

Adsorption of peptide to poly(D,L-lactide-co-glycolide):

2. Effect of solution properties on the adsorption.

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Abstract

The effect of pH, ionic strength, polarity and temperature on the adsorption of three peptides to poly(D,L-lactide-co-glycolide) (PLGA) was evaluated. Maximum adsorption was found near the pI of the peptide for salmon calcitonin (sCT), triptorelin (DP) and a peptide comprising the 8-22 amino acid portion of sCT. For sCT, almost no adsorption was observed at pH < 6 while there was complete depletion at pH 10. Increase in NaCl concentration enhanced the adsorption of sCT and DP. The dependency on solvent ionic strength and polarity suggested that hydrophobic interactions were playing an important role in the adsorption process. The net adsorption of sCT and DP was greater at 22°C than at 4°C or 37°C.