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#### Biorelevant Dissolution Testing of Matrix Systems Based on Combination of Mucoadhesive Polymers

Ogadah Chiazor Ugo, Šklubalová Zdeňka, Vraníková Barbora

Department of Pharmaceutical Technology, Faculty of Pharmacy, Charles University, Hradec Králové, Czech Republic.



Matrix tablets represent the most favourable form of the modified release drug delivery systems intended for oral administration, due to their cost-effectiveness and easy preparation. The formulation of matrix systems using mucoadhesive polymers (such as guar gum) leads not only to prolonged drug release, but also enables targeting and localizing them to a specific site in the gastrointestinal tract (*e.g.*, colon) [1]. It is well known that the conditions for drug vary along the gastrointestinal tract (GIT). Consequently, the dissolution characteristics of these systems should allow for the drug to be released in a controlled manner over the different segments of the GIT. This highlights the importance of dissolution testing in media, which simulate the changes in the composition of GIT fluids (*i.e.*, biorelevant media). Therefore, the main aim of this study was to investigate the effect of two mucoadhesive polymers and their combinations without any additional excipients (*e.g.*, fillers, lubricants) on the dissolution profile of a model drug, theophylline. To simulate the passage of the systems through the GIT, three biorelevant media simulating the fasted state gastric, intestinal, and colon fluids (FaSSGF, FaSSIF, and FaSSCoF) of pH 1.6, 6.5, and 7.8, respectively, were used. The results demonstrated that the formulations could sustain the release of the drug for 24h in all media and the influence of pH differences of media on the drug release patterns were negligible.

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#### Reference

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*Supervisors: Šklubalová Zdeňka, Vraníková Barbora*