Fatmanur Tugcu-Demiroz et al., Drug Des 2016, 5:3(Suppl)
http://dx.doi.org/10.4172/2169-0138.C1.010

Assessment of mucoadhesion properties of different polymers and mucosal tissues by texture analyzer

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Within the context of this study, the mucoadhesion properties of gel formulations, which were prepared with different polymers, to different mucosal tissues were determined. As polymers, eight different polymers were used; Kitosan M, Kitosan H, HPMC K15M, HPMC K100M, Guar Gum H, Guar Gum S, Carbopol® 974 P and Policarbophil® AA-1. Nine different bovine mucosal tissues (vaginal, nasal, buccal, intestinal, colon, stomach, uterus and esophagus) were used for mucoadhesion studies of the gels prepared. TA.XT. Plus Texture Analyzer was used to measure the force of mucoadhesive gel formulations to break from the mucosa, and the mucoadhesion process. Additionally, liposome as a microparticle system was added to the gel formulations to examine how adhesion was affected. Based on overall results, Kitosan H and Guar Gum H were found to be the best mucoadhesion properties compared to the other polymers.

Biography

Fatmanur Tugcu-Demiroz was graduated from Faculty of Pharmacy Ankara University in 1998. She has completed her MSc and PhD studies at the Department of Pharmaceutical Technology in Gazi University, Faculty of Pharmacy. She has completed her Post-doctorate studies in Department of Pharmaceutical Sciences in Miguel Hernandez University. Her main expertise areas include new treatment perspectives in mucosal drug delivery, mucoadhesion measurements, micro and nanoparticles.

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