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Pegylated Liposomal Mitoxantrone Hydrochloride

National Cancer Institute

Source

National Cancer Institute. *Pegylated Liposomal Mitoxantrone Hydrochloride*. NCI Thesaurus. Code C131307.

A pegylated liposomal mitoxantrone formulation composed of the hydrochloride salt form of the anthracenedione antibiotic mitoxantrone encapsulated within pegylated small unilamellar vesicles (SUVs), with potential antineoplastic activity. Upon intravenous administration, mitoxantrone intercalates into and forms crosslinks with DNA, thereby disrupting DNA and RNA replication. This agent also binds to topoisomerase II, which both results in DNA strand breaks and prevents DNA synthesis. This leads to the induction of apoptosis in rapidly dividing cancer cells. The pegylated liposomal formulation improves drug penetration into tumors and decreases drug clearance, thereby increasing drug circulation and therapeutic efficacy while lowering toxic effects.