</sup>.



All products are for RESEARCH USE ONLY. Not for diagnostic & therapeutic purposes!