

## IMMOBILIZATION OF BSA ONTO SUPPORTED CATIONIC BILAYERS

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Silica particles were covered with single cationic dioctadecyldimethylammonium bromide (DODAB) bilayer and used for bovine serum albumin (BSA) adsorption. At 0.1 mg/mL silica, 1 mM NaCl (pH 6.3) or 5 mM Tris/HCl (pH 7.4), over a range of [DODAB] (0.001-1 mM), the interaction between silica and DODAB bilayer fragments (BF) was characterized by means of dynamic light scattering for particle sizing, zeta-potential analysis and determination of BSA adsorption isotherms on silica or silica/DODAB BF systems. For all experimental conditions, 0.05 mM DODAB was enough to cover silica particles. For silica/DODAB, BSA limiting adsorption values were  $0.9 \times 10^{16}$  and  $3 \times 10^{16}$  molecules/m<sup>2</sup> in 1 mM NaCl (pH 6.3), and 5 mM Tris/HCl (pH 7.4), respectively, whereas for bare silica, lower adsorption maxima were observed for both conditions ( $4 \times 10^{15}$  and  $5 \times 10^{15}$  molecules/m<sup>2</sup>, respectively). In conclusion, the best condition for improving BSA adsorption on the DODAB/silica particulate (increasing both maximal adsorption and affinity constant) was given by using 5 mM Tris/HCl (pH 7.4). The system is promising regarding further immobilization of antigens, or antibodies, for immunodiagnosis.

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