# Adsorption of Poly(ethylene glycol)-Modified Lysozyme to Poly(lactide-co-glycolide) Surfaces.

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Biodegradable poly(lactide-co-glycolide) (PLG) depots provide a potential modality for sustained protein drug delivery; however, the problems associated with the adsorptive and denaturing interfaces present during protein encapsulation and release must be overcome. Covalent attachment of poly(ethylene glycol) (PEG) to the protein drug (PEGylation) provides a potential solution by altering protein interactions with these interfaces. In this poster, we report on the impact of PEGylation on protein adsorption at the interface between aqueous solutions and solid PLG. Using lysozyme with controlled degrees of PEGylation, we employ total internal reflection fluorescence techniques to measure adsorption isotherms, irreversibility, and the extent of surface-induced aggregation. PEGylation of lysozyme was found to reduce the extent of protein adsorption and surface-induced aggregation as well as the irreversibility of adsorption, all factors consistent with a more complete release of PEGylated protein from PLG microspheres. Experiments with therapeutic proteins based on these results are in progress.