

Colon-targeted quercetin delivery using natural polymer to enhance its bioavailability

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ABSTRACT

The aim of the present study is to develop a polymer (Guar Gum)-based matrix tablet (using quercetin as a model drug) with sufficient mechanical strength, and promising in vitro mouth-to- colon release profile. By definition, an oral colonic delivery system should retard drug release in the stomach and small intestine, and allow complete release in the colon. By drug delivery to the colon would therefore ensure direct treatment at the disease site, lower dosing, and fewer systemic side effects. Quercetin is antioxidant in nature and used to treat colon cancer, but they have poor absorption in the upper part of the gastrointestinal tract (GIT). As a site for drug delivery, the colon offers a near neutral pH, reduced digestive enzymatic activity, a long transit time, and an increased responsiveness to absorption enhancers. By achieving a colon-targeted drug delivery system, the absorption of quercetin may be increased, which leads to better bioactivity in fewer doses.

KEYWORDS

Colon cancer . quercetin . guar gum . antioxidant

REFERENCES

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