عنوان مقاله:

Encapsulation of curcumin in smart polymeric nanogels for triggerable drug delivery

محل انتشار:

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خلاصه مقاله:

Curcumin is an effective and safe anticancer agent, but its hydrophobicity inhibits its clinical application. In this study, Pluronic-keratin copolymer is used to improve efficacy of curcumin delivery. The drug is loaded into hydrogel micelles by a single step nano-precipitation method. Then, the encapsulated nanogels are oxidized to form disulfide crosslinks. According to the DLS test, the average size of micelles increases after curcumin loading. Besides, the crosslinked nanogels exhibit reduced particle size, higher encapsulation degree, and sustained release of curcumin. The in vitro release test shows that the release percentage is enhanced under reductive condition. It can be concluded that redox-sensitive Pluronic-keratin nanogels improve solubility and bioactivity of curcumin and could be used in drug delivery purposes.

کلمات کلیدی:

Curcumin; Pluronic; Keratin; redox; drug delivery