Supporting Information

Maltodextrin-Modified Lipoplexes for enhanced Mucosal Penetration and Efficient mRNA Delivery

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Materials and methods

eGFP RNA sequence:

GGGAGACAAGCUUGCAUGCCUGCAGGUCGACUCUAGAGGAUCCACCGGUCGCC
ACCAUGGUGAGCAAGGGCGAGGAGCUGUUCACCGGGGUGGUGCCCAUCCUGGU
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CAUCGAGCUGAAGGGCAUCGACUUCAAGGAGGACGGCAACAUCCUGGGGCACA
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CGUGCAGCUCGCCGACCACUACCAGCAGAACACCCCCAUCGGCGACGGCCCCG
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CCCAACGAGAAGCGCGAUCACAUGGUCCUGCUGGAGUUCGUGACCGCCGCCGG
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AAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA
AAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA

Modification: 5MoU

Capping: ARCA and cap1

F Luc RNA sequence:

5'-
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UCGCCGUGUGA- 3’

Modification: 5MoU

Capping: cap1

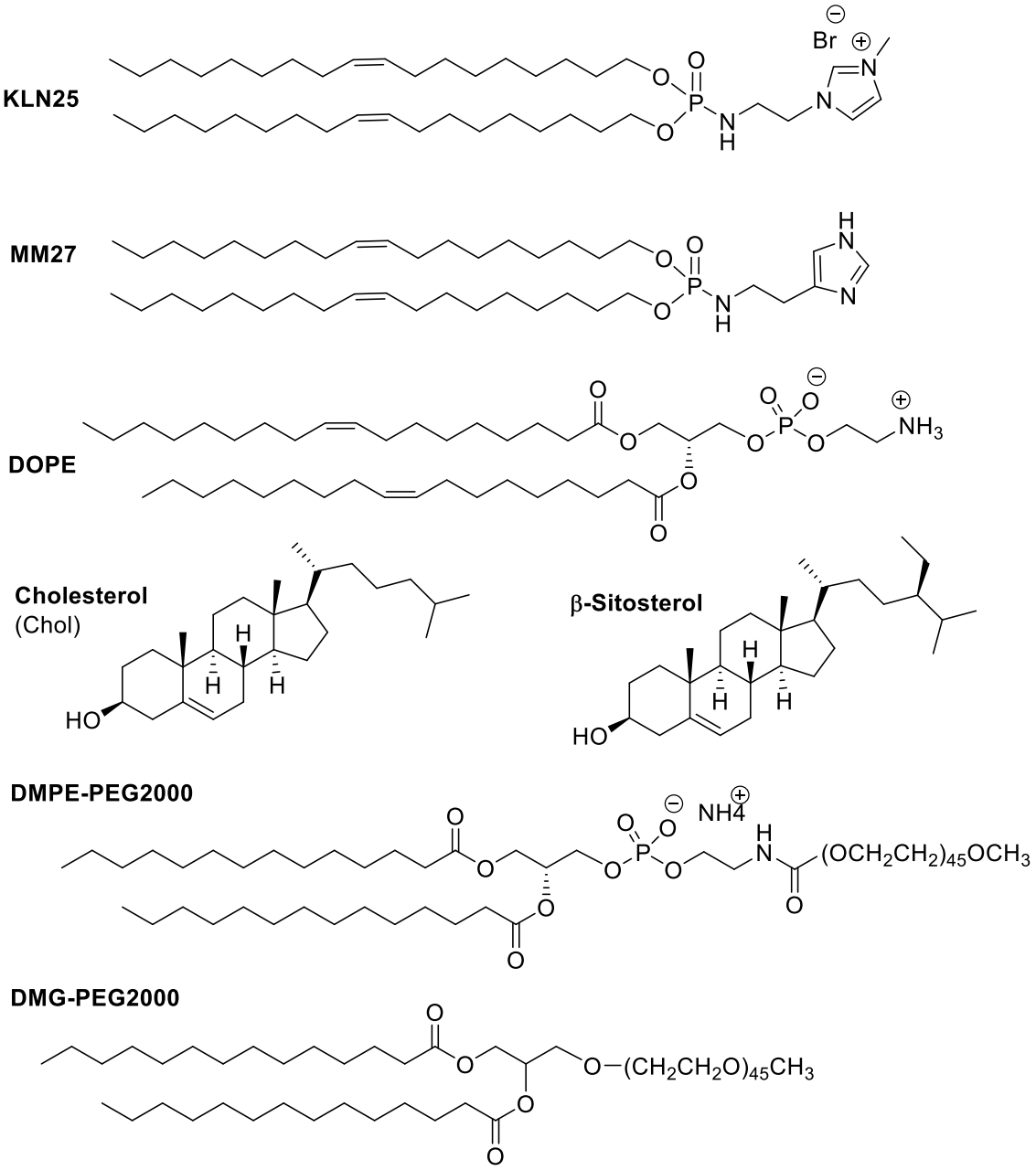


Figure S1. Chemical structure of the lipids used in this study.

Results

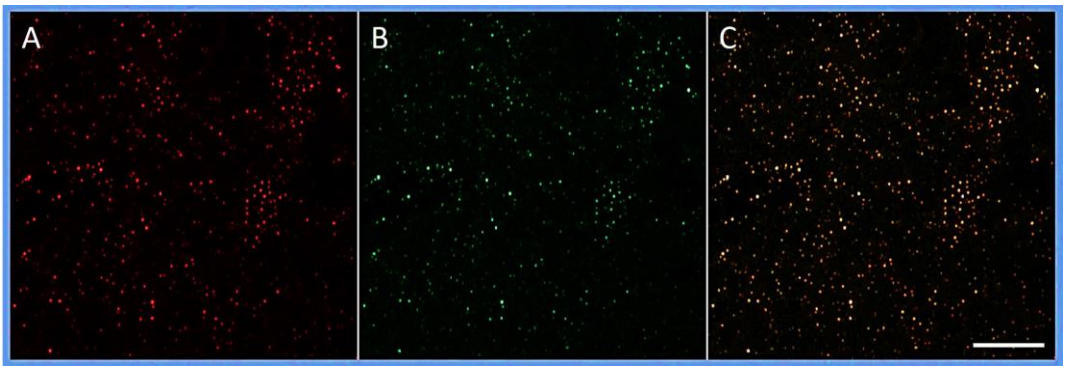
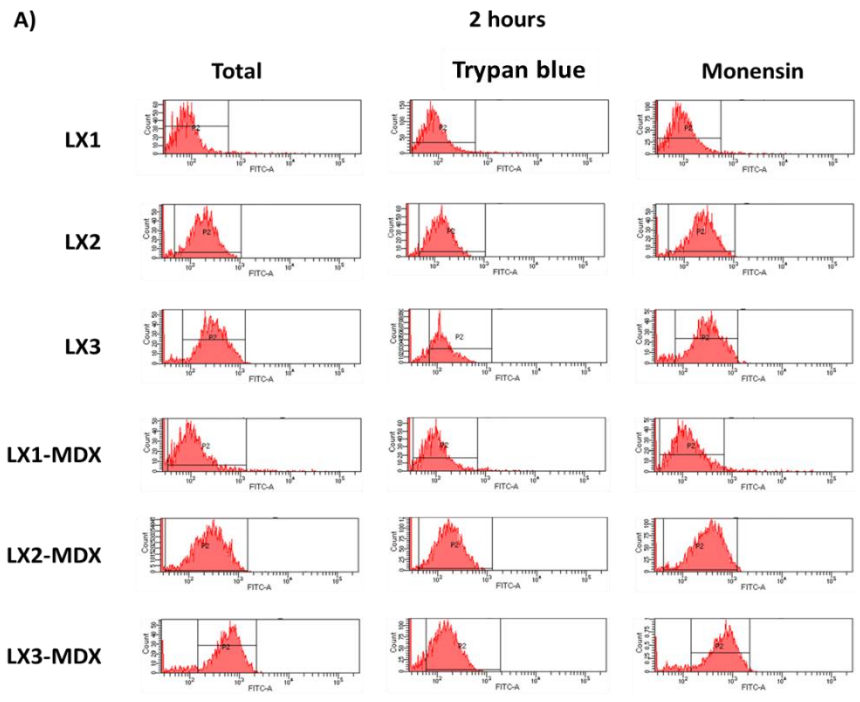


Figure S2. MDX and LXs colocalization assay using confocal microscopy. LXs comprising 0.5 µg of non-modified mRNA at an RNA/L charge ratio of 1/1.5, and RNA/MDX weight ratio of 1/2. A – Rhodamine-labelled lip2; B – FITC-MDX; C – merged representation. Scale bar represents 5 µm.



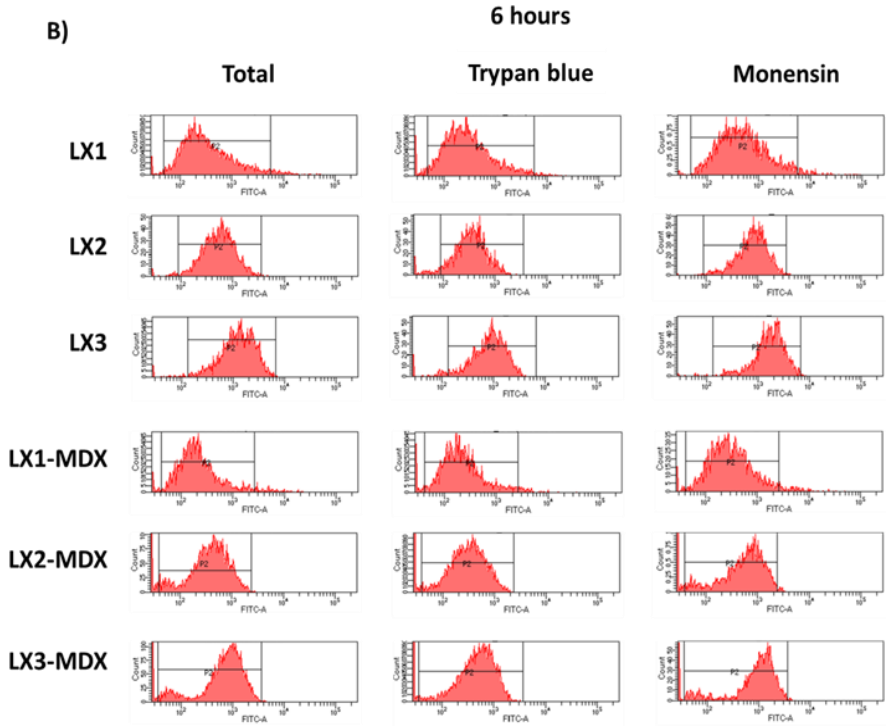


Figure S3. Histograms of H292 cells following the uptake of FITC-mRNA complexed to different formulations. Impact of MDX on the uptake measured at (**A**) 2 and (**B**) 6h after transfection of airway epithelial cells with LXs comprising 0.5 µg of non-modified mRNA at an RNA/L charge ratio of 1/1.5 and RNA/MDX weight ratio of 1/2.