



## An Overview on *In-situ* Gel

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**Abstract:** *In-situ* gelling devices, as they enter the body, are dosage forms in the shape of the sol but turn into gel types under physiological circumstances. Transition from sol to gel is contingent on one or a mixture of diverse stimuli, such as transition of pH, control of temperature, irradiation by UV, by the occurrence of certain ions or molecules. Such characteristic features may be commonly employed in drug delivery systems for the production of bioactive molecules for continuous delivery vehicles.

The '*in-situ* gel' system has emerged as one of the best novel drug delivery systems; it helps for the sustained and controlled release of the drugs by its special characteristic feature of 'Sol to Gel' transition. *In-situ* gelling system is a formulation that is in solution form before entering in to the body, but it will change to gel form under various physiological conditions. There are various polymers which under go *in-situ* gel forming and potentially used for various routes of drug administration. There are several applications and advantages of *in-situ* gelling system in today's life. *In-situ* gels offer an important "stealth" characteristic in vivo, owing to their hydrophilicity which increases the in vivo circulation time of the delivery device by evading the host immune response and decreasing phagocytic activities. This review mainly focus on introduction to *in-situ* gel, its mechanism, various polymers used and its applications with recent advances.

**Keywords:** *In-situ* gel, Novel drug delivery system, Polymers, Recent advances.

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