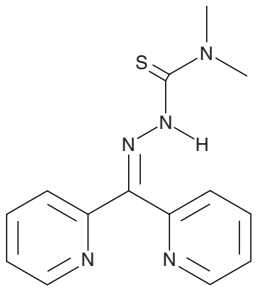
PRODUCT INFORMATION

Dp44mT

Item No. 20936

CAS Registry No.:	152095-12-0
Formal Name:	2-(di-2-pyridinylmethylene)-N,N-dimethyl-hydrazinecarbothioamide
MF:	$C_{14}H_{15}N_5S$
FW:	285.4
Purity:	≥98%
UV/Vis.:	λ_{max}: 233, 277, 338 nm
Supplied as:	A crystalline solid
Storage:	-20°C
Stability:	≥4 years



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Laboratory Procedures

Dp44mT is supplied as a crystalline solid. A stock solution may be made by dissolving the Dp44mT in the solvent of choice. Dp44mT is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide, which should be purged with an inert gas. The solubility of Dp44mT in these solvents is approximately 33 mg/ml.

Dp44mT is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, Dp44mT should first be dissolved in ethanol and then diluted with the aqueous buffer of choice. Dp44mT has a solubility of approximately 0.12 mg/ml in a 1:7 solution of ethanol:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Description

Dp44mT is an iron chelator with antiproliferative effects.[1] It inhibits *in vitro* proliferation of SK-N-MC neuroepithelioma, SK-Mel-28 melanoma, and MCF-7 breast cancer cells (IC_{50}s = 30, 60, and 60 nM, respectively) but not of normal MRC-5 fibroblasts (IC_{50} = >25 µM). Dp44mT increases mobilization of ^{59}Fe from SK-N-MC cells and M109 mouse lung carcinoma cells when used at concentrations of 25 and 1 µM, respectively. It dose-dependently increases apoptosis in M109 cells *in vitro*. Dp44mT (2.5 µM) increases expression of the metastasis suppressor protein NDRG1 in the DU145 and PC3 human prostate cancer cell lines to a greater degree than normal prostate epithelial cells (PrECs), while also increasing expression of the tumor suppressor protein PTEN in both DU145 cells and normal PrECs.[2] Dp44mT also enhances cytotoxicity in several multidrug resistant human cancer cell lines following transport to lysosomes by P-glycoprotein.[3] Dp44mT (0.4 mg/kg) inhibits M109 tumor growth in mice, reducing tumor weight to 47% of control.[1] It also reduces tumor size and weight in an oral squamous cell carcinoma mouse xenograft model when administered at a dose of 0.5 mg/kg.[4]

References

1. Yuan, J., Lovejoy, D.B., and Richardson, D.R. *Blood* **104(5)**, 1450-1458 (2004).
2. Dixon, K.M., Lui, G.Y., Kovacevic, Z., *et al. Br. J. Cancer* **108(2)**, 409-419 (2013).
3. Jansson, P.J., Yamagishi, T., Arvind, A., *et al. J. Biol. Chem.* **290(15)**, 9588-9603 (2015).
4. Lee, J.-C., Chiang, K.-C., Feng, T.-H., *et al. Int. J. Mol. Sci.* **17(9)**, pii: E1435 (2016).

CAYMAN CHEMICAL
1180 EAST ELLSWORTH RD
ANN ARBOR, MI 48108 · USA
PHONE: [800] 364-9897
[734] 971-3335
FAX: [734] 971-3640
CUSTSERV@CAYMANCHEM.COM
WWW.**CAYMANCHEM**.COM