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Dihydroorotate Dehydrogenase Inhibitor BAY2402234

National Cancer Institute

Source

National Cancer Institute. *Dihydroorotate Dehydrogenase Inhibitor BAY2402234*. NCI Thesaurus. Code C153137.

An orally available inhibitor of dihydroorotate dehydrogenase (DHODH), with potential antineoplastic activity. Upon administration, BAY2402234 specifically targets, binds to and prevents the activation of DHODH, thereby preventing the fourth enzymatic step in de novo pyrimidine synthesis. This prevents uridine monophosphate (UMP) formation, DNA synthesis, cell division and cellular proliferation, causes reactive oxygen species (ROS) production, enables differentiation and induces apoptosis in susceptible tumor cells. DHODH, a mitochondrial enzyme, catalyzes the conversion of dihydroorotate (DHO) to orotate in the endogenous synthesis of UMP.