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A Review on Colon Targeted Drug Delivery System

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Abstract: *Colon targeted drug delivery systems (CTDDS) have gained considerable attention due to their ability to deliver drugs selectively to the colon for both local and systemic therapeutic effects. This approach is particularly beneficial in the treatment of colonic diseases such as ulcerative colitis, Crohn's disease, colorectal cancer, and for systemic delivery of peptides and proteins that are unstable in the upper gastrointestinal tract. Successful colon targeting requires protection of the drug from degradation in the stomach and small intestine, followed by controlled or abrupt release in the colon. Various strategies such as pH-dependent systems, time-controlled systems, microbially triggered systems, pressure-controlled systems, osmotic systems, and multiparticulate approaches have been developed. Natural and synthetic polymers play a crucial role in achieving colon specificity. This review discusses the anatomy and physiology of the colon, criteria for drug selection, conventional and novel approaches for colon targeting, and the role of biodegradable polymers, highlighting recent advances and future prospects in colon targeted drug delivery.*

Keywords: Colon targeted drug delivery, pH-sensitive systems, microbially triggered systems, polysaccharides, prodrug approach, multiparticulate systems

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