Pharm Anal Acta 2015, 6:1
http://dx.doi.org/10.4172/2153-2435.S1.025

OMICS International
Pharmaceuticalconferences.com

5th International Conference and Exhibition on
Pharmaceutics & Novel Drug Delivery Systems
March 16-18, 2015 Crowne Plaza, Dubai, UAE

Chitosan as potential excipient for buccal delivery

Flavia Laffleur
University of Innsbruck, Austria

Abstract Summary: Biomaterials have gained immense interest in the pharmaceutical research in the last decades. Chitosan is a polysaccharide which was chemically modified in order to achieve and establish a promising platform for buccal drug delivery.

Introduction: Pharmaceutical scientists face challenges of a suitable delivery route. Although invasive administration has been a common route for peptide and protein drug delivery, it is associated with infections, pain on repeated administration leading to poor patient compliance. Being administered by the gastrointestinal route, peptide and proteins exhibit poor bioavailability owing to gastric acid hydrolysis and first pass metabolism. Furthermore, non-invasive routes have been investigated for systemic delivery. The mucosal delivery bears many advantages such as targeting a specific tissue, avoiding the first pass metabolism and protection against enzymatic degradation.

Conclusion: Within the present study a preactivated thiolated chitosan matrix for non-invasive drug delivery was developed. The covalent attachment of preactivated thiol groups to thiolated chitosan leads to strongly improved mucoadhesive properties of the thiolated polymer, which is verified by rotating cylinder studies on freshly excised porcine mucosa and by the increase in the total work of adhesion in tensile studies. Because of this slightly chemical modification the swelling behavior of thiolated chitosan could also be improved. This property might be of considerable advantage for applications requiring mucoadhesive and long lasting properties. These features should render preactivated thiolated chitosan as useful therapeutic excipient for various dosage forms providing an improved stability and a prolonged residence time on mucosal tissues. The preactivated thiolated chitosan described within this study raises the bar according to its high mucoadhesive potential as therapeutic agent.

Flavia.Laffleur@uibk.ac.at

Formulation and evaluation of neutraceutical tablets of lyophilized nanoparticles of Zinc and Asparagus extracts

Sandeep Arora, Mansi Chitkara, I S Sandhu and **Shreea Sharma**
Chitkara University, Punjab

Herbal ZnO nanoparticles were synthesized using Asparagus root extract via co precipitation methods. The synthesized nanostructures were characterized by XRD, SEM and TEM which reveal the formation of crystalline ZnO nano-structures and spherical and granular nature with characteristic peaks of ZnO nanoparticles. The nanoparticles of Zinc and extract were also standardized for herbal marker component and Zinc and then tablet formulations were developed and standardized for formulation parameters. It was observed that the nanoparticles offered a spherical and granular nature, which offered very convenient advantage by producing very good preformulation characters including flow and particle size as compared to taking dry herbal powder as such which produce great difficulty in tableting. The formulated tablets were standardized for formulation parameters on the basis of evaluation characteristics including disintegration time, dissolution time, friability and content for use as herbal nutraceuticals tablets and further development using various extracts.

Sandeep.arora@chitkara.edu.in