“Nopal mucilage as controlled release excipient and regenerative adjunvant of intestinal track mucosae”

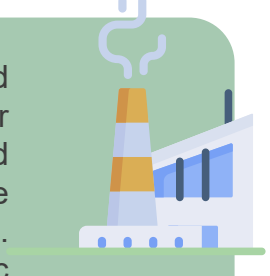
MX/a/2014/001906

Technology description

In comparison with polymers used to obtain controlled release, the nopal mucilage is a natural occurring substance soluble in water, compressible and capable to release drugs at different times.

The compressed dosage forms proposed in this invention combine the bi-functional effect of nopal mucilage: a) as controlled release platform and b) as a protective and regenerative adjuvant effective in the treatment of gastric, pectic and duodenal ulcers, Zollinger-Ellison syndrome, gastro-esophageal reflux disease, esophagitis erosive and other acid-related disease.

Applications, usage and benefits of the technology



This invention uses the nopal mucilage as a drug release platform for oral compressed tablets to control the therapeutic effect of histamine H2 antagonists or similar antiulcer drugs (e. g. ranitidine) from eight to ten hours. The nopal mucilage works as a controlled release excipient and due to its well-known intestinal tract mucosae’s regenerative properties, it can strengthen the therapeutic effect of the aforementioned antiulcer drugs. Nopal mucilage can be used as a natural excipient since it is biocompatible, non-toxic and compressible.

Technology readiness Level

Direct compressed tablets formulated with ranitidine and nopal mucilage have showed, in laboratory tests, controlled release from 8 to 12 h. The release can be modified by the ranitidine/nopal mucilage ratio or adding soluble excipients such as mannitol or sugars. The release profile was fit to an ideal slope considering the pharmacokinetic values for ranitidine.

Market information

The first dosage forms for histamine H2 antagonists was introduced in the market in 1977, since then several other similar drugs have been proposed most of them are of immediate release without other additional therapeutic effects. These drugs are generally in the top-selling pharmaceutical products in the world market. In this proposition an oral controlled release system for histamine H2 antagonists is described with an additional protective and regenerator effect which gives an added value and novelty for its commercialization.