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Formulation and Evaluation of Costus Ignus-Loaded Buccal Films for Enhanced Drug Delivery

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Abstract: *This study is about making and testing buccal films (thin strips placed inside the cheek) that contain an extract from the Costus igneus plant, also known as the "Insulin Plant." This plant is known for helping manage diabetes and has other health benefits too. Using the buccal route for drug delivery is better than swallowing pills because it avoids the liver's first-pass metabolism and allows the medicine to work faster.In this project, the films were made with the right mix of natural ingredients, including safe polymers and plasticizers, to hold the plant extract properly. These films were then tested for things like appearance, flexibility, strength, pH level, how quickly they break down, and how steadily the extract is released. The best version of the film showed good strength, proper drug release, and was easy to use in the mouth. This method offers a gentle, non-invasive way to deliver herbal medicine and may be a better option for long-term treatment of conditions like diabetes.*

Keywords: Costus igneus, Insulin plant, Buccal drug delivery, Mucoadhesive films

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