SUPPORTING MATERIAL

Visualizing the analogy between competitive adsorption and colloid stability to restore lung surfactant function

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Under inhibitory conditions with neither chitosan nor PEG present in the subphase, the axial distribution of albumin did not change upon the addition of Survanta (see Fig. S1). Albumin remained at the interface and inhibited the adsorption of Survanta to the air-liquid interface. As with the axial fluorescence profiles, the morphology of an albumin film at the air-liquid interface did not change after the addition of Survanta under inhibitory conditions with neither polymer present in the subphase. Albumin formed a uniform lateral interfacial film that prevented the adsorption of Survanta.

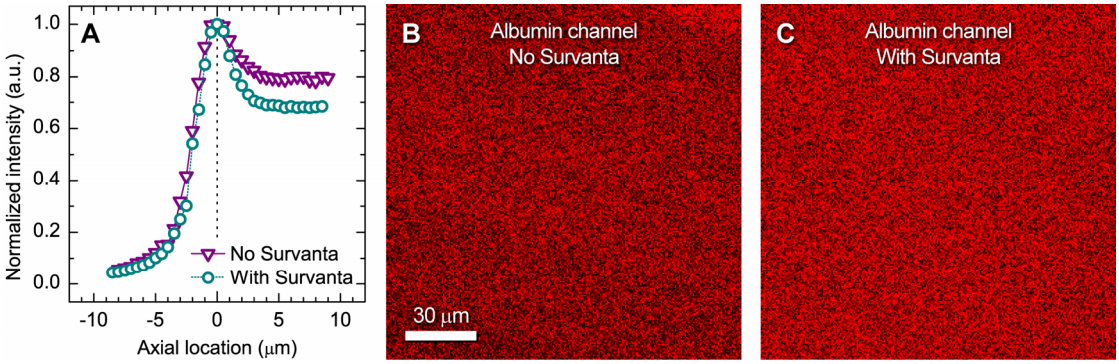

FIGURE S1 The three-dimensional distribution of albumin did not change after the addition of Survanta under inhibitory conditions. (*A*) Fluorescence intensity profiles of 2 mg/mL albumin (10 μg/mL TR-albumin) in a buffered-saline subphase (no polymers present) before and after adding 1 mg of unlabeled Survanta to the trough. Albumin remained at the interface after the addition of Survanta. (*B* and *C*) Lateral images of the air-liquid interface of a buffered-saline subphase containing 2 mg/mL albumin (10 μg/mL TR-albumin) before (*B*) and after (*C*) adding 1 mg of unlabeled Survanta to the trough. Albumin remained uniformly distributed at the interface after the addition of Survanta. Both the axial fluorescence profiles and lateral images confirmed that an interfacial film of albumin remained at the interface and inhibited the adsorption of Survanta in the absence of either chitosan or PEG in the subphase. Profiles and images were extracted from z-stacks acquired at a fixed trough surface area of 115 cm^2. The scale bar applies to both lateral images (*B* and *C*) which are displayed in a pseudocoloring scheme.