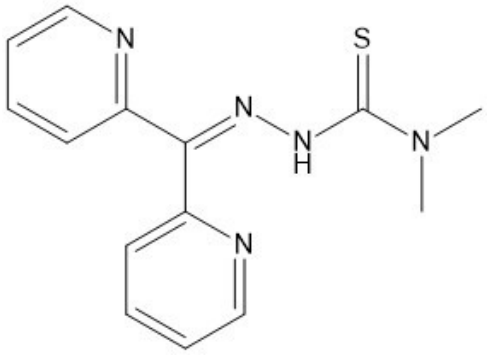
Tribioscience

Dp44mT, Metal chelator

Catalog	Unit
TBI4951-5MG	5 mg
TBI4951-25MG	25 mg

Product Details

Formal Name: 3-(Dipyridin-2-ylmethylideneamino)-1,1-dimethylthiourea
Alternate Names: di-2-pyridylketone-4,4,-dimethyl-3-thiosemicarbazone
Molecular Formula: $C_{14}H_{15}N_5S$
Formula Weight: 285.37
CAS Number: 152095-12-0
Purity: >98%
Formulation: powder
Solubility: Soluble in DMSO (up to at least 25 mg/ml)
Storage: -20°C
Stability: ≥ 1 year.



Applications

Metal chelator

Functions

A metal chelator with potent antitumor activity. Displays an average IC50 of 30 nM over 28 cancer cell lines (IC50 range 5 nM to 400 nM). Dp44mT retained its antiproliferative activity in both etoposide-resistant MCF-7/VP clones (MCF-7 breast cancer cells) and vinblastine-resistant KB-VB1 clones (KB3-1 epidermoid carcinoma cells) with an IC50 = 12 nM for both lines. The potency of Dp44mT has been attributed to the high redox activity of the Dp44mT-Fe complex leading to cytotoxic ROS generation. The antitumor activity of Dp44mT may also be mediated by a redox active copper complex that causes cellular glutathione depletion and lysosomal damage. It also inhibits T-cell activation and prevented CD25 up-regulation via a copper-dependent mechanism.

Application Procedures

First dissolved in DMSO (up to at least 25 mg/ml), then diluted to aqueous buffer. Solutions in DMSO or ethanol may be stored at -20°C for up to 1 month.

For research use only.

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