

Synthesis of 2'-paclitaxel methyl 2-glucoopyronosyl succinate for specific targeted delivery to cancer cells

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Abstract

A novel glucose-conjugated paclitaxel 5 was synthesized using succinic acid as linker between 2'-paclitaxel and methyl 2'-glucopyranose. 5 has not only improved the pharmaceutical properties of paclitaxel, such as solubility and stability, but also enhanced the specific target delivery to MCF-7 cells without the cytotoxicity against normal cells. Therefore, the glucose conjugation may be potentially used in the targeted delivery of other drugs into cells via glucose transporters (GLUTs) for cancer therapy.