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(57) Abstract :

The present invention relates to a pH dependent colon targeted matrix tablet formulation comprising naproxen sodium as the active pharmaceutical ingredient, utilizing a polymeric matrix blend of guar gum and Eudragit S100. The formulation is designed to specifically target drug delivery to the colon by withstanding the acidic gastric environment and releasing the drug payload at the higher pH conditions present in the colonic region. The matrix tablets are prepared using wet granulation method with polyvinylpyrrolidone as binder, lactose as diluent, magnesium stearate and talc as lubricants. The optimized formulation demonstrates minimal drug release in gastric and small intestinal pH conditions while exhibiting sustained and complete drug release in colonic pH environment. This targeted delivery system addresses the therapeutic need for localized treatment of inflammatory bowel diseases such as ulcerative colitis and Crohn's disease while minimizing systemic exposure and associated adverse effects. The invention provides enhanced therapeutic efficacy with reduced gastric irritation and improved patient compliance for chronic colonic disorders.

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