

[Open Peer Review on Qeios](#)

PI3K/mTOR Kinase Inhibitor VS-5584

National Cancer Institute

Source

National Cancer Institute. *PI3K/mTOR Kinase Inhibitor VS-5584*. NCI Thesaurus. Code C112497.

A potent and selective inhibitor of both phosphatidylinositol 3 kinase (PI3K) and mammalian target of rapamycin (mTOR) kinase in the PI3K/mTOR signaling pathway, with potential antineoplastic activity. PI3K/mTOR kinase inhibitor VS-5584 inhibits mTOR kinase and all class I PI3K isoforms. Consequently, this disrupts phosphorylation of substrates downstream of PI3K and mTOR and may result in apoptosis and growth inhibition in susceptible tumor cells. Activation of the PI3K/mTOR pathway promotes cell growth, survival, and resistance to chemotherapy and radiotherapy. mTOR is a serine/threonine kinase downstream of PI3K, which also has PI3K-independent activity. Consequently, this agent may potentially be more potent than an agent that inhibits either PI3K kinase or mTOR kinase.