

# Formulation Strategies for Sustained-Release Tablet Dosage Forms

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**Abstract:** Sustained-release or extended-release tablet formulations are designed to release the active pharmaceutical ingredient at a slower rate and over an extended period compared to conventional immediate-release dosage forms. This controlled drug delivery approach offers several advantages including improved patient compliance, maintenance of therapeutic drug levels, reduced side effects, and protection of drug molecules from degradation. [1,2] Various formulation approaches have been explored for achieving sustained drug release from tablet matrices. This review discusses key formulation aspects like rate-controlling polymers, factors influencing drug release, manufacturing techniques, and recent advances aided by quality-by-design principles and mathematical modeling for optimizing sustained-release profiles. Regulatory considerations for evaluation and approval are also highlighted.

**Keywords:** Sustained Release, Control Release, Polymers, Mechanism

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