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Clioquinol

National Cancer Institute

Source

National Cancer Institute. *Clioquinol*. NCI Thesaurus. Code C65337.

An orally bioavailable, lipophilic, copper-binding, halogenated 8-hydroxyquinoline with antifungal, antiparasitic and potential antitumor activities. Clioquinol forms a stable chelate with copper (copper (II) ions), which inhibits the chymotrypsin-like activity of the proteasome; consequently, ubiquitinated proteins may accumulate in tumor cells, followed by tumor cell apoptosis and the inhibition of tumor angiogenesis. In addition, the clioquinol-copper complex appears to decrease the expression of androgen receptors (AR) in human copper-enriched prostate cancer cells. Serum levels of copper are often elevated in patients with cancer; copper chelation may inhibit copper-dependent endothelial cell proliferation and tumor secretion of angiogenic factors.