pharmaceutics

Supplementary Materials: Structure-Activity Relationship of Mono-Ion Complexes for Plasmid DNA Delivery by Muscular Injection

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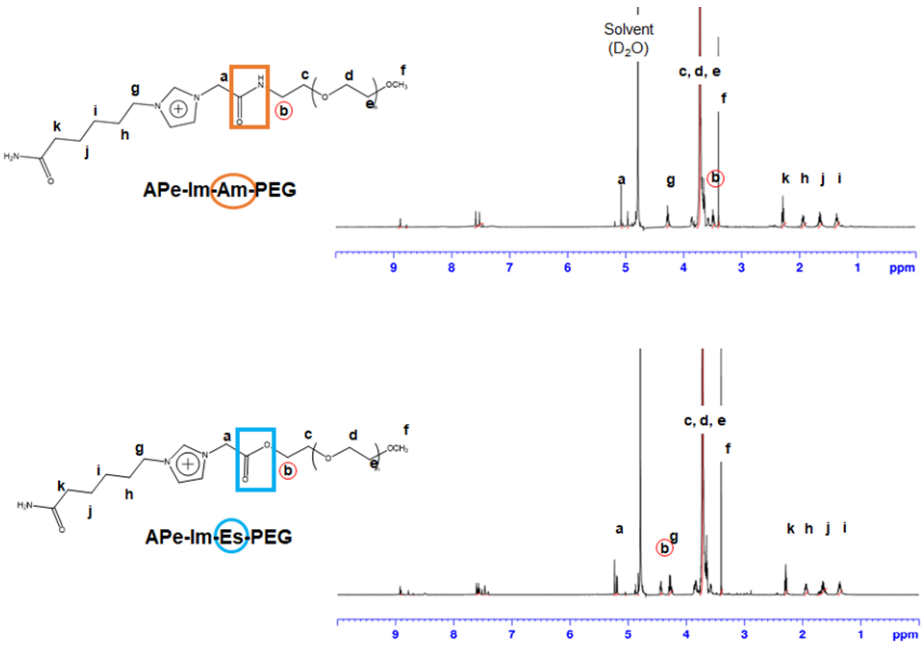

Figure S1. ^{1}H NMR spectra of APe-Im-Am-PEG and APe-Im-Es-PEG.

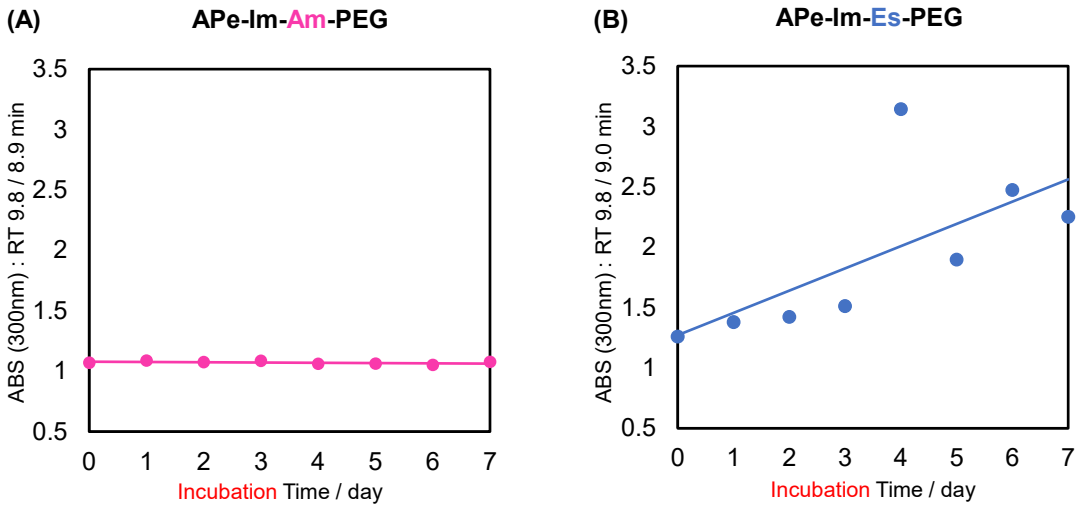

Figure S2. Effect of incubation time on the hydrolysis of APe-Im-Am-PEG (A) and APe-Im-Es-PEG (B) examined by gel-filtration chromatograms. Detection: absorbance (ABS) at 300 nm as the ratio of each retention time (RT).

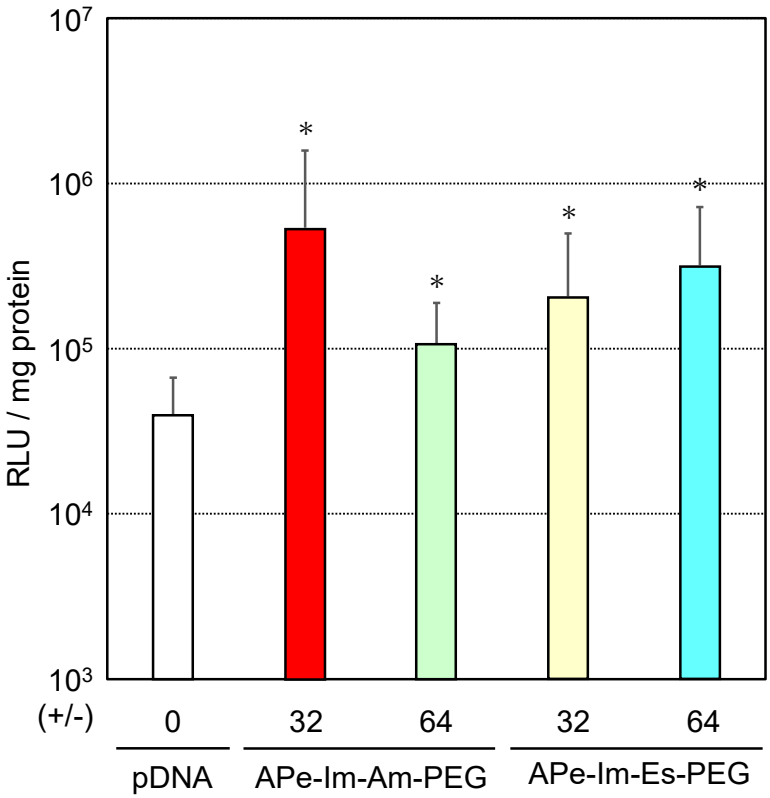

Figure S3. Luciferase gene expression by muscular injection of the APe-Im-Am-PEG/pDNA MIC or APe-Im-Es-PEG/pDNA MIC at $[\omega\text{-amide-pentylimidazolium}]_{PEG}/[\text{phosphate}]_{pDNA}$ (+/-) ratios of 32 and 64. Data are shown as mean and standard deviation based on individual data in Figure 6. The * indicates statistical significance ($p < 0.1$) compared with the naked pDNA.

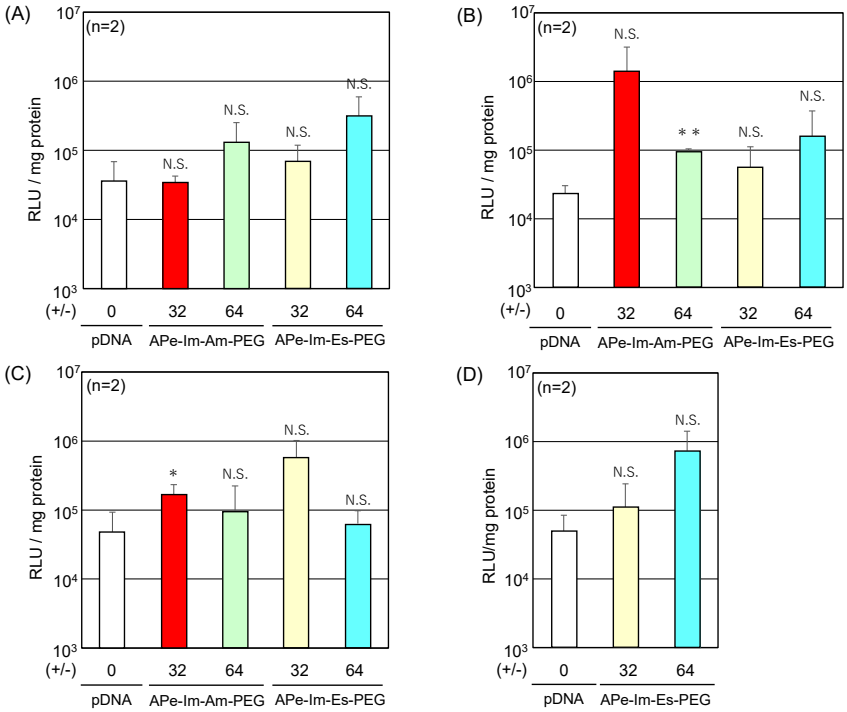

Figure S4. Replicated data sets (A-D) of the individual animal experiments (n = 2) base on an average of all data in Figure S3. Luciferase gene expression by muscular injection of the APe-Im-Am-PEG/pDNA MIC or APe-Im-Es-PEG/pDNA MIC at [ω-amide-pentylimidazolium]$_{PEG}$/[phosphate]$_{pDNA}$ (+/-) ratios of 32 and 64. Data are shown as mean and standard deviation based on individual data in Figure 6. The statistical significance (*$p < 0.1$, **$p < 0.01$) compared with the naked pDNA is indicated; N.S., not significant statistical difference ($p > 0.1$).

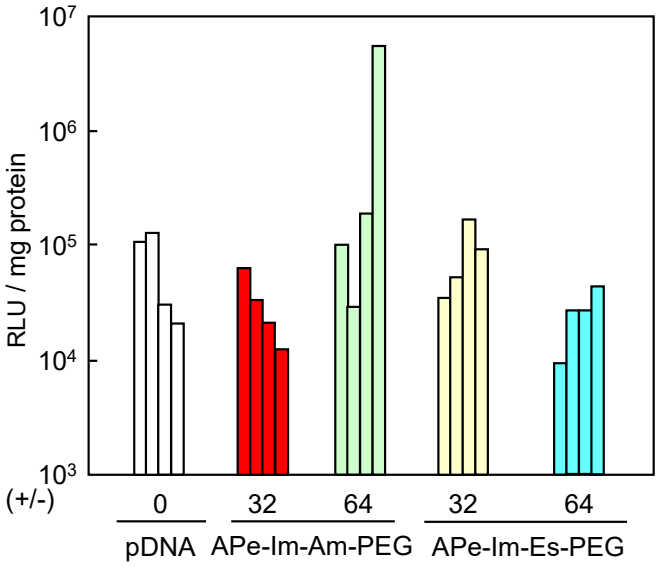

Figure S5. Luciferase gene expression after two weeks by muscular injection of the APe-Im-Am-PEG/pDNA MIC or APe-Im-Es-PEG/pDNA MIC at [ω-amide-pentylimidazolium]$_{PEG}$/[phosphate]$_{pDNA}$ (+/-) ratios of 32 and 64. Individual gene expression was determined relative light unit (RLU) normalized by the protein concentration.