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L-methylfolate

National Cancer Institute

Source

National Cancer Institute. *L-methylfolate*. NCI Thesaurus. Code C107240.

A nutritional supplement containing the biologically active form of the B9 vitamin folate, 5-methyltetrahydrofolate (L-methylfolate), with potential antineoplastic activity. Upon administration, L-methylfolate is able to provide methyl groups allowing an increase in the level of DNA methylation in the promoter regions of certain tumor-promoting genes, thereby reversing the DNA hypomethylation of these genes and inactivating them. This may result in a decrease of both tumor cell proliferation and tumor progression. In addition, administration of L-methylfolate may sensitize tumor cells to the cytotoxic effects of other chemotherapeutic agents. Unlike folic acid, L-methylfolate is able to cross the blood brain barrier and could be beneficial in the treatment of brain tumors. DNA hypomethylation of certain genes leads to chromosome instability and contributes to tumor development.