Oraxol

National Cancer Institute

Source

National Cancer Institute. Oraxol. NCI Thesaurus. Code C112000.

A combination formulation composed of a capsule containing the taxane compound paclitaxel and a tablet containing the multidrug resistance (MDR) efflux pump P-glycoprotein (P-gp) inhibitor HM30181A, with potential antineoplastic activity. Upon oral administration of oraxol, the HM30181A moiety binds to and inhibits P-gp, which prevents P-gp-mediated efflux of paclitaxel, therefore enhancing its oral bioavailability. In turn, paclitaxel binds to and stabilizes microtubules, preventing their depolymerization, which results in the inhibition of cellular motility, mitosis, and replication. Altogether, this may result in greater intracellular concentration of paclitaxel, and enhanced cytotoxicity against tumor cells, when compared to the administration of paclitaxel alone. P-gp, encoded by the MDR-1 gene, is a member of the ATP-binding cassette (ABC) superfamily of transmembrane transporters; it prevents the intestinal uptake and intracellular accumulation of various cytotoxic agents.