Supporting Information

An improved model for exploring the effect of physicochemical properties of alginate-based microcapsules on their fibrosis formation *in vivo*

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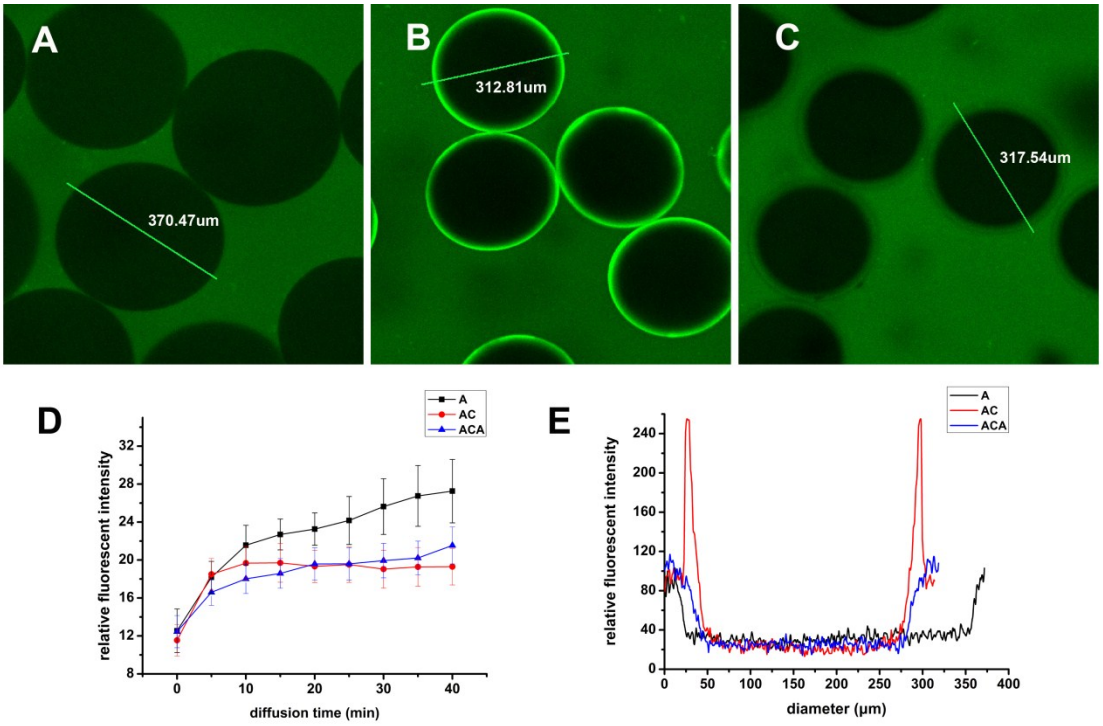

Fig. S1 CLSM images of A beads, AC and ACA microcapsules (A-C) after being immersed in FITC-BSA solution for 40 min. The sequential change of relative fluorescent intensity inside the beads or microcapsules was shown in D. The corresponding relative fluorescent intensity profiles along the green lines across the maximum cross-section of beads or microcapsule were shown in E.

BSA-FITC was adopted to evaluate the protein diffusion and adsorption on the surface of beads or microcapsules by CLSM. As shown in Fig. S1A-D, after 40 min incubation with BSA-FITC, the fluorescence intensity inside the A beads rapidly increased, which was much higher than that of either AC or ACA microcapsules. This might be explained by the more porous structure on the surface of the A beads. In addition, the enhanced fluorescence intensity was significantly observed on the surface of AC microcapsules (Fig. S1E), which indicates the AC microcapsules with more $-NH_3^+$ groups are more facilitated for protein adsorption in comparison with either the A beads or the ACA microcapsules.