

## A NOVEL SMART BIOMUCOADHESENT FROM PHOENIX SYLVESTRIS FRUIT PULP

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*Phoenix sylvestris* belongs to Arecaceae family is also known as the date palm. It is widely available in India. The aim of our research work was to isolate a novel biomucoadhesent from *Phoenix sylvestris* (PS) fruit pulp. The fruit of the plant have potential nutraceuticals and fibres to be used as a food supplements for nutrition. The fruit pulp is rich of minerals, acid, flavanoids, vitamins etc.

The fruit pulp was isolated by a simplified, economic process and was evaluated for its various physicochemical properties like solubility, Particle size, viscosity, angle of repose, Carr's index, Hausner's ratio, color, texture, nature, Thin layer chromatography, chemical tests and IR spectral study. The mucoadhesivity of the biomaterial was determined by shear stress method, Park & Robinson method, rotating cylinder method and the results were compared with standard polymers like NaCMC, Carbopol-934, Xanthan gum and Guar gum.

The research study revealed that the biomaterial from *Phoenix sylvestris* fruit pulp exhibits promising inbuilt mucoadhesion and good mucoadhesivity. TLC reveals the presence of galactose type polysaccharide. In conclusion, it was drawn that the biomaterial can serve as promising mucoadhesent for formulating the various transmucosal drug delivery systems.