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4-Thio-2-deoxycytidine

National Cancer Institute

Source

National Cancer Institute. *4-Thio-2-deoxycytidine*. NCI Thesaurus. Code C121828.

An orally bioavailable 4-thio modified 2-deoxycytidine analog, with potential antineoplastic activity. Upon administration of 4-thio-2-deoxycytidine (TdCyd), this cytidine analog gets incorporated into DNA during replication and inhibits the activity of DNA methyltransferase 1 (DNMT1), which blocks DNA hypermethylation. This results in DNMT1 depletion, hypomethylation of DNA, and the reactivation of tumor suppressor genes that were silenced by hypermethylation; this results in antitumor activity and an inhibition of tumor cell proliferation.