

# Colon specific Drug Delivery System: An overview

Definition:- Colon drug conveyance framework alludes to directed conveyance of medication in to the lower portions of GI.

The need and benefits of colon-explicit medication conveyance frameworks have been all around perceived and archived. Previously, the essential ways to deal with get colon-explicit conveyance made restricted progress and included prodrugs, pH-and time-subordinate frameworks, and microflora-enacted frameworks. Exact colon drug conveyance necessitates that the setting off instrument in the conveyance framework just react to the physiological conditions specific to the colon. Subsequently, ceaseless endeavors have been centered around planning colon-explicit conveyance frameworks with improved site explicitness and flexible medication discharge energy to oblige distinctive helpful necessities. Among the frameworks grew most as of late for colon-explicit conveyance, four frameworks were exceptional regarding accomplishing in vivo site explicitness, plan reasoning, and attainability of the assembling interaction (pressure-controlled colon conveyance cases (PCDCs), CODES, colonic medication conveyance framework dependent on gelatin and galactomannan covering, and Azo hydrogels). The focal point of this audit is to give itemized depictions of the four frameworks, specifically, and in vitro/in vivo assessment of colon-explicit medication conveyance frameworks, as a rule.

In the new year colonic medication conveyance has acquired significance for conveyance of medication for the treatment of neighborhood illnesses related with colon and foundational conveyance of remedial peptides and proteins. Treatment could be more viable in the event that it is workable for medication to be straightforwardly conveyed to colon.

Colon is rich in lymphoid tissue, eg., uptake of antigen into mast cells of colonic mucosa produces rapid local production of antibodies and this helps in efficient vaccine delivery. Region of colon is recognised as having a somewhat less hostile environment with less diversity and intensity of activity than stomach and small intestine. Target sites, colonic disease conditions, and drugs used for treatment.

## Criteria for selection of drug

Medications are assimilated latently by either paracellular or transcellular course. Transcellular assimilation includes the section of drugs through cells and this is the course most lipophilic medications takes, where paracellular assimilation includes the vehicle of medication through the tight intersection among cells and is the course most hydrophilic medication takes. The lethargic rate if travel in colon lets the drug stay in contact with the mucosa for a more drawn out period than in small digestive tract which repays the much lower surface territory. The colonic substance become more gooey with reformist retention of water as one ventures further through the colon. This causes a diminished disintegration rate, moderate dispersion of broke up drug through the mucosa.

## pH sensitive system

This methodology depends on the pH-subordinate arrival of the drug from the framework. For this situation the pH differential between the upper and terminal pieces of GIT is misused to

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successfully convey medications to the colon. One ought not fail to remember that the pH in the digestive tract and colon relies upon numerous variables like eating routine, food admission and intestinal motility and illness states.

At the point when free steroids were managed orally, they were nearly assimilated in the small digestive system and under 1% of the oral portion arrived at the colon. The utilization

of azo mixtures for colon focusing on has been as hydrogels as a covering material for covering the medication centers and as prodrugs. Sulphasalazine, which was utilized for the treatment of rheumatoid joint pain, was subsequently known to have potential in the treatment of IBD. This compound has an azo bound between 5-amino salicylic corrosive and sulphapyridine.