

A Review Article on Mucoadhesive Bilayer Tablet

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Abstract: *Mucoadhesive bilayer tablets have gained significant attention as an advanced drug-delivery approach designed to enhance therapeutic efficacy, patient compliance, and site-specific delivery. These systems are composed of two functional layers: a drug-loaded layer that enables sustained release, and a mucoadhesive layer that promotes intimate contact with the mucosal surface, thereby prolonging residence time and improving drug absorption. The effectiveness of such systems depends largely on the selection of suitable mucoadhesive polymers, including natural, semi-synthetic, and synthetic materials such as chitosan, sodium alginate, hydroxypropyl methylcellulose, and carbomers, which provide the necessary adhesion strength and modulate release kinetics. This review consolidates current knowledge on the mechanisms of mucoadhesion, formulation strategies, polymer characteristics, manufacturing techniques, and evaluation parameters used in the development of mucoadhesive bilayer tablets. Overall, mucoadhesive bilayer tablets represent a versatile and promising platform with the potential to improve bioavailability, reduce dosing frequency, and support patient-centered drug-delivery solutions*

Keywords: Mucoadhesive, bilayer tablet, mucoadhesive bilayer tablet, history, mucous membrane, mucoadhesion, polymer

