Special Issue

In Situ Gel for Sustained Drug Delivery

Message from the Guest Editors

In situ gel systems have grown in importance as an appealing sustained drug delivery systems owing to their less complicated fabrication with an interesting approach based on the presence of gelling agents to modulate/localize the release of drug or biomedical compounds and provide the efficient bioactivities. These drug delivery systems improve patient compliance and comfort due to their special characteristic feature of 'Sol to Gel' transition. In situ gelling systems are the formulations in solution form before entering into the body, but they allow for the change to gel form under various physiological conditions. The sol to gel transition depends on various stimuli including temperature, change in pH, solvent exchange. UV radiation, and the presence of specific molecules or ions. Various natural/synthetic resins and polymers and other materials act as the crucial ingredient in situ gel forming systems. In situ gel systems can potentially be applied or administrated for oral, ocular, transdermal, buccal, intra-peritoneal, parenteral, injectable, rectal and vaginal routes.

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