Preparation and characterization of CSA-loaded liposome encapsulated in polysaccharide microspheres

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Abstract

Drug delivery via the intestinal lymphatics have importance in terms of increasing the bioavailability and the potentiality of directing delivery to the lymphatic system. The aim of this study was to prepare CSA-loaded liposomes (CSA-Lip) and encapsulate those in microspheres prepared with alginate or extracellular polysaccharide (EPS) p-m10356. The main advantage of the alginate and EPS p-m10356 was to improve a restricted drug release from liposomes and stability in stomach environment. Alginate microspheres containing CSA-Lip were prepared with spray nozzle at 4%(w/w) of concentration. In encapsulation of CSA-Lip using EPS, the microspheres were also prepared by w/o emulsion method at 3%(w/w) of concentration. The shape of the microspheres observed by SEM and a optical microscope was spherical and uniform. The particle size of alginate microspheres was ranged from 5 to 10 μm and EPS microspheres was ranged from 100 to 150 μm. Consequently, CSA-Lip could be encapsulated in alginate or EPS microspheres and in further study, drug release properties from them may be improved significantly.

Acknowledgements

This study was supported by a grant No. R01-2003-000-10157-0 from the Basic Research Program of the Korea Science & Engineering Foundation.

Reference

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