Synthesis of Polymeric Nanoparticles of α-mangostin and its Cytotoxicity to Human Cancer Cell Lines


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Abstract

α-Mangostin (AMG) extracted from Garcinia mangostana L., has potent anti-cancer properties, however its clinical application is limited due to poor aqueous-solubility. Here, we successfully synthesised and characterised water-soluble β-cyclodextrin-coated AMG 30-50 nm-size nanoparticles (NMG). Similar cytotoxic activities against LU-1 (human lung adenocarcinoma) and HL-60 (human promyelocytic leukemia) cancer cells of water-soluble NMG and organic-solvent soluble AMG were found with IC50 of 8.86 and 9.86 µg/mL, respectively. The data demonstrates that the nanoparticles improve bioavailability while maintain anti-cancer activity of AMG.

Keywords

α-Mangostin, β-cyclodextrin, cytotoxicity, cancer cells

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References


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