

Table S1 Nanoparticle characteristics of ssPalm-cGAMP or ssPalm-empty complex.

Lipids	Lipid / cGAMP [nmol / μ g]	cGAMP [μ g]	Size [d.nm]*	Pdl*	Zeta Potential [mV]*
DOPC	50	0	101.6	0.351	-0.965
		2	92.9	0.327	-5.15
	200	0	64.19	0.397	-2.65
		2	107.5	0.444	-2.61
DOPE	50	0	110.8	0.413	-5.39
		2	97.94	0.302	-8.18
	200	0	109.8	0.536	-5.81
		2	83.06	0.469	-5.65

For searching optimal condition of ssPalm-cGAMP, 8 kinds of group were prepared: dioleoyl-sn-glycero-phosphatidylcholine (DOPC) or dioleoyl-sn-glycero-phosphoethanolamine (DOPE) was used as the lipid component. The cGAMP/lipid ratio was tried for 50 nmol/ μ g and 200 nmol/ μ g. cGAMP was included 2 μ g and distilled water is substituted in each control group. *Size, Pdl, and Zeta Potential were measured by dynamic light scattering (Zetasizer Nano ZS, Malvern).