

## Formulation and evaluation of pH-sensitive nanoparticles for intestinal - site specific drug delivery system

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The objective of this study was to develop a novel pH sensitive nanoparticulate system for Intestinal- site specific drug delivery based on natural gums for the Intestinal ulcer application. Esomeprazole magnesium was used as a model drug. Guar gum is used as the polymer for preparation of pH sensitive nanoparticles. Thus formulated nanoparticles are dispersed in a Capsule. The size distribution of the prepared nanoparticles is measured. FT-IR and DSC were made to examine the compatibility between the drug and the polymer. The morphology of the nanoparticles is examined by SEM. Drug content of prepared nanoparticles is performed and the In-vitro dissolution of nanoparticles is evaluated.

### Biography

VNSK Varma has done Bachelors in Pharmacy at NGSMPIS, Mangalore. He is presently pursuing M. Pharmacy in Pharmaceutics stream at JSS college of Pharmacy, JSS University Mysore. He has participated in several international conferences and seminars and made poster presentation in various international & conferences and seminars.

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## Coated microneedles for transdermal delivery

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Coated microneedles have been shown to deliver proteins and DNA into the skin in a minimally invasive manner. However, detailed studies examining coating methods and their breadth of applicability are lacking. This study's goal was to develop a simple, versatile and controlled microneedle coating process to make uniform coatings on microneedles and establish the breadth of molecules and particles that can be coated onto microneedles. First, microneedles were fabricated from stainless steel sheets as single microneedles or arrays of microneedles. Next, a novel micron-scale dip-coating process and a GRAS coating formulation were designed to reliably produce uniform coatings on both individual and arrays of microneedles. This process was used to coat compounds including calcein, vitamin B, bovine serum albumin and plasmid DNA. Modified vaccinia virus and microparticles of 1 to 20  $\mu\text{m}$  diameter were also coated. Coatings could be localized just to the needle shafts and formulated to dissolve within 20 s in porcine cadaver skin. Histological examination validated that microneedle coatings were delivered into the skin and did not wipe off during insertion. In conclusion, this study presents a simple, versatile, and controllable method to coat microneedles with proteins, DNA, viruses and microparticles for rapid delivery into the skin.

### Biography

Y. Divya had completed her B Pharm from Gokaraju Rangaraju College of Pharmacy and is pursuing her postgraduation (M.Pharm, Pharmaceutics) in G. Pulla Reddy College Of Pharmacy. Till date she gave 4 presentations in different educational institutions.

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