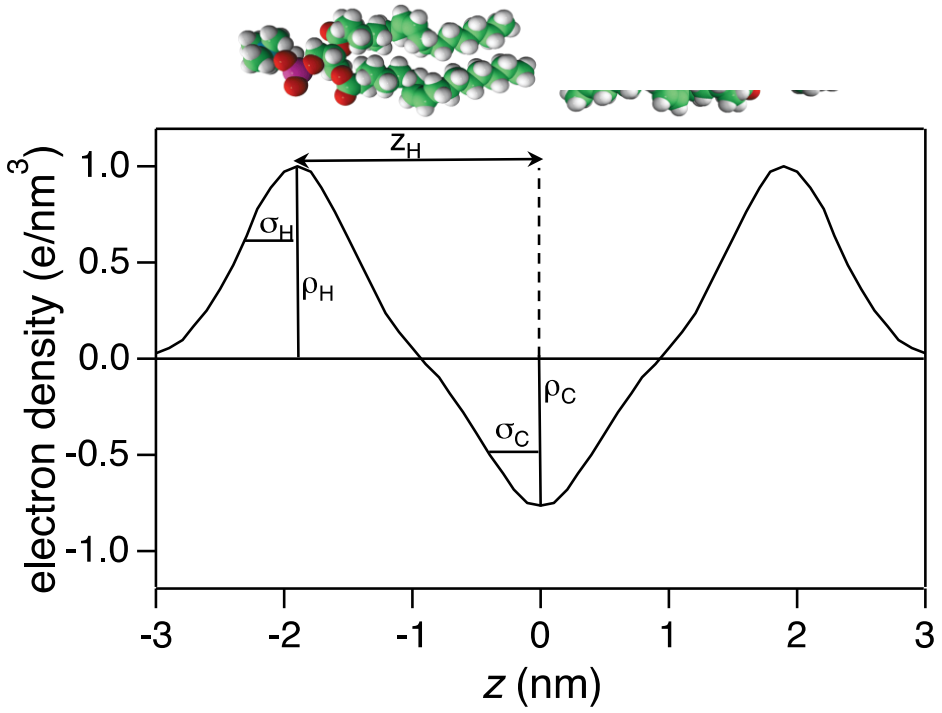


**Figura S1.** Gaussian description of the bilayer electron density profile (EDP) (G. Pabst, M. Rappolt, H. Amenitsch and P. Laggner, *Physical Review E* (**2000**) 62(3), 4000-4009). This simplified model uses one Gaussian distribution for the head-group at the positions $\pm z_H$ of width $\sigma_H$ and one "negative" Gaussian of width $\sigma_C$ centered at zero mimicking the hydrophobic core of the bilayer. This model of the lipid bilayer EDP appears to be the simplest of the realistic bilayer models, requiring the adjustment of only four parameters.

$$\rho(z) = \exp[-(z-z_H)^2 / 2\sigma_H^2] + \exp[-(z+z_H)^2 / 2\sigma_H^2] - \rho_r \exp(-z^2 / \sigma_C^2)$$

where $\rho_r = (\rho_C - \rho_a)/(\rho_H - \rho_a)$ is the ratio of the methyl- terminus electron density amplitude to that of the headgroup, where $\rho_a$ is the electron density of the interbilayer aqueous solution (water), which is set to zero. According to this definition of the EDP, relevant structural parameters of the lipid bilayer are calculated directly from the EDP as follows:

- $d_B=2(z_H+2\sigma_H)$ Lipid bilayer thickness
- $d_H=2\sigma_H$ Lipid head-group size
- $d_H=2\sigma_C$ Hydrophobic region size


**Figura S2.** Deconvolution of the SAXS pattern to detect the diffraction peak due to the in-plane spatial correlation between poly(I:C) molecules. DOTAP–DOPC/poly(I:C) (A), MC/poly(I:C) (B) and DC-Chol–DOPE/poly(I:C) (C).

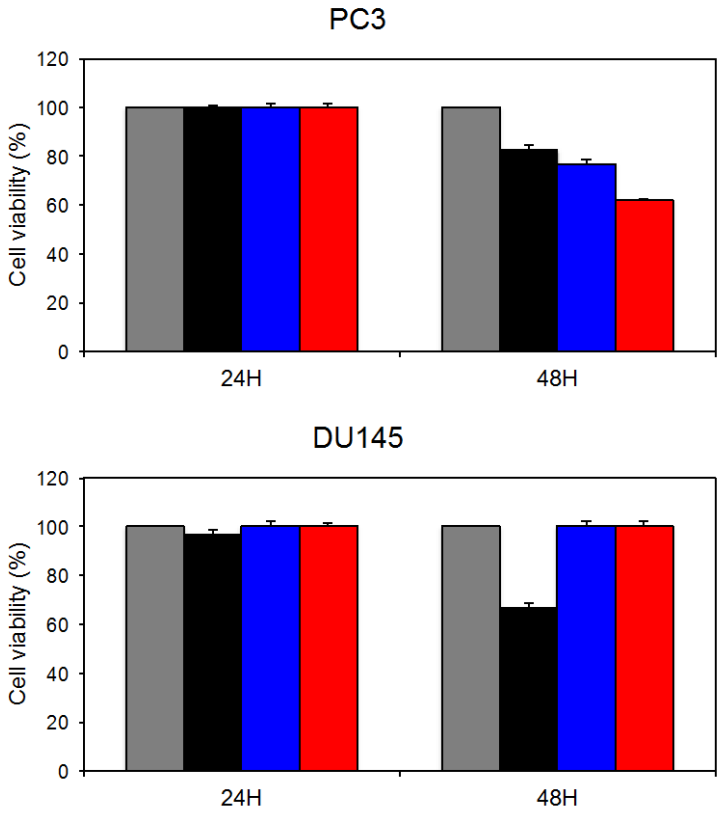


**Figura S3.** PC3 (top panel) and DU145 cells (bottom panel) were stimulated with cationic liposomes (i.e. in the absence of poly(I:C)) and then subjected to MTT assay to evaluate cell viability at 24 and 48 h after transfection: DOTAP–DOPC (black bars), MC/poly(I:C) (blu bars) and DC-Chol–DOPE/poly(I:C) (red bars).

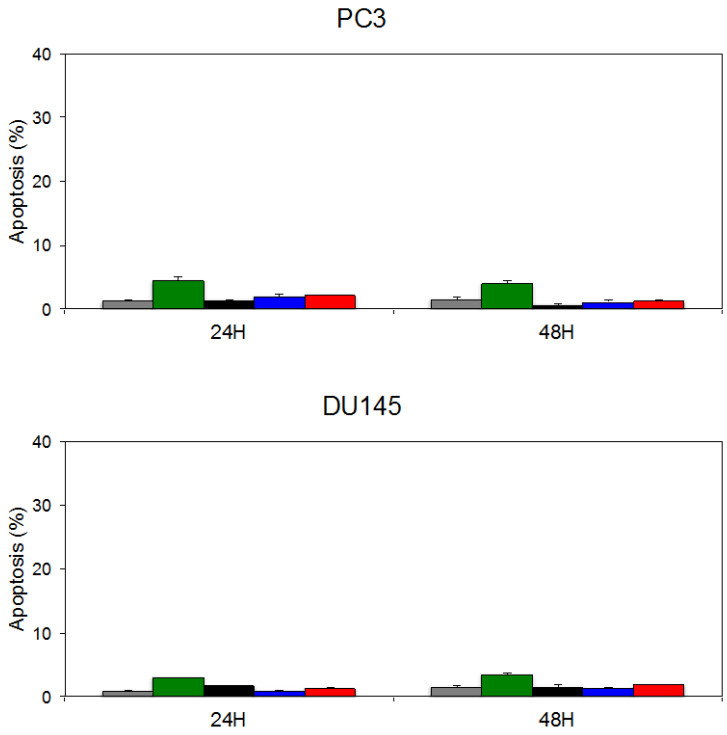


**Figura S4.** Apoptosis of PC3 (top panel) and DU145 cells (bottom panel) induced by cationic liposomes and free poly(I:C) as determined by cell cycle analysis at 24 and 48 h after cell treatment: DOTAP–DOPC (black bars), MC (blu bars), DC-Chol–DOPE (red bars), free poly(I:C) (green).

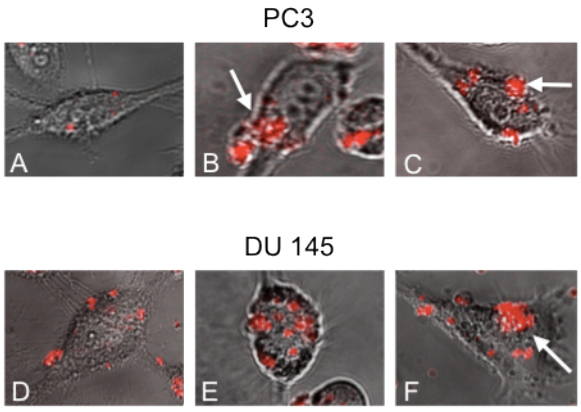


**Figura S5.** Representative confocal images of PC3 and DU145 cells treated with DOTAP−DOPC/poly(I:C) (panels A and D), DC-Chol−DOPE/poly(I:C) (panels B and E) and MC/poly(I:C) complexes (panels C and F). Arrows indicate widespread regions of poly(I:C) fluorescence.