Supporting Information

Synthetic Cell-like Particles Synthesize Therapeutic Proteins Inside Tumors

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***Renilla* Luciferase – producing particles:**

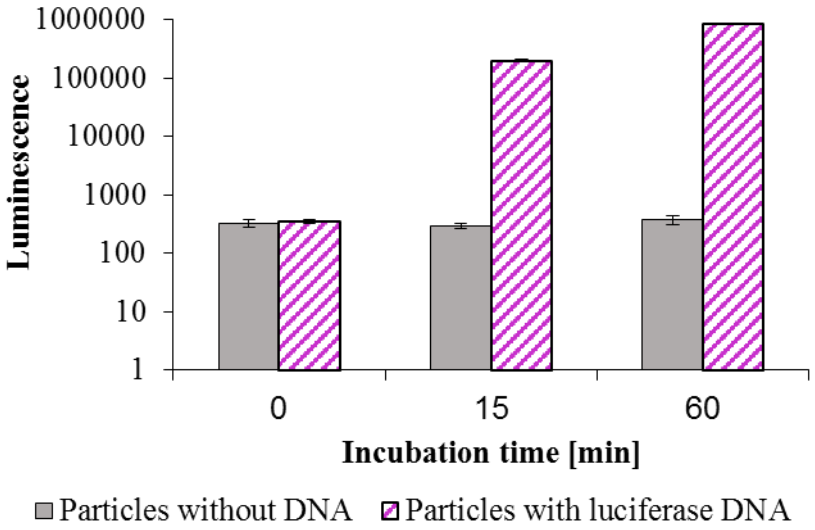


Figure S1: *Renilla* Luciferase *in vitro* production inside liposomes. In each time-point, the luminescence of the particles was evaluated, by the addition of coelentrazine 8.3 μM.

Western blot analyses of the particles injected:

PE and sfGFP – producing particles, which were following injected intra-tumor in the *in vivo* experiments, were analyzed by Western blot analysis, to verify the production of the expected protein.

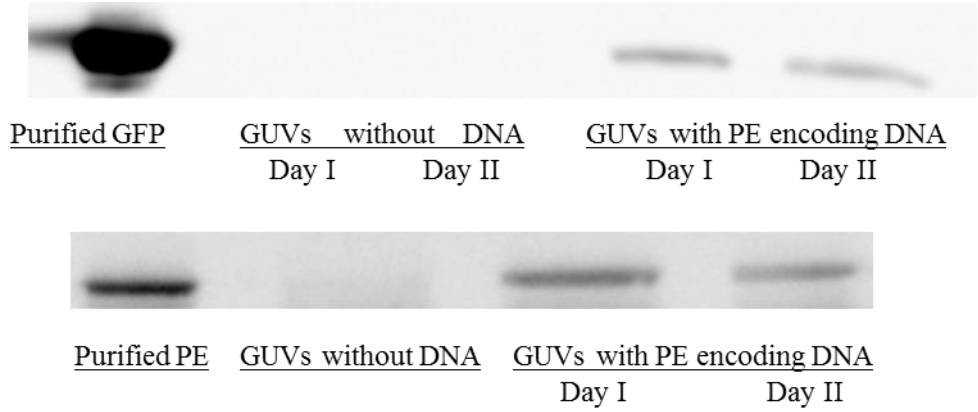
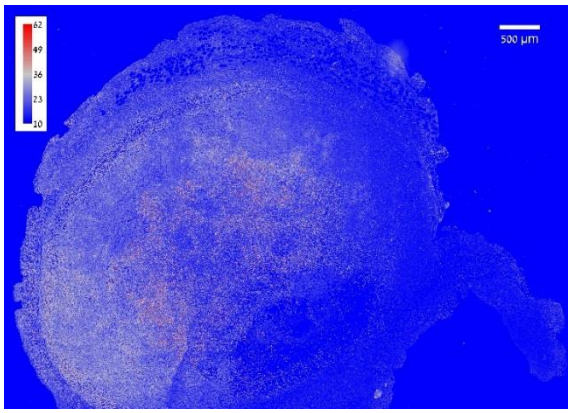


Figure S2: Western blot analysis of protein producing particles. The production of sfGFP (upper image) and PE (lower image) is detected only when DNA was included in the particle.

Immunofluorescence analysis of histology slices obtained from the tumors:

GFP- and PE-producing particles were injected intratumorally, enabling to the track the biodistribution of the particles. Figure S3 presents histological slices of the PE-treated and untreated tumors. Immunofluorescence analysis was applied on each slide to detect sfGFP presence. Fiji software was used to analyze the presence of sfGFP level in each location at the tissue, presented here as a heat map.

Untreated tumor:



Tumor treated with purified PE

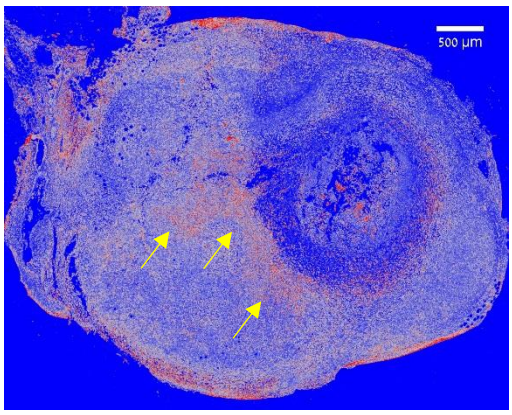


Figure S3: sfGFP presence in the tumor tissue, as evaluated by immunofluorescence. The biodistribution of sfGFP level in the tumor is now presented as a heat map, comparing between treated and untreated tumors. According to the color bar, blue, white and red represent low, moderate and high levels of GFP, respectively.