

### Doxorubicin loaded pH-sensitive mPEG-poly( $\beta$ -amino ester) copolymer micelle targeting acidic extracellular pH of tumor

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Based on the fact that tumor and inflamed tissues exhibit a decreased extracellular pH, we designed pH-sensitive mPEG-poly( $\beta$ -amino ester) micelles as drug delivery system for cancer therapy. Here, we prepared doxorubicin (DOX)-loaded mPEG-poly( $\beta$ -amino ester) micelles and characterized their properties with drug loading efficiency, particle size and size distribution. In vitro, drug release study from micelles was carried out at physiological and at lower pH, respectively. Furthermore, cytotoxic effect and cellular uptake of drug at physiological and at lower pH were evaluated. In vivo animal study, the antitumoral effects of DOX-loaded micelles were investigated in C57BL/6 mice bearing B16F10 melanoma. The pH-sensitive micelles will potentially improve therapeutic effect against tumor and will be enlarged into inflamed diseases.