Supporting Information for

TLR agonists delivered by plant virus and bacteriophage nanoparticles for cancer immunotherapy

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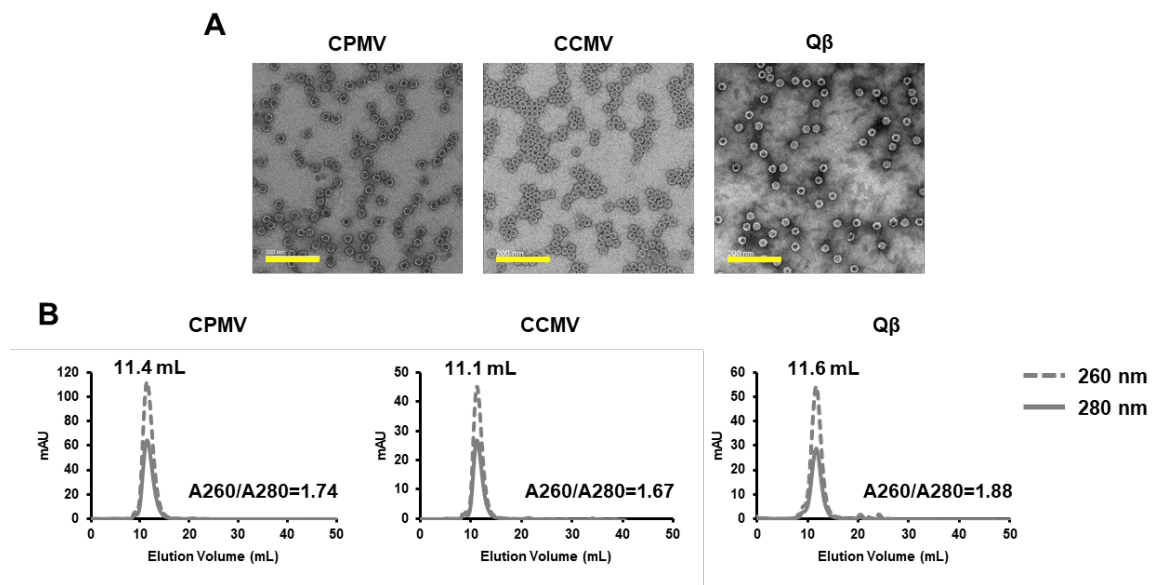
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Figure S1. Characterization of native CPMV, CCMV and Qβ particles. (A) Representative TEM image of CPMV, CCMV and Qβ particles. Scale bar = 200 nm. (B) SEC profiles of CPMV, CCMV and Qβ particles.
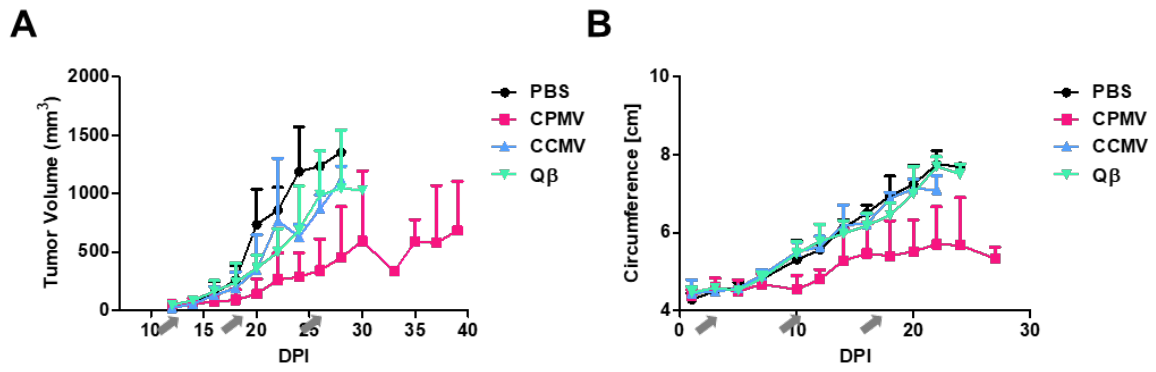
Figure S2. Comparative *in vivo* therapeutic efficacy of native CPMV, CCMV and Qβ particles in (A) B16F10 and (B) CT26 murine cancer models. Arrows indicate the treatment days.
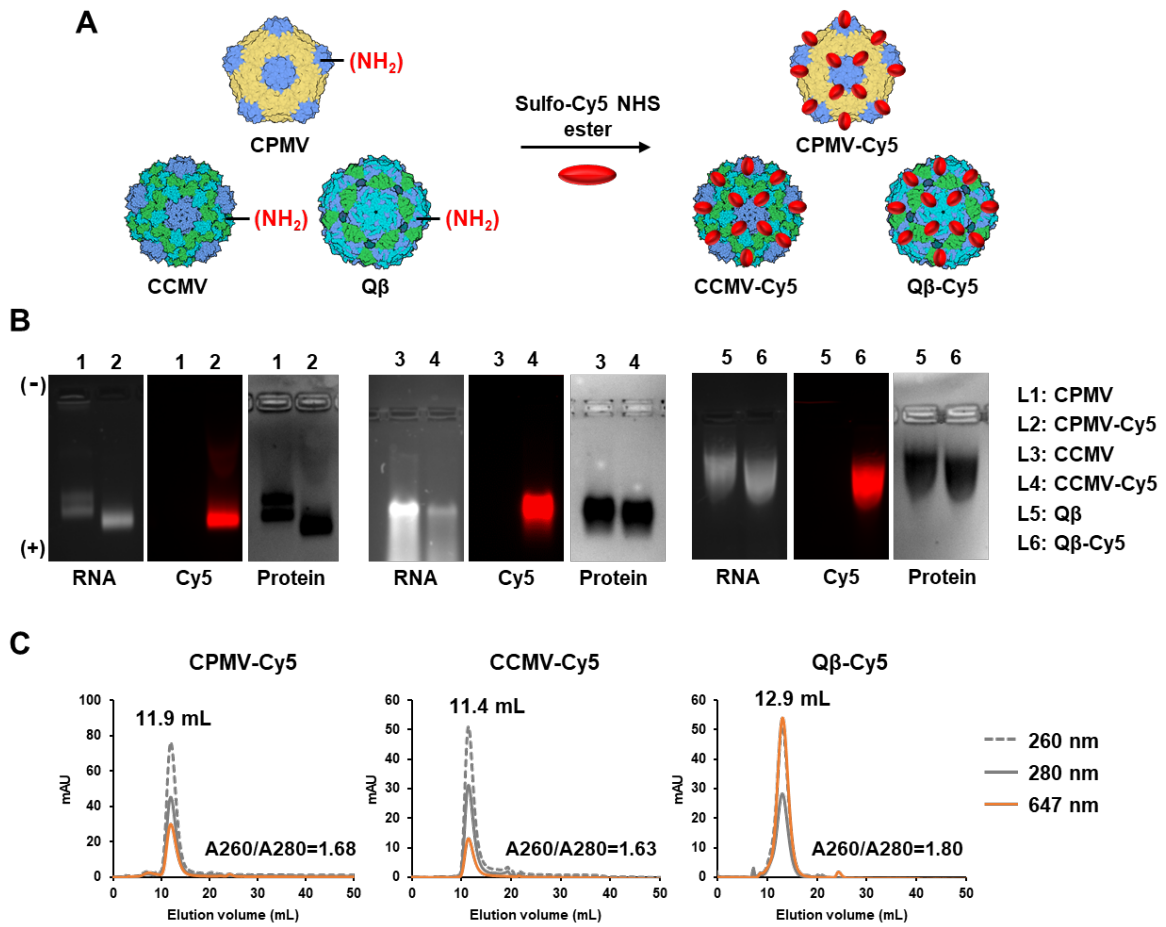
Figure S3. Characterization of Cy5-labeled CPMV, CCMV and Qβ particles. (A) Schematic diagram showing the synthesis method. (B) Agarose gel electrophoresis. (C) SEC profiles.
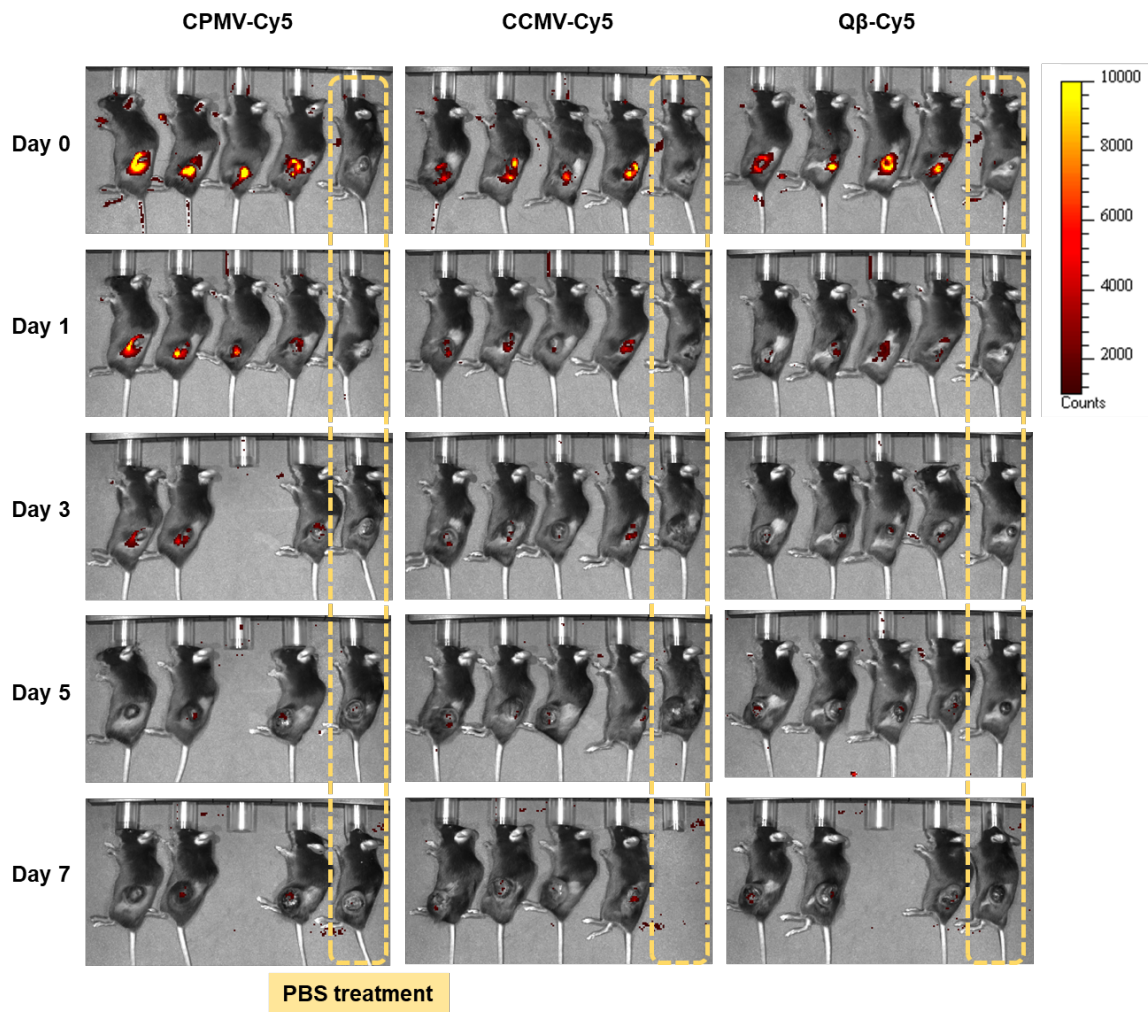
Figure S4. Biodistribution of Cy5-labeld CPMV, CCMV and Qβ particles. We administered Cy5-labeld particles i.d. (100 μg/20 μL) and monitored fluorescence for 7 days. Yellow dotted lines indicate PBS-treaded control mice.
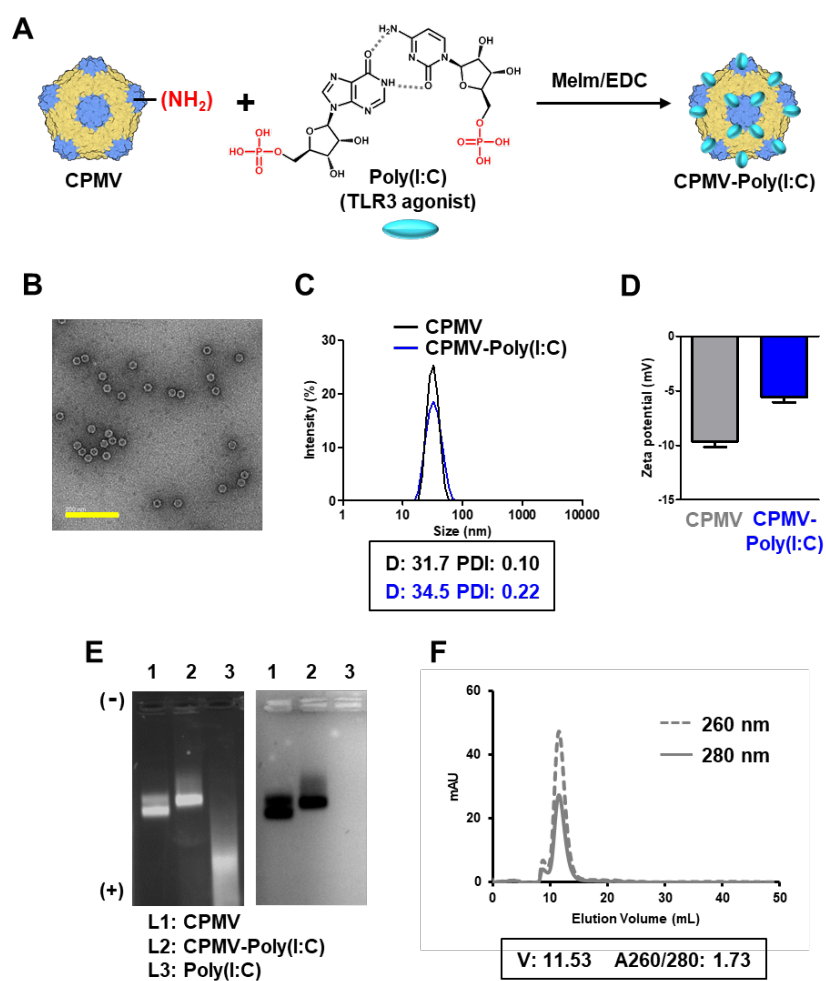
Figure S5. Characterization of CPMV-poly(I:C) particles. (A) Schematic diagram showing the synthesis method. MeIm – 1-methylimidazole; EDC – 1-ethyl-3-(3-dimethylaminopropyl)carbodiimide. (B) TEM image of CPMV-poly(I:C) particles. Scale bar = 200 nm. (C) Size distribution and (D) surface charge of CPMV and CPMV-poly(I:C) particles dispersed in 0.1 M KP buffer. The boxed inset shows the average diameter (D, nm) and polydispersity (PDI) of the particles. (E) Agarose gel electrophoresis of CPMV, CPMV-poly(I:C) and poly(I:C). Left panel shows UV light exposure and right panel shows gel stained with Coomassie Brilliant Blue followed by white light exposure. (F) SEC profile of CPMV-poly(I:C). The boxed insets show the elution volume (V, mL) and the absorbance ratio at 260 and 280 nm (A260/280).
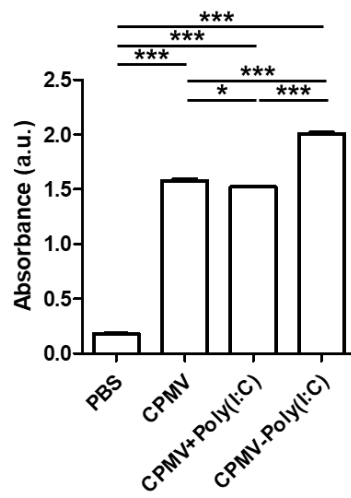
Figure S6. Evaluation of NF-κB/AP-1 activation in RAW-Blue cells by CPMV-poly(I:C).
Data are means ± SEM (n = 6). The results were compared by one-way ANOVA with Tukey's multiple comparisons test (***P < 0.001, *P < 0.05).