



Research Article

FABRICATION OF STOMACH SPECIFIC MUCOADHESIVE DILTIAZEM HYDROCHLORIDE TABLETS

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ABSTRACT

The aim of present research work was development of stomach specific mucoadhesive sustained release diltiazem hydrochloride tablet formulations for increase gastric residence with natural polysaccharides. Tablet formulations were prepared by wet granulation technique and evaluated blend by FTIR, DSC for compatibility, hardness, and friability, swelling behavior, in-vitro drug release, gastric residence and mucoadhesive strength. The formulation D5 with drug-polymer ratio 1:1 containing 16% hibiscus polysaccharide (HEC) and 13 % xanthan gum (XNG) was found to be promising for mucoadhesion and sustained release characteristics. Formulation D5 exhibited the highest efficiency of mucoadhesion strength (29.8 gm) and mucoadhesion retention in 0.1 N HCL medium even at the end of 9.3 hours when compared with other formulations. The accelerated stability studies revealed that the tablets retain their characteristics even after stressed storage conditions.

Key words: Diltiazem HCl (DLTH), Hibiscus esculentus mucilage (HEC), Xanthan gum (XNG), Matrix tablet
