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ACCEPTED MANUSCRIPT

Multi-functionalized chitosan nanoparticles for enhanced chemotherapy in lung cancer

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Highlights

- A multifunctional nanocarrier (MTX@AuNCs-CS-AS1411) was designed and synthesized.
- MTX@AuNCs-CS-AS1411 exhibit high anticancer activity against human lung cancer cells.
- MTX@AuNCs-CS-AS1411 could selectively accumulate in exogenous tumor and effectively inhibit tumor growth without overt toxicity.

Abstract: Chemotherapy-based treatment for cancer has made great progress in the past decades. However, there is still a big challenge for the treatment of lung cancer. Herein, a multifunctional nanocarrier was developed through electrostatic interaction between the fluorescent gold nanocluster-conjugated chitosan and the nucleolin targeting AS1411 aptamer. Then methotrexate was loaded into the multifunctional nanocarrier through hydrophobic interaction to obtain the nanodrug carrier systems. The prepared nanodrug carrier systems have an average nanoparticle Download English Version:

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