

August 27-28, 2018
Zurich, SwitzerlandVaishnavi Parikh, J Org Inorg Chem 2018, Volume 4
DOI: 10.21767/2472-1123-C5-013

POLYMER- PROTEIN INTERFACE AND HIGH THROUGHPUT SCREENING FOR PROTEIN STRUCTURAL STABILITY

Vaishnavi ParikhUniversity of the Sciences in Philadelphia, USA
Genuslifesciences, USA

Role of polymers is substantial in delivering protein drugs. Delivery of proteins; however, is challenging due to complex interactions including hydrophobic interaction, electrostatic interaction, hydrogen bonding and interaction between adsorbed protein molecules which may lead to loss of protein stability. Several factors that affect these interactions include polymer type, surface charge, pH and ionic strength of the solvent system, presence of competing proteins. It is critical to attain mechanistic understanding of adsorption of proteins at solid/liquid interfaces to deliver the protein in safe and effective form at the site of action. Use of different polymers intended for drug delivery and analytical techniques such as dynamic light scattering spectroscopy, fluorescence spectroscopy and circular dichroism spectroscopy is demonstrated to screen the factors for development of stable dosage form. Evaluation of the changes in secondary and tertiary structure of recombinant human growth hormone (r-hGH) upon adsorption at biodegradable Poly (lactide-

co-glycolide) PLGA nanoparticles of different hydrophobicity as a function of pH is illustrated to understand the nature of the interactions that govern the adsorption of the protein on the polymer, leading to successful design of sustained delivery systems.

Biography

Dr Vaishnavi Parikh has completed her PhD in Pharmaceutics from Philadelphia College of Pharmacy, University of Sciences. She has more than eight years of experience working as a Formulation Scientist in the pharmaceutical industry and currently works as a Manager of Product development at Genus Lifesciences Inc. She has published several papers in reputed journals; presented at several international conferences; has been serving as a reviewer on six reputed journals and also an editor for the journal, Insight- Automatic Control.

vrshah1987@gmail.com
vparikh@genuslifesciences.com

