



كلية الصيدلة
College of Pharmacy
QATAR UNIVERSITY جامعة قطر
Member of HEALTH الصحة عضوفي



THESIS PRESENTATION: Master of Science in Pharmacy

Ms. Sourour Idoudi

Thesis Title: Succinylated Curcumin Loaded in Mannosylated Chitosan Nanoparticles for Colon Cancer Therapy

Supervisor:

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Co- Supervisor:

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9:00 am - 11:00 am

Via Microsoft Teams



Summary: Colon cancer (CRC) is the second leading cause of death and the third most diagnosed type worldwide. Chemotherapeutics manifest significant side effect. Some anticancer agents of plant origin are purported to present fewer side effects. Curcumin (CUR) is obtained from *curcuma longa*. Although CUR has potent anticancer activity, it suffers from low solubility, bioavailability, and instability. This study aims to conjugate CUR to succinic anhydride (SA) and then formulate in mannosylated-chitosan nanoparticles (CUR.SA-NPs). The formulation was optimized in comparison to curcumin only in the same delivery system (CUR-NPs). Physical and structural characteristics of the formulated nanoparticles were investigated and demonstrated the formation of the functionalized CUR-NPs and CUR.SA-NPs. *In vitro* drug release illustrated a sustained release profile of CUR and CUR.SA, an excellent cytotoxicity and intracellular uptake by CRC cell lines. Thus, CUR-NPs and CUR.SA-NPs can be considered as a promising delivery strategy for CRC treatment.

