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(57) Abstract :

The present invention discloses a method for extracting chia seed gum (CSG) from *Salvia hispanica* seeds, followed by thiolation (CSG-SH) using thiol donors in the presence of carbodiimide and N-hydroxysuccinimide to yield a polymer containing 80–250 μmol –SH/g. The thiolated gum is formulated into buccal mucoadhesive films containing ondansetron hydrochloride, a plasticizer, and optional sweetener and flavoring agents. The films provide controlled drug release, improved mucoadhesion, palatability, and enhanced bioavailability. Comparative evaluation shows CSG-SH films achieve superior mucoadhesive strength, longer residence time, and higher drug permeation than native CSG or HPMC films, enabling effective buccal delivery of ondansetron hydrochloride.

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