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Protein Stabilized Liposomal Docetaxel Nanoparticles

National Cancer Institute

Source

National Cancer Institute. *Protein Stabilized Liposomal Docetaxel Nanoparticles*. NCI Thesaurus. Code C90534.

A formulation containing protein-stabilized liposome nanoparticles encapsulating the poorly water-soluble, second-generation taxane analog docetaxel with antineoplastic activity. Docetaxel binds to and stabilizes the beta-tubulin subunit, thereby inhibiting microtubule disassembly which results in cell-cycle arrest at the G2/M phase and cell death. This agent also inhibits pro-angiogenic factors such as vascular endothelial growth factor (VEGF) and displays immunomodulatory and pro-inflammatory properties by inducing various mediators of the inflammatory response. Compared to the use of toxic carriers to increase solubilization of docetaxel, protein-stabilized liposomal docetaxel improves drug solubility while avoiding carrier-associated toxicity.