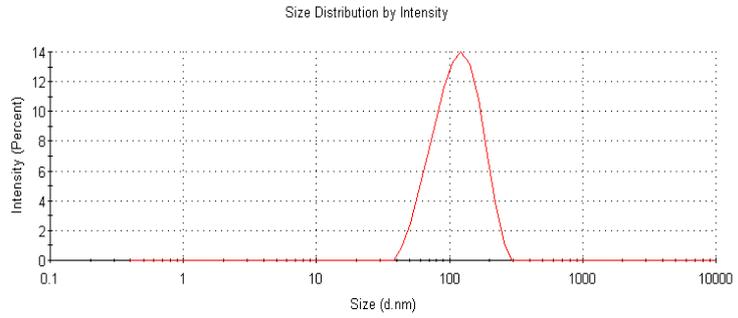
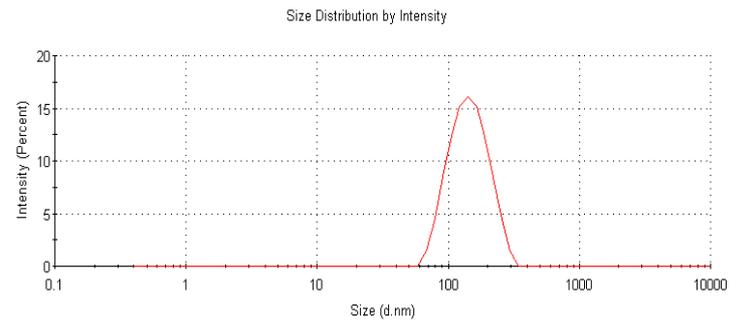


	Size (d.nm):	% Intensity:	St Dev (d.nm):
<b>Z-Average (d.nm):</b> 94,58	<b>Peak 1:</b> 120,7	100,0	45,45
<b>Pdl:</b> 0,259	<b>Peak 2:</b> 0,000	0,0	0,000
<b>Intercept:</b> 0,952	<b>Peak 3:</b> 0,000	0,0	0,000
<b>Result quality:</b> Good			

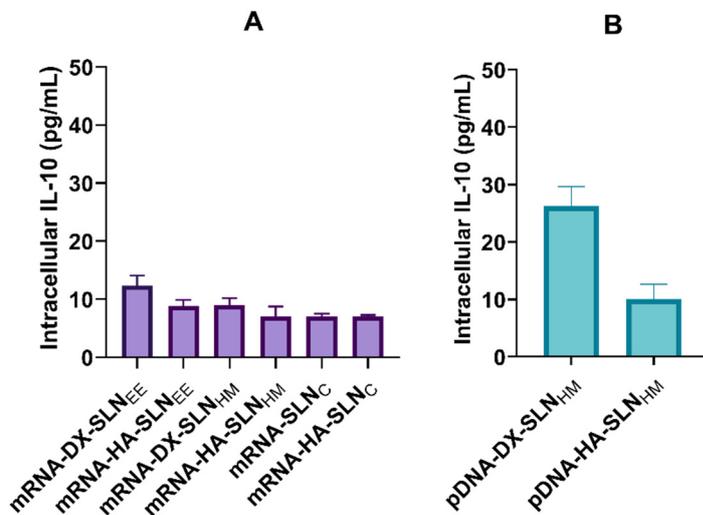


**Figure S1.** Particle Size Distribution Intensity Diagram of SLN<sub>HM</sub>.

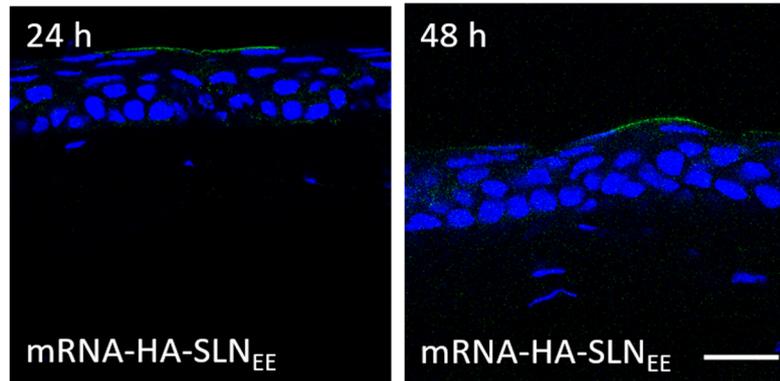
	Size (d.nm):	% Intensity:	St Dev (d.nm):
<b>Z-Average (d.nm):</b> 131,4	<b>Peak 1:</b> 149,2	100,0	49,27
<b>Pdl:</b> 0,218	<b>Peak 2:</b> 0,000	0,0	0,000
<b>Intercept:</b> 0,933	<b>Peak 3:</b> 0,000	0,0	0,000
<b>Result quality:</b> Good			



**Figure S2.** Particle Size Distribution Intensity Diagram of mRNA-HA-SLN<sub>HM</sub> bearing CleanCap<sup>TM</sup> EGFP mRNA (5moU).



**Figure S3.** Intracellular levels of IL-10 in HCE-2 cells after the administration of SLN-based vectors bearing IL-10 mRNA and pUNO1-hIL10 plasmid. (A) Concentration of intracellular IL-10 48 h after the administration of mRNA-based vectors. (B) Concentration of intracellular IL-10 72 h after the administration of pDNA-based vectors. DX: dextran; HA: hyaluronic acid; SLN<sub>EE</sub>: solid lipid nanoparticle prepared by emulsification-evaporation method; SLN<sub>HM</sub>: solid lipid nanoparticle prepared by hot-melt emulsification method; SLN<sub>C</sub>: solid lipid nanoparticle prepared by coacervation method.



**Figure S4.** In vivo corneal transfection in wild type mice 24 h and 48 h after the administration of mRNA-HA-SLN<sub>EE</sub> with PVA (63×). Blue: nuclei stained with DAPI. Green: green fluorescent protein. Scale bar: 20  $\mu$ m. HA: hyaluronic acid; SLN<sub>EE</sub>: solid lipid nanoparticle prepared by emulsification-evaporation method.