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Lurtotecan Liposome

National Cancer Institute

Source

National Cancer Institute. *Lurtotecan Liposome*. NCI Thesaurus. Code C1876.

A liposome-encapsulated formulation of lurtotecan with antineoplastic activity. Lurtotecan, a semisynthetic analogue of camptothecin, selectively stabilizes the topoisomerase I-DNA covalent complex and forms an enzyme-drug-DNA ternary complex during S phase of the cell cycle, thereby inhibiting religation of topoisomerase I-mediated single-stranded DNA breaks. This ultimately results in an inhibition of DNA replication, inducing double-stranded DNA breakages, obstruction of RNA and protein synthesis and triggering apoptosis. Furthermore, this agent also stimulates degradation of topoisomerase I, likely mediated through ubiquitin-proteasomal pathway. Liposomal delivery of lurtotecan improves its penetration and delivery into tumors while lowering systemic side effects.