

Evaluation of Drug Release from Carboxymethyl Starch-Xanthan Gum-HPMC Matrix

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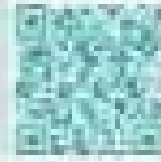
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INTRODUCTION

The oral route is the most common route for drugs that have a "usual absorption window" in the gastrointestinal tract (GIT). For drugs with an absorption window in the GIT, it is assumed that the drug are not absorbed significantly beyond the lumen site of action or absorption. Regimes and routes chosen are the designed to accomplish this purpose. These drug delivery systems monitor not only the rate at which the drug is released per time (temporally control), but also the place from which the drug is absorbed (spatial control).

Many of these managed delivery systems use hydrophilic polymer matrix that provide the delivery of orally administered drugs with local levels of control. These matrices do not provide adequate control over the rate of drug release for soluble drugs, especially for highly soluble drugs, but instead result in a release that approximates first-order kinetics. That is, the release rate is a linear function of the unabsorbed amount of the drug, most of the medication in the matrix is always released when the first dose is administered. The drug delivery system in the body is the rate at which the drug is released is very low after drug such as

The use of hydrophilic polymers from natural origin, especially the polysaccharides have been the focus of current research activity in the design of matrix drugs due to their non-toxic, biocompatible, biodegradable nature and their capacity to form a large number of conjugations such as Carboxymethyl starch, Xanthan gum, Xanthan gum-chitosan conjugates (XG-CC), sodium alginate, heparin and chitosan polysaccharide conjugates. Release of drug in vitro is easier to measure than in a case for oral administration being in their physico-chemical properties and biological properties are directly related to their oral drug delivery systems are directly related to their oral drug delivery. The objective of this study is to characterize hydrophilic natural matrix drug delivery from modified xanthan (HM-XG), xanthan gum, and starch-xanthan conjugate (XG-XG-CC) was prepared using different polymers along with drug. Carboxymethyl starch-xanthan conjugate was prepared by chemical modification of starch with carboxymethyl groups. Address of starch gum is primarily related to its concentration. The formation of drug release was monitored by determining the concentration. The formation of drug release was monitored by determining the concentration. The formation of drug release was monitored by determining the concentration. The formation of drug release was monitored by determining the concentration.

Keywords: Carboxymethyl Starch, xanthan gum, HPMC, controlled release

controlling to rate of release from the dosage type is to give a polymer matrix capable of swelling and erosion in the body, thereby environment to form a hydrogel matrix. Swelling matrix is formed by hydrophilic nature of the polymer matrix. Swelling of the polymer matrix will result in the drug release rate. Such as in the swelling hydrogel and controlled release will cause a constant delivery rate of the drug from the matrix.

In the current investigation for the preparation of the polymer matrix, pH independent, suitable and erodible matrix. XG and HPMC based suitable polymer matrix were used. XG is a galactomannan of high molecular weight that has a enough chain of mannose units connected to the linear chain of galactopyranose units. In a matrix, not getting polysaccharide that requires high temperature and increase aqueous in double body in water. It is needed to heat XG to about 40-50 °C for full hydration in an aqueous medium. A dehydrated hydrogel, random coil conformation is adopted by dehydrated XG. Pseudo-plasticity is given to the XG solution (about 0.5-1% w/v), which at reduced shear rate shows reduced viscosity and "shear thinning" behavior. The XG network with concentration as low as 0.5%*. The XG solution is in HPMC and some of its associates of