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Thiotepa

National Cancer Institute

Source

National Cancer Institute. *Thiotepa*. NCI Thesaurus. Code C875.

A polyfunctional, organophosphorus alkylating agent and a stable derivative of N,N',N''-triethylenephosphoramidate (TEPA), with antineoplastic activity. Upon administration, thiotepa is converted into highly reactive ethylenimine groups, which covalently bind to nucleophilic groups in DNA and demonstrate a preference for the N7 position of guanine bases. This induces crosslinking of alkylated guanine bases in double-stranded DNA, interferes with both DNA replication and cell division, and results in both the induction of apoptosis and the inhibition of cell growth.