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Fursultiamine

National Cancer Institute

Source

National Cancer Institute. *Fursultiamine*. NCI Thesaurus. Code C121852.

A nutritional supplement and vitamin B1 derivative, with potential antineoplastic activity. Upon oral administration, fursultiamine inhibits the expressions of octamer-binding transcription factor 4 (OCT-4), SRY (sex determining region Y)-box 2 (SOX-2), and Nanog homeobox (NANOG) in cancer stem cells (CSCs). This may inhibit the proliferation of CSCs thereby preventing tumor cell growth. In addition, fursultiamine inhibits the expression of ATP-binding cassette (ABC) transporters subfamily B member 1 (ABCB1) and subfamily G member 2 (ABCG2) in cancer CSCs, which may abrogate resistance to chemo- and radiotherapy in CSCs. CSCs promote tumor initiation, progression and metastasis; they play a key role in cancer recurrence and resistance to chemotherapy and radiation.