Claims:

1. A pre-filled syringe comprising a pharmaceutical composition comprising ~~A~~an LPA RNA interference (RNAi) agent and a pharmaceutically acceptable excipient, wherein the LPA RNAi agent comprises: ~~comprising~~

   (i) a sense strand and an antisense strand, wherein ~~said~~ the antisense strand comprises the ~~nucleotide~~ sequence of SEQ ID NO: 1280, wherein the sense strand comprises a sequence that is complementary to the sequence of the antisense strand; and

   (ii) a targeting group comprising an asialoglycoprotein receptor ligand, wherein the targeting group is conjugated to the sense strand.

   ~~a) nucleotides 2-19 of any of SEQ ID NOs:1-108, or~~

   ~~b) any of the antisense strands of Table 1 or Table 2A.~~

~~2. The LPA RNAi agent of claim 1, wherein the sense strand comprises the nucleotide sequence of~~

   ~~a) nucleotides 1-19 of any of SEQ ID NOs:190-268, or~~

   ~~b) any of the sense strands of Table 1 or Table 2B.~~

~~3. The LPA RNAi agent of claim 1, wherein the antisense strand comprises the nucleotide sequence of any of SEQ ID NO:1246, SEQ ID NO:1242, SEQ ID NO:1244, SEQ ID NO:1248, SEQ ID NO:1250, SEQ ID NO:1252, or SEQ ID NO:1254, SEQ ID NO:1280, SEQ ID NO:1281, SEQ ID NO:1282, OR SEQ ID NO:1283.~~

~~4. The LPA RNAi agent of claim 3, wherein:~~

   ~~a) the antisense strand comprises the nucleotide sequence of SEQ ID NO:1246 and the sense strand comprises the nucleotide sequence of SEQ ID NO:1247;~~

   ~~b) the antisense strand comprises the nucleotide sequence of SEQ ID NO:1242 and the sense strand comprises the nucleotide sequence of SEQ ID NO:1243;~~

   ~~c) the antisense strand comprises the nucleotide sequence of SEQ ID NO:1244 and the sense strand comprises the nucleotide sequence of SEQ ID NO:1245;~~

   ~~d) the antisense strand comprises the nucleotide sequence of SEQ ID NO:1248 and the sense strand comprises the nucleotide sequence of SEQ ID NO:1249;~~

   ~~e) the antisense strand comprises the nucleotide sequence of SEQ ID NO:1250 and the sense strand comprises the nucleotide sequence of SEQ ID NO:1251;~~

   ~~f) the antisense strand comprises the nucleotide sequence of SEQ ID NO:1252 and the sense strand comprises the nucleotide sequence of SEQ ID NO:1253; or~~

g) the antisense strand comprises the nucleotide sequence of SEQ ID NO:1254 and the sense strand comprises the nucleotide sequence of SEQ ID NO:1255; or

h) the antisense strand comprises the nucleotide sequence of SEQ ID NO:1280 and the sense strand comprises the nucleotide sequence of SEQ ID NO:1260; OR

i) the antisense strand comprises the nucleotide sequence of SEQ ID NO:1281 and the sense strand comprises the nucleotide sequence of SEQ ID NO:1258; or

j) the antisense strand comprises the nucleotide sequence of SEQ ID NO:1280 and the sense strand comprises the nucleotide sequence of SEQ ID NO:1284; or

k) the antisense strand comprises the nucleotide sequence of SEQ ID NO:1281 and the sense strand comprises the nucleotide sequence of SEQ ID NO:1285; or

l) the antisense strand comprises the nucleotide sequence of SEQ ID NO:1282 and the sense strand comprises the nucleotide sequence of SEQ ID NO:1259; or

m) the antisense strand comprises the nucleotide sequence of SEQ ID NO:1283 and the sense strand comprises the nucleotide sequence of SEQ ID NO:1249.

5. The LPA RNAi agent of any of claims 1-4, wherein the sense strand and/or the antisense strand further comprises a 3′ and/or 5′ extension of 1-6 nucleotides in length.

6. The LPA RNAi agent of any of claims 1-5 wherein the antisense strand comprises a nucleotide sequence of any of SEQ ID NO:156, SEQ ID NO:164, or SEQ ID NO:188.

7. The LPA RNAi agent of claim 6, wherein:

a) the antisense strand comprises a nucleotide sequence of SEQ ID NO:156. and the sense strand comprises a nucleotide sequence of SEQ ID NO:310,

b) the antisense strand comprises a nucleotide sequence of SEQ ID NO:164. and the sense strand comprises a nucleotide sequence of SEQ ID NO:357,

c) the antisense strand comprises a nucleotide sequence of SEQ ID NO:188 and the sense strand comprises a nucleotide sequence of SEQ ID NO:384,

d) the antisense strand comprises a nucleotide sequence of SEQ ID NO:164 and the sense strand comprises a nucleotide sequence of SEQ ID NO:376, or

e) the antisense strand comprises a nucleotide sequence of SEQ ID NO:164 and the sense strand comprises a nucleotide sequence of SEQ ID NO:384.

8. The LPA RNAi agent of any of claims 1-7, wherein the sense strand and/or antisense strand independently comprises one or more modified nucleotides.

~~9. The LPA RNAi agent of claim 8, wherein the one or more modified nucleotides are independently selected from the group consisting of: 2′ O-methyl modified nucleotide, nucleotide comprising a 5′ phosphorothioate group, 2′ deoxy 2′ fluoro modified nucleotide, 2′ deoxy modified nucleotide, locked nucleotide, abasic nucleotide, deoxythymidine, inverted deoxythymidine, 2′ amino modified nucleotide, 2′ alkyl modified nucleotide, morpholino nucleotide, and non-natural base comprising nucleotide.~~

~~10. The LPA RNAi agent of any of claims 1-9, wherein the LPA RNAi agent comprises one or more phosphorothioate internucleoside linkages.~~

~~11. The LPA RNAi agent of any of claims 1-10, wherein the LPA RNAi agent further comprises a targeting group.~~

~~12. The LPA RNAi agent of claim 11, wherein the targeting group comprises an asialoglycoprotein receptor ligand.~~

~~13. The LPA RNAi agent of claim 12, wherein the asialoglycoprotein receptor ligand comprises a galactose cluster.~~

~~14. The LPA RNAi agent of claim 13, wherein the galactose cluster is selected from the group consisting of: (C11 PEG3 NAG3), (C11 PEG3 NAG3), (C6 PEG4 NAG3), (NAG 3), (NAG4), (NAG3 AA2), (NAG3 Palm), (NAG13), (NAG18), (NAG24), (NAG25), (NAG25)s, (NAG26), (NAG27), (NAG28), (NAG29), (NAG30), (NAG30)s, (NAG31), (NAG13), (NAG31s), (NAG32), (NAG33), (NAG34), (NAG35), (NAG36), and (NAG37).~~

~~15. The LPA RNAi agent of any of claims 11-14, wherein the targeting group is conjugated to the sense strand.~~

~~16.~~2. The ~~pre-filled syringe~~~~LPA RNAi agent~~ of claim ~~15~~1, wherein the targeting group is conjugated to the 5′ end of the sense strand.

3. The pre-filled syringe of claim 1 or 2, wherein the sense strand and antisense strand are each 19 to 26 nucleotides in length.

4. The pre-filled syringe of claim 3, wherein the sense strand and antisense strand are each 21 nucleotides in length.

~~17. The LPA RNAi agent of claim 15, wherein the targeting group is conjugated to the 3′ end of the sense strand.~~

~~18. The LPA RNAi agent of any of claims 1-17, wherein the LPA RNAi agent further comprises a linking group.~~

~~19. The LPA RNAi agent of any of claims 1-18, wherein the LPA RNAi agent comprises one or two overhangs.~~

~~20. The LPA RNAi agent of any of claims 1-18, wherein the LPA RNAi agent comprises one or two frayed ends.~~

~~21.~~5. The pre-filled syringe~~LPA RNAi agent~~ of any of claims 1-~~18~~4, wherein the LPA RNAi agent comprises one or two blunt ends.

6. The pre-filled syringe of claim 5, wherein the LPA RNAi agent comprises two blunt ends.

7. The pre-filled syringe of any one of claims 1 to 6, wherein the sense strand, the antisense strand, or both the sense and antisense strand comprise one or more modified nucleotides.

8. The pre-filled syringe of claim 7, wherein the one or more modified nucleotides are independently selected from a 2'-modified nucleotide, a locked nucleotide, an abasic nucleotide, an inverted deoxynucleotide, a morpholino nucleotide, a 2',3'-seco nucleotide mimic, or a nucleotide containing a non-natural base.

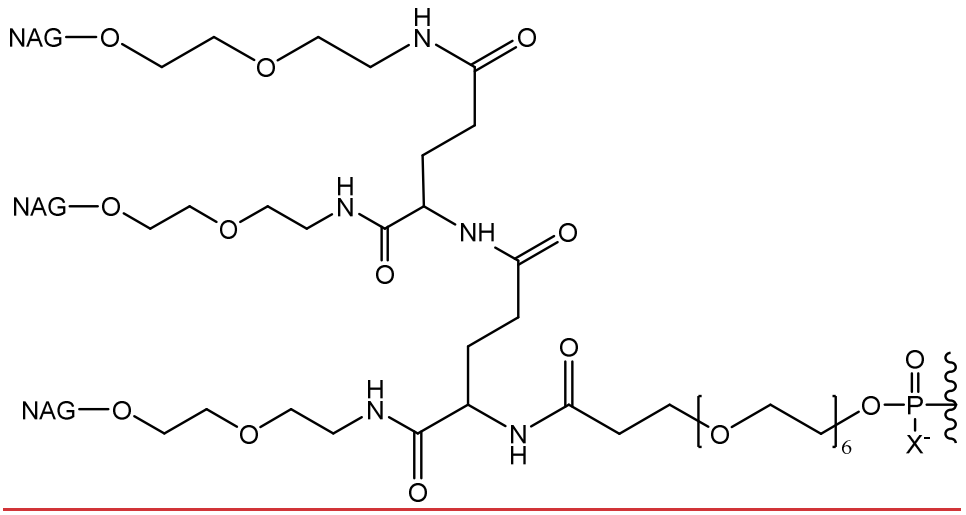
9. The pre-filled syringe of claim 8, wherein the 2'-modified nucleotide is a 2'-O-methyl nucleotide, a 2'-deoxy-2'-fluoro nucleotide, a 2'-deoxynucleotide, a 2'-methoxyethyl nucleotide, a 2'-amino nucleotide, or a 2'-alkyl nucleotide.

10. The pre-filled syringe of any one of claims 1 to 9, wherein the LPA RNAi agent comprises one or more phosphorothioate internucleoside linkages.

11. The pre-filled syringe of claim 10, wherein both the sense and antisense strand independently comprise 1, 2, 3, or 4 phosphorothioate internucleoside linkages.

12. The pre-filled syringe of any one of claims 1 to 11, wherein the asialoglycoprotein receptor ligand comprises galactose, galactosamine, N-acetyl-galactosamine, or a galactose derivative.

13. The pre-filled syringe of any one of claims 1 to 11, wherein the targeting group comprises:



wherein NAG is N-Acetyl-Galactosamine and X is selected from the group consisting of O and S.

14. The pre-filled syringe of any one of claims 1 to 13, wherein the antisense strand comprises the sequence of SEQ ID NO:188 and the sense strand comprises the sequence of SEQ ID NO:384.

15. The pre-filled syringe of claim 14, wherein the antisense strand comprises the sequence of modified nucleotides according to SEQ ID NO: 790 and the sense strand comprises the sequence of modified nucleotides according to SEQ ID NO: 1189.

16. The pre-filled syringe of any one of claims 1 to 13, wherein the antisense strand comprises the sequence of SEQ ID NO:164 and the sense strand comprises the sequence of SEQ ID NO:376.

17. The pre-filled syringe of claim 16, wherein the antisense strand comprises the sequence of modified nucleotides according to SEQ ID NO: 787 and the sense strand comprises the sequence of modified nucleotides according to SEQ ID NO: 1191.

18. The pre-filled syringe of any one of claims 1 to 13, wherein the antisense strand comprises the sequence of SEQ ID NO:164 and the sense strand comprises the sequence of SEQ ID NO:357.

19. The pre-filled syringe of claim 18, wherein the antisense strand comprises the sequence of modified nucleotides according to SEQ ID NO: 709 and the sense strand comprises the sequence of modified nucleotides according to SEQ ID NO: 1135.

20. The pre-filled syringe of any one of claims 1 to 19 for use in therapy.

21. Use of the pre-filled syringe of any one of claims 1 to 19 in the manufacture of a medicament for treating coronary artery disease in a subject.

22. Use of the pre-filled syringe of any one of claims 1 to 19 in the manufacture of a medicament for treating peripheral artery disease in a subject.

23. The use of claims 21 or 22, wherein the use further comprises that an additional therapeutic selected from the group consisting of an HMG CoA reductase inhibitor, ezetimibe, a PCSK9 inhibitor, a CTEP inhibitor, an ANGPTL3-targeting therapy, an APOC3-targetng therapy, and niacin is to be administered to the subject.

24. The use of any one of claims 21 to 23, wherein the pre-filled syringe is to be used to administer the pharmaceutical composition to the subject by subcutaneous injection.

~~22. The LPA RNAi agent of any of claims 1-18, wherein the LPA RNAi agent comprises any of the duplex sequences in Table 3A or Table 3B.~~

~~23. The LPA RNAi agent of any of claims 1-18, wherein the LPA RNAi agent comprises AD03460, AD03536, AD03581, AD03583, AD3847, or AD04110,~~

~~24. Use of the LPA RNAi agent of any of claims 1-22, for the manufacture of a medicament.~~

~~25. The LPA RNAi agent of any of claims 1-23, further comprising one or more additional therapeutics or treatments.~~

~~26. The LPA RNAi agent of any of claims 1-23, further comprising a pharmaceutically acceptable excipient.~~

~~27. The LPA RNAi agent of any of claims 1-23, wherein said LPA RNAi agent is packaged in a kit, container, pack, dispenser, pre-filled syringes, or vials.~~

~~28. A method for inhibiting LPA expression in a cell, tissue, or subject comprising: administering to said subject a therapeutically effective amount of an LPA RNAi agent of any of claims 1-26.~~

~~29. The method of claim 27, wherein the composition is administered parenterally.~~

~~30. The method of any of claims 27-28, wherein the cell is a hepatocyte.~~

~~31. An LPA RNA interference (RNAi) agent comprising a sense sequence and an antisense sequence, wherein said antisense sequence comprises a nucleotide sequence of nucleotides 1-17, 2-18, 1-19, 2-19, 1-21, 1-23, or 1-26 of any of the antisense sequences of Table 1 or Table 2A.~~