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Vosaroxin

National Cancer Institute

Source

National Cancer Institute. *Vosaroxin*. NCI Thesaurus. Code C95148.

A small molecule and a naphthyridine analogue with antineoplastic activity. Vosaroxin intercalates into DNA in a site-specific manner and blocks the re-ligation process carried out by topoisomerase II during DNA replication. As a result, inhibition of DNA replication, RNA and protein synthesis occurs, followed by cell cycle arrest at G2 phase and induced p53-independent apoptosis. This agent shows a favorable toxicity profile in several aspects: it does not generate reactive oxygen species, as do anthracyclines, hence reducing the risk of cardiotoxicity; it is not a P-glycoprotein (P-gp) substrate, and thereby evades the common mechanism for multidrug resistance; and it has limited distribution to normal tissues and a more chemically stable molecular structure.