

Abstract

Organic nanoparticles (NPs) and hydrogels have been widely studied in biomedical field as drug delivery systems. Recently the ability of polymer network and NPs to physically interact each other was applied to create a stable nanocomposite system with improved mechanical properties, able to be injected inside the disease area and release locally the drug [1][2]. In this work a drug delivery system based on the combination of pH-responsive poly((lactic acid-co-methacrylic acid)-b-(di(ethylene glycol) methyl ether methacrylate)) poly((PLA-co-MAA)-b-(EG₂MA)) nanoparticles with cellulose-based solution was developed to create an injectable pH-responsive system for local drug delivery application. Different types of drugs could be released at different pH conditions both from the polymer network and NPs to respond to future demands of using different drugs and therapeutic molecules at the same time for specific therapeutic treatments [3].

References

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