

## Supplementary Information

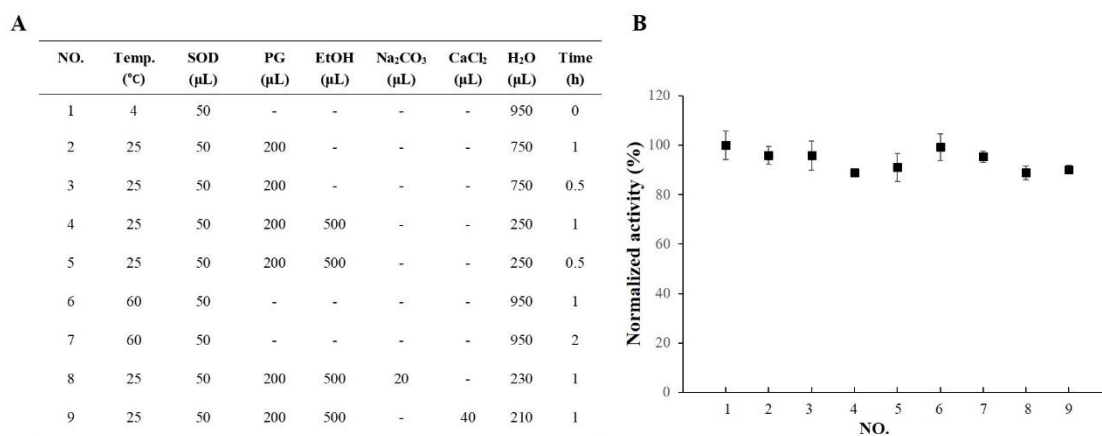
# Targeted co-delivery of protein and drug to a tumor in vivo by sophisticated RGD-modified lipid- calcium carbonate nanoparticles

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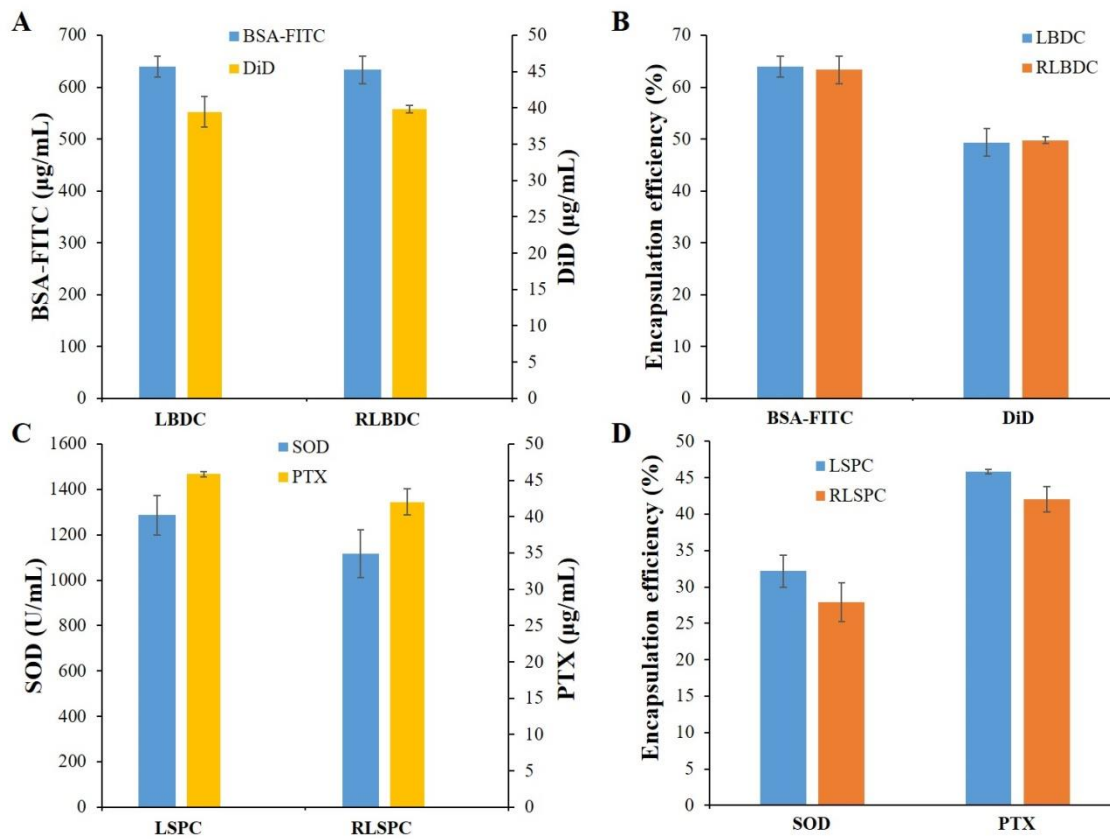
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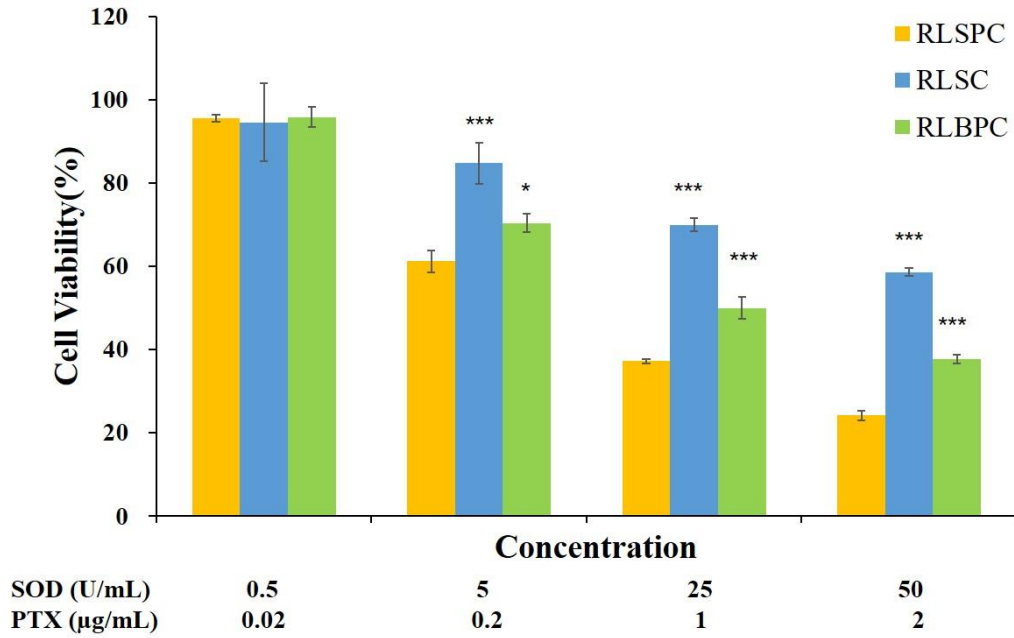
## Supplementary figures



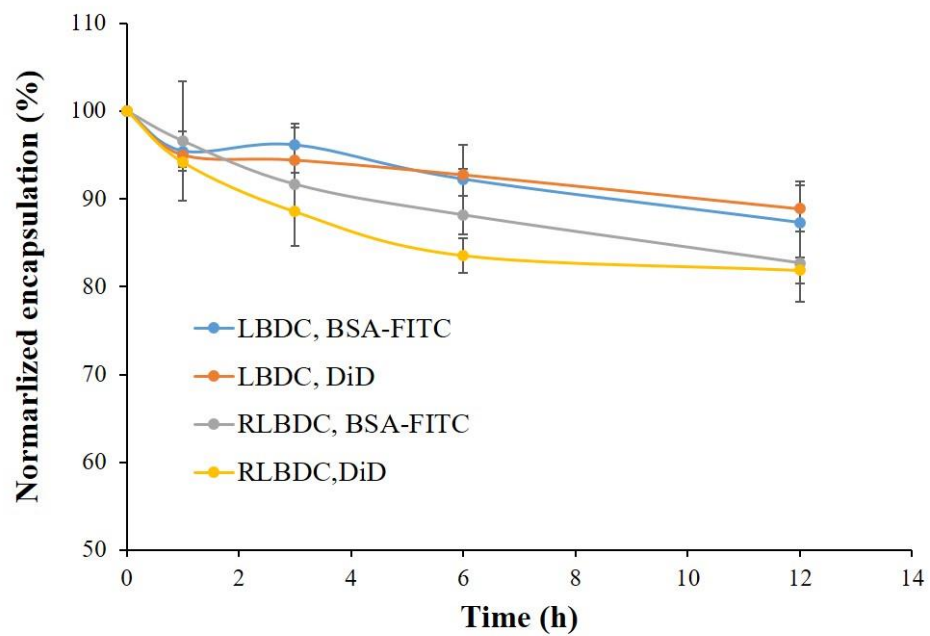
**Figure S1.** The effects of the experimental conditions on the activity of SOD. (A) Table showing the experimental conditions including solution components, solvents and processing temperatures during preparation. (B) Normalized activity of SOD after co-incubation. Each symbol represents the mean  $\pm$  S.D. of at least three experiments.



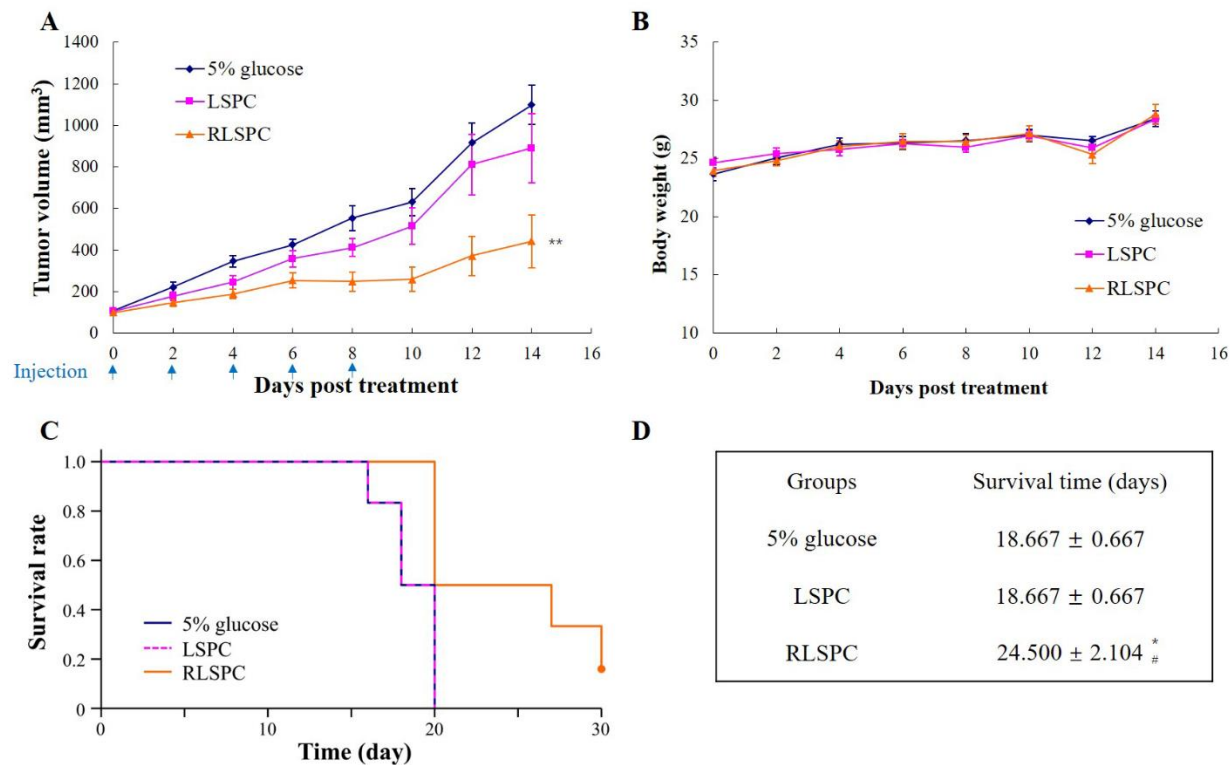
**Figure S2.** Encapsulated drug content and encapsulation efficiencies of the BSA-FITC/DiD combination (A and B) and SOD/PTX combination (C and D). Each bar represents the mean  $\pm$  S.D. of at least three experiments.



**Figure S3.** Cytotoxicity of RLSPC, RLSC and RLBPC at different concentrations of SOD and PTX. Each bar represents the mean  $\pm$  S.D. of at least three experiments. Significant differences from the RLSPC group are represented as \*  $P < 0.05$ , \*\*\*  $P < 0.001$ .



**Figure S4.** Stability of LBDC and RLBDC in the presence of 40% (v/v) FBS. Each symbol represents the mean  $\pm$  S.D. of at least three experiments.



**Figure S5.** The effect of RGD-modification on *in vivo* antitumor activity of the nanoparticles in colon tumor xenograft mice. (A) Tumor volume, (B) body weight, (C) survival rate, and (D) mean survival time of mice after consecutive injection of 5% glucose, LSPC and RLSPC nanoparticles. Each symbol represents the mean  $\pm$  SE of at least six experiments. Significant differences from the 5% glucose group are represented as \*  $P < 0.05$ , \*\*  $P < 0.01$ . Significant differences from the LSPC group are represented as #  $P < 0.05$ .