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Effect of Drug Properties on Formulation Properties of Eudragit Non Effervescent Floating Microparticulates

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***SUMMARY*. The objective of the present investigation was to investigate the effects of selected drugs (captopril and celecoxib) properties on different parameters drug entrapment, *in vitro* drug release, release pattern, *in vitro* drug permeation and buoyancy in the formulation of Eudragit S100 non effervescent floating microparticulates. Microparticulates were in size ranges 268.36-352.27 μm (captopril) and 271.36-365.54 μm (celecoxib). Encapsulation efficiency of celecoxib was good as compare to captopril. *In vitro* permeation studies showed in range (ES6) 74.83 μg – (ES1) 79.84 μg (celecoxib), (EU6) 57.01 μg - (EU1) 67.38 μg (captopril). *In vitro* release followed Non-Fickian diffusion mechanism while *in vitro* permeation kinetics revealed the super case II transport mechanism. Taken together, water insoluble (celecoxib) drug showed suitable combination with Eudragit S100. This study concluded that the effect of various parameter on the characteristics of Eudragit gastroretentive drug delivery system by non effervescent technique using celecoxib and captopril having different physicochemical characterization.**

KEY WORDS: Captopril, Celecoxib, Eudragit S100, Microparticulates, Non effervescent, Non-Fickian.

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