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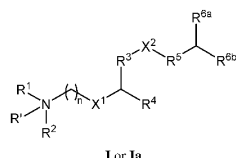
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(54) Title: CATIONIC LIPIDS AND COMPOSITIONS THEREOF



(57) Abstract: Provided herein are lipids having the Formula I or Formula Ia, and pharmaceutically acceptable salts thereof, wherein R^1 , R^2 , R^3 , R^4 , R^5 , R^{6a} , R^{6b} , X^1 , X^2 , and n are as defined herein for Formula I and Formula Ia, respectively. Also provided herein are lipid nanoparticle (LNP) compositions comprising lipid having the Formula I or Ia and a capsid-free, non-viral vector (e.g., ceDNA). In one aspect of any of the aspects or embodiments herein, these LNPs can be used to deliver a capsid-free, non-viral DNA vector to a target site of interest (e.g., cell, tissue, organ, and the like).

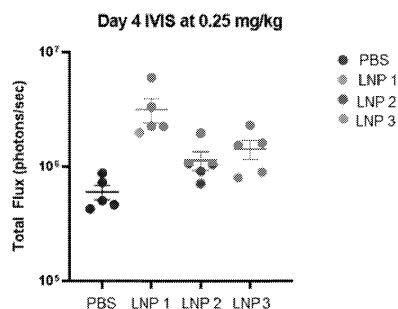


FIG. 1A

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