Supplementary Figures

| Delivery system     | No SAM | SAM adsorbed | SAM entrapped |
|---------------------|--------|--------------|---------------|
| Liposomes           |        |              | NA            |
| Solid lipid nanoparticles |    |              |               |
| Polymeric nanoparticles |    |              |               |
| Emulsions           |        |              | NA            |

Figure S1. Schematic showing the concept of the four different delivery platforms. Each of these delivery systems were prepared containing a cationic lipid (DOTAP or DDA). These formulations were prepared without SAM, with SAM adsorbed or with SAM entrapped. To adsorb SAM on the surface, the SAM was added (8:1 mol/mol N/P) dropwise on into the suspensions of liposomes, SLNs, NPs and emulsions under mild stirring. SAM adsorbing formulations were allowed to complex at 4°C for at least 2 hours. To encapsulate SAM inside formulations, liposomes, SLNs and NPs were formulated with the addition of SAM (8:1 mol/mol N/P) in the aqueous phase prior to formulating the particles.

Figure S2. Denaturing RNA agarose gel electrophoresis showing protection of SAM-RV5 from RNase delivery platforms. Liposomes, SLNs, NPs and emulsions were prepared with either DOTAP or DOA as their cationic lipid component. These formulations either had entrapped (fSAM) or adsorbed (i-SAM) SAM-RV5 and were then mixed with RNase. Molecular weight ladder (lane 1), SAM-RV5 (lane 2), SAM-RV5 after incubation with RNase (lane 3) were used as a control in all gels run. NA represents samples not tested due to initially physico-chemical instability.

Figure S3. Gating strategy and representative dot plots to evaluate the immune response elicited by different selected adjuvants and their associated antigen after i.m. injection in vivo. Splenocytes were negatively selected based on dye exclusion, and lymphocytes were further identified based on morphology. CD3+ T cells were selected after discrimination of singlets and CD4+ and CD8+ T cells were identified based on CD4 and CD8 expression, respectively. Figure shows representative dot plots of cytokine+ (IFN-γ, IL-2, TNF-α) and CD107a+ cells identified among the CD4+ or CD8+ subset.