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# PEGylated liposomes enhance the effect of cytotoxic drug: A review

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## Abstract

Cancer is a second leading disease-causing death worldwide that will continuously grow as much as 70% in the next 20 years. Chemotherapy is still becoming a choice for cancer treatment despite its severity of side effects and low success rate due to ineffective delivery of the chemodrugs. Since it was introduced in 1960, significant progress has been achieved in the use of liposomes in drug delivery. The study aims to review relevant literatures on role of PEGylated liposome in enhancing cytotoxic activity of several agents. A systematic literature on the use of PEGylated liposomes in anticancer research via Scopus, Google scholar and PubMed databases was conducted for studies published from 2000 to 2022. A total of 15 articles were selected and reviewed from 312 articles identified covering a variety of anticancer treatments by using PEGylated liposomes. PEGylated liposome which is purposed to achieve steric equilibrium is one of enhanced strategies to deliver anticancer drugs. It has been shown that some improvement of delivery and protection form a harsh gastric environment of several anticancer drugs when they are formulated in a PEGylated liposome. One of the successful drugs that has been clinically used is Doxil®, followed by some other drugs in the pipeline Various drugs (compounds) had been used to enhance the efficacy of PEGylated liposomes for targeted cancer cells in vitro and in vivo. In conclusion, PEGylated liposomes enhance drug activities and have great potential to become efficient anticancer delivery to follow Doxil® in the clinical setting. © 2023 The Authors

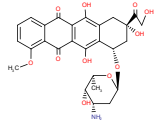
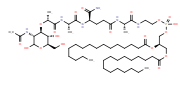
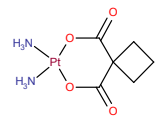
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Cancer; Drug delivery; Lipid vehicle; Nanoencapsulation; Preparation; Tumor

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