Molecular Cell, vol. 8, 817-828 (2001)]. In hepatocellular carcinoma (HCC), C/EBPα functions as a tumor suppressor with anti-proliferative properties [Iakova et al., *Seminars in Cancer Biology,* vol. 21(1), 28-34 (2011)].

[0005] Different approaches are carried out to study C/EBPα mRNA or protein modulation. It is known that C/EBPα protein is regulated by post-translational phosphorylation and sumoylation. For example, FLT3 tyrosine kinase inhibitors and extra-cellular signal-regulated kinases 1 and/or 2 (ERK1/2) block serine-21 phosphorylation of C/EBPα, which increases the granulocytic differentiation potential of the C/EBPα protein [Radomska et al., *Journal of Experimental Medicine*, vol. 203(2), 371-381 (2006) and Ross et al., *Molecular and Cellular Biology,* vol. 24(2), 675-686 (2004)]. In addition, C/EBPα translation can be efficiently induced by 2-cyano-3,12-dioxoolean-1,9-dien-28-oic acid (CDDO), which alters the ratio of the C/EBPα protein isoforms in favor of the full-length p42 form over p30 form thereby inducing granulocytic differentiation [Koschmieder et al., *Blood,* vol. 110(10), 3695-3705 (2007)].

[0006] The C/EBPα gene is an intronless gene located on chromosome 19q13.1. Most eukaryotic cells use RNA-complementarity as a mechanism for regulating gene expression. One example is the RNA interference (RNAi) pathway which uses double stranded short interfering RNAs to knockdown gene expression via the RNA-induced silencing complex (RISC). It is now established that short duplex RNA oligonucleotides also have the ability to target the promoter regions of genes and mediate transcriptional activation of these genes and they have been referred to as RNA activation (RNAa), antigene RNA (agRNA) or short activating RNA (saRNA) [Li et al., *PNAS,* vol. 103, 17337-17342 (2006)]. saRNA induced activation of genes is conserved in other mammalian species including mouse, rat, and non-human primates and is fast becoming a popular method for studying the effects of endogenous up-regulation of genes.

[0007] Thus, there is a need for targeted modulation of C/EBPα for therapeutic purposes with saRNA.

SUMMARY ~~OF THE INVENTION~~

[0008] The present ~~invention provides~~disclosure discloses compositions, methods and kits for the design, preparation, manufacture, formulation and/or use of short activating RNA (saRNA) molecules that modulate C/EBPα gene expression and/or function for therapeutic purposes, including diagnosing and prognosis.

[0009] In one aspect, the present invention refers to an *in vitro* method of modulating the expression of a gene in a cell comprising contacting the cell with a composition comprising a saRNA targeting a C/EBPα transcript, wherein said gene is selected from an oncogene or a tumor suppressing gene. In another aspect, the present invention refers to an *in vitro* method of reducing the proliferation of hyperproliferative cells comprising contacting the cells with a composition comprising a saRNA targeting a C/EBPα transcript. In yet another aspect, the present invention refers to a pharmaceutical composition comprising a saRNA targeting a C/EBPα transcript and at least one pharmaceutically acceptable carrier. In a further aspect, the present invention refers to a saRNA targeting a C/EBPα transcript comprising a flanking sequence, wherein the flanking sequence is the sequence of a microRNA. In one aspect, the present invention refers to a conjugate comprising a saRNA targeting a C/EBPα transcript and an aptamer. One ~~aspect~~ example ~~of the invention provides~~discloses a pharmaceutical composition comprising a saRNA that targets a C/EBPα transcript and at least one pharmaceutically acceptable carrier.

[0010] In one aspect, the present invention refers to use of a composition comprising a saRNA targeting a C/EBPα transcript in the manufacture of a medicament for treating or preventing a hyperproliferative disorder. In another aspect, the present invention refers to use of a saRNA targeting a C/EBPα transcript in the manufacture of a medicament for treating non-alcoholic fatty liver disease, cirrhosis, insulin resistance or obesity. Another ~~aspect~~ example discloses ~~of the invention provides~~ a method of modulating the metabolic pathway of a subject comprising administering a saRNA that targets a C/EBPα transcript to said subject.

[0011] Another example discloses ~~aspect of the invention provides~~ a method of inhibiting the proliferation of hyperproliferative cells comprising contacting the cells with a saRNA that targets a C/EBPα transcript.

[0012] Another example discloses ~~aspect of the invention provides~~ a method of treating or preventing hyperproliferative disorders comprising administering a saRNA that targets a C/EBPα transcript to a subject with said hyperproliferative disorder.

[0013] Another example discloses ~~aspect of the invention provides~~ a method of regulating epithelial-mesenchymal transition of a cell comprising contact the cell with a saRNA that targets a C/EBPα transcript.

[0014] Yet another example discloses ~~aspect of the invention provides~~ a method of regulating stem cell differentiation and pluripotency comprising contact said stem cell with a saRNA that targets a C/EBPα transcript.

[0015] The details of various embodiments of the invention are set forth in the description below. Other features, objects, and advantages of the invention will be apparent from the description and the drawings, and from the claims.

BRIEF DESCRIPTION OF THE DRAWINGS

[0016] The foregoing and other objects, features and advantages will be apparent from the following description of particular embodiments of the invention, as illustrated in the accompanying drawings in which like reference characters refer to the same parts throughout the different views. The drawings are not necessarily to scale, emphasis instead being placed upon illustrating the principles of various embodiments of the invention.

[0017] FIG. 1 shows the primary effects of C/EBPα on the liver.

[0018] FIG. 2 shows the secondary effects of C/EBPα on the adipose tissue.

[0019] FIG. 3 is a series of histograms illustrating the effects of saRNA of the present invention. A shows transfection of C/EBPα-saRNA in HepG2 cells positively regulates expression of C/EBPα gene; B shows Transfection of C/EBPα-saRNA in HepG2 cells positively

Claims

1. A method of modulating the expression of a gene in a cell comprising contacting the cell with a composition comprising a saRNA targeting a C/EBPα transcript, wherein said gene is selected from an oncogene or a tumor suppressing gene.
2. The method of claim 1, wherein the gene is an oncogene.
3. The method of claim 2, wherein the expression of the oncogene is reduced.
4. The method of claim 3, wherein the expression of the oncogene is reduced by a factor of at least 1.
5. The method of claim 2, wherein the gene is selected from the group consisting of ADAM17, AKT1, ANGPT2, BCL2, BCL2L1, BIRC2, BIRC5, CCL5, CCND1, CCND2, CDH1, CDH13, CDKN1A, CDKN1B, CDKN2A, CFLAR, CTNNB1, CXCR4, E2F1, EGF, EGFR, EP300, FADD, FLT1, FZD7, GSTP1, HGF, HRAS, IGFBP1, IGFBP3, IRS1, ITGB1, KDR, MCL1, MET, MSH2, MSH3, MTDH, MYC, NFKB1, NRAS, OPCML, PDGFRA, PIN1, PTGS2, PYCARD, RAC1, RASSF1, RELN, RHOA, SFRP2, SMAD7, SOCS1, STAT3, TCF4, TERT, TGFA, TGFB1, TLR4, TNFRSF10B, VEGFA, WT1, XIAP, and YAP1.
6. The method of claim 1, wherein the gene is a tumor suppressing gene.
7. The method of claim 7, wherein the expression of the tumor suppressing gene is increased.
8. The method of claim 8, wherein the expression of the tumor suppressing gene is increased by a factor of at least 1.
9. The method of claim 9, wherein the gene is selected from the group consisting of BAX, BID, CASP8, DAB21P, DLC1, FAS, FHIT, GADD45B, HHIP, IGF2, LEF1, PTEN, PTK2, RB1, RUNX3, SMAD4, SOCS3, TGFBR2, TNFBR2, TNFSF10, and P53.
10. The method of claim 1, wherein the saRNA comprises SEQ ID No. 2, 4, 6, 8, 10 or 12.
11. A method of reducing the proliferation of hyperproliferative cells comprising contacting the cells with a composition comprising a saRNA targeting a C/EBPα transcript.
12. The method of claim 11, wherein the hyperproliferative cells are tumor cells.

13. The method of claim 12, wherein the hyperproliferative cells are liver tumor cells, breast cancer cells, leukemia cells, lymphoma cells, lung cancer cells, ovarian cancer cells, or pancreatic cancer cells.

14. The method of claim 11, wherein the saRNA comprises SEQ ID No. 2, 4, 6, 8, 10 or 12.

15. A method of treating or preventing a hyperproliferative disorder comprising administering a composition comprising a saRNA targeting a C/EBPα transcript to a subject in need thereof.

16. The method of claim 15, wherein the hyperproliferative disorder is tumor.

17. The method of claim 16, wherein the tumor burden is reduced at least 10%.

18. The method of claim 16, wherein the tumor is selected form a group consisting of hepatocellular carcinoma, breast cancer, lung cancer, leukemia, ovarian cancer, and pancreatic cancer.

19. The method of claim 18, wherein the tumor is hepatocellular carcinoma.

20. The method of claim 18, wherein the tumor is breast cancer.

21. The method of claim 20, wherein the composition further comprises a siRNA that inhibits C/EBPβ gene expression.

22. The method of claim 15, wherein the saRNA comprises SEQ ID No.2, 4, 6, 8, 10 or 12.

23. The method of claim 21, wherein the siRNA comprises SEQ ID No. 30 or 32.

24. A method of regulating the expression of a microRNA in a cell comprising contact the cell with a composition comprising a saRNA targeting a C/EBPα transcript.

25. The method of claim 24, wherein the cell is a tumor cell.

26. The method of claim 25, wherein the microRNA is an oncogenic microRNA.

27. The method of claim 26, wherein the expression of the microRNAs is reduced.

28. The method of claim 27, wherein the expression of the microRNA is reduced by a factor of at least 1.

29. The method of claim 26, wherein the microRNA is selected from hsa-miR-20b-5p, hsa-miR-125a-5p, hsa-miR-148b-3p, hsa-miR-92a-3p, hsa-miR-378a-3p, hsa-miR-130a-3p, hsa-miR-20a-5p, hsa-miR-132-3p, hsa-miR-193b-3p, hsa-miR-183-5p, hsa-miR-148a-3p, hsa-miR-138-5p, hsa-miR-373-3p, hsa-miR-29b-3p, hsa-miR-135b-5p, hsa-miR-21-5p, hsa-miR-181d, hsa-miR-301a-3p, hsa-miR-200c-3p, hsa-miR-7-5p, hsa-miR-29a-3p, hsa-miR-210, hsa-miR-17-5p, hsa-miR-98-5p, hsa-miR-25-3p, hsa-miR-143-3p, hsa-miR-19a-3p, hsa-miR-18a-5p, hsa-

miR-125b-5p, hsa-miR-126-3p, hsa-miR-27a-3p, hsa-miR-372, hsa-miR-149-5p, and hsa-miR-32-5p.

30. The method of claim 25, wherein the microRNA is a tumor suppressing microRNA.

31. The method of claim 30, wherein the expression of the microRNA is increased.

32. The method of claim 31, wherein the expression of the microRNA is increased by a factor of at least 1.

33. The method of claim 30, wherein the microRNA is selected from hsa-let-7a-5p, hsa-miR-133b, hsa-miR-122-5p, hsa-miR-335-5p, hsa-miR-196a-5p, hsa-miR-142-5p, hsa-miR-96-5p, hsa-miR-184, hsa-miR-214-3p, hsa-miR-15a-5p, hsa-let-7b-5p, hsa-miR-205-5p, hsa-miR-181a-5p, hsa-miR-140-5p, hsa-miR-146b-5p, hsa-miR-34c-5p, hsa-miR-134, hsa-let-7g-5p, hsa-let-7c, hsa-miR-218-5p, hsa-miR-206, hsa-miR-124-3p, hsa-miR-100-5p, hsa-miR-10b-5p, hsa-miR-155-5p, hsa-miR-1, hsa-miR-150-5p, hsa-let-7i-5p, hsa-miR-27b-3p, hsa-miR-127-5p, hsa-miR-191-5p, hsa-let-7f-5p, hsa-miR-10a-5p, hsa-miR-15b-5p, hsa-miR-16-5p, hsa-miR-34a-5p, hsa-miR-144-3p, hsa-miR-128, hsa-miR-215, hsa-miR-193a-5p, hsa-miR-23b-3p, and hsa-miR-203a.

34. The method of claim 24, wherein the saRNA comprises SEQ ID. No. 2, 4, 6, 8, 10 or 12.

35. A method of treating non-alcoholic fatty liver disease, cirrhosis, insulin resistance or obesity comprising administering a composition comprising a saRNA targeting a C/EBPα transcript to a patient in need thereof.

36. The method of claim 35, wherein the LDL level in liver cells of said patient is reduced.

37. The method of claim 35, wherein the triglyceride level in liver cells of said patient is reduced.

38. The method of claim 35, wherein the body weight of said patient is reduced.

39. The method of claim 35, wherein the liver size of said patient is reduced.

40. The method of claim 35, wherein the expression of FAT/CD36, SREBP1, DGAT2, CETP, FASN, PPARγ-CoA1α, PPARγ-CoA1β, or MLXIPL is reduced.

41. The method of claim 35, wherein the expression of LPL, LXD, ACACA, ACACB, APOC3, MTP, LDLR, PGC-1α, PGC-1β, PPARγ, or PPARα is increased.

42. The method of claim 35, wherein the saRNA comprises SEQ ID. No. 2, 4, 6, 8, 10 or 12.

43. The method of claim 35, wherein the white adipose tissue of said patient is reduced.

44. The method of claim 35, wherein the brown adipose tissue of said patient is activated.

45. The method of claim 35, wherein the body fat of said patient is reduced.

46. The method of claim 35, wherein the serum albumin level of said patient is increased.

47. A method of regulating the expression of a pluripotency gene in a cell comprising contacting the cell with a composition comprising a saRNA targeting a C/EBPα transcript.

48. The method of claim 47, wherein the cell is a stem cell.

49. The method of claim 47, wherein the pluripotency gene is selected from SOX2, OCT4, cKit, KLF4, or NANOG.

50. The method of claim 47, wherein the saRNA comprises SEQ ID. No. 2, 4, 6, 8, 10 or 12.

51. A method of regulating epithelial-mesenchymal transition (EMT) in a cell comprising contact the cell with a composition comprising a saRNA targeting a C/EBPα transcript.

52. The method of claim 51, wherein the cell is a tumor cell.

53. The method of claim 52, wherein the cell is a hepatocellular carcinoma cell.

54. The method of claim 51, wherein the saRNA up-regulates the expression of runt-related transcription factor-3 (RUNX3) gene.

55. The method of claim 51, wherein the saRNA down-regulates the expression of a gene selected from hepatocyte growth factor (HGF) gene, small body size mothers against decapentaplegic homolog 7 (SMAD7) gene, transforming factor beta 1 (TGFB1) gene, or catenin beta 1 (CTNB1) gene.

56. The method of claim 51, wherein the saRNA regulates at least one microRNA of the cell.

57. The method of claim 51, wherein the saRNA comprises SEQ ID. No. 2, 4, 6, 8, 10 or 12.

58. A pharmaceutical composition comprising a saRNA targeting a C/EBPα transcript and at least one pharmaceutically acceptable carrier.

59. The pharmaceutical composition of claim 58, further comprising a siRNA.

60. The pharmaceutical composition of claim 59, wherein the siRNA inhibits C/EBPβ gene expression.

61. The pharmaceutical composition of claim 58, further comprising a drug that increases the insulin sensitivity of a liver or treats type II diabetes.

62. The pharmaceutical composition of claim 58, further comprising a drug that reduces LDL levels in liver cells.

63. The pharmaceutical composition of claim 58, wherein the saRNA comprises SEQ ID. No. 2, 4, 6, 8, 10 or 12

64. The pharmaceutical composition of claim 63, wherein the carrier is a dendrimer.

65. The pharmaceutical composition of claim 64, wherein the dendrimer is a poly(amidoamine) (PAMAM).

66. A double stranded bifunction oligonucleotide comprising a saRNA strand and a siRNA stand.

67. The double stranded bifunction oligonucleotide of claim 66, wherein the saRNA strand targets a C/EBPα transcript.

68. The double stranded bifunction oligonucleotide of claim 67, wherein the saRNA comprises SEQ ID. No. 14, 16, 18 or 20.

69. The double stranded bifunction oligonucleotide of claim 66, wherein the siRNA targets C/EBPβ gene.

70. The double stranded bifunction oligonucleotide of claim 69, wherein the siRNA comprises SEQ ID. No. 13, 15, 17 or 19.

71. The double stranded bifunction oligonucleotide of claim 66, further comprises Dicer substrate sequences on the two strands.

72. The double stranded bifunction oligonucleotide of claim 71, wherein the Dicer substrate sequences are selected from SEQ ID. No. 21, 22, 23, 24, 25, 26, 27, and 28.

73. A pharmaceutical composition comprising the double stranded bifunction oligonucleotide of claim 66 and at least one pharmaceutically acceptable carrier.

74. A saRNA targeting a C/EBPα transcript comprising a flanking sequence, wherein the flanking sequence is the sequence of a microRNA.

75. The saRNA of claim 73, wherein the microRNA is miR-30.

76. The saRNA of claim 74, wherein the saRNA sequence is SEQ ID No. 2, 4, 6, 8, 10 or 12.

77. A conjugate comprising a saRNA targeting a C/EBPα transcript and an aptamer.

78. The conjugate of claim 77, wherein the aptamer is a nucleotide.

79. The conjugate of claim 78, wherein the aptamer is a peptide

80. The conjugate of claim 77, wherein the saRNA sequence comprises a sequence selected from SEQ ID No. 2, 4, 6, 8, 10 or 12.

81. A method of increasing white blood cell count in a patient in need thereof comprising administering a composition comprising a saRNA targeting a C/EBPα transcript to said patient.

82. The method of claim 81, wherein the saRNA is carried with a dendrimer.

83. The method of claim 82, wherein the dendrimer is a poly(amidoamine) (PAMAM) dendrimer.

84. The method of claim 83, wherein the PAMAM dendrimer has a DAB core.

85. The method of claim 81, wherein the saRNA has a 2'-OMe-U modifications (mU) at 3'-terminus.

86. The method of claim 81, wherein the saRNA sequence comprises a sequence of SEQ ID No. 2, 4, 6, 8, 10 or 12.

87. The method of claim 81, wherein said patient has leukopaenia, sepsis, a chronic inflammation disease, hepatitis, or liver cirrhosis, is immunocompromised, or is under chemotherapy.

88. A method of treating pre B cell and B cell malignancies of a patient comprising administering a composition comprising a saRNA targeting a C/EBPα transcript to said patient.

89. The method of claim 88, wherein the patient has leukemia or lymphoma.

90. A method of mobilize white blood cells, haemetopoietic or mesenchymal stem cells of a patient comprising administering a composition comprising a saRNA targeting a C/EBPα transcript to said patient.

91. A method of regulating the ratio of isoforms of C/EBP proteins in a cell comprising contact the cell with a composition comprising a saRNA targeting a C/EBPα transcript.

92. The method of claim 91, wherein the cell is a HepG2 cell.

93. The method of claim 92, wherein the C/EBP protein is a C/EBPα protein.

94. The method of claim 93, wherein the 42KDa isoform of the C/EBPα protein is increased.

95. The method of claim 91, wherein the C/EBP protein is a C/EBPβ protein.

96. The method of claim 95, wherein the 30KDa isoform of the C/EBPβ protein is increased.

97. A method of upregulating extra coding CEBPA (ecCEBPA) comprising administering a saRNA targeting a C/ EBPα transcript.

98. A method of increasing liver regeneration rate of a patient after hepatectomy comprising administering a saRNA targeting a C/ EBPα transcript to said patient.

Claims

1. An *in vitro* method of modulating the expression of a gene in a cell comprising contacting the cell with a composition comprising a saRNA targeting a C/EBPα transcript, wherein said gene is selected from an oncogene or a tumor suppressing gene.

2. The method of claim 1, wherein the gene is an oncogene.

3. The method of claim 2, wherein the expression of the oncogene is reduced.

4. The method of claim 3, wherein the expression of the oncogene is reduced by a factor of at least 1.

5. The method of claim 2, wherein the gene is selected from the group consisting of ADAM17, AKT1, ANGPT2, BCL2, BCL2L1, BIRC2, BIRC5, CCL5, CCND1, CCND2, CDH1, CDH13, CDKN1A, CDKN1B, CDKN2A, CFLAR, CTNNB1, CXCR4, E2F1, EGF, EGFR, EP300, FADD, FLT1, FZD7, GSTP1, HGF, HRAS, IGFBP1, IGFBP3, IRS1, ITGB1, KDR, MCL1, MET, MSH2, MSH3, MTDH, MYC, NFKB1, NRAS, OPCML, PDGFRA, PIN1, PTGS2, PYCARD, RAC1, RASSF1, RELN, RHOA, SFRP2, SMAD7, SOCS1, STAT3, TCF4, TERT, TGFA, TGFB1, TLR4, TNFRSF10B, VEGFA, WT1, XIAP, and YAP1.

6. The method of claim 1, wherein the gene is a tumor suppressing gene.

7. The method of claim 6, wherein the expression of the tumor suppressing gene is increased.

8. The method of claim 7, wherein the expression of the tumor suppressing gene is increased by a factor of at least 1.

9. The method of claim 8, wherein the gene is selected from the group consisting of BAX, BID, CASP8, DAB21P, DLC1, FAS, FHIT, GADD45B, HHIP, IGF2, LEF1, PTEN, PTK2, RB1, RUNX3, SMAD4, SOCS3, TGFBR2, TNFBR2, TNFSF10, and P53.

10. The method of claim 1, wherein the saRNA comprises SEQ ID No. 2, 4, 6, 8, 10 or 12.

11. An *in vitro* method of reducing the proliferation of hyperproliferative cells comprising contacting the cells with a composition comprising a saRNA targeting a C/EBPα transcript.

12. The method of claim 11, wherein the hyperproliferative cells are tumor cells.

13. The method of claim 12, wherein the hyperproliferative cells are liver tumor cells, breast cancer cells, leukemia cells, lymphoma cells, lung cancer cells, ovarian cancer cells, or pancreatic cancer cells.

14. The method of claim 11, wherein the saRNA comprises SEQ ID No. 2, 4, 6, 8, 10 or 12.

15. Use of a composition comprising a saRNA targeting a C/EBPα transcript in the manufacture of a medicament for treating or preventing a hyperproliferative disorder.

16. The use of claim 15, wherein the hyperproliferative disorder is tumor.

17. The use of claim 16, wherein the tumor burden is reduced at least 10%.

18. The use of claim 16, wherein the tumor is selected form a group consisting of hepatocellular carcinoma, breast cancer, lung cancer, leukemia, ovarian cancer, and pancreatic cancer.

19. The use of claim 18, wherein the tumor is hepatocellular carcinoma.

20. The use of claim 18, wherein the tumor is breast cancer.

21. The use of claim 20, wherein the composition further comprises a siRNA that inhibits C/EBPβ gene expression.

22. The use of claim 15, wherein the saRNA comprises SEQ ID No.2, 4, 6, 8, 10 or 12.

23. The use of claim 21, wherein the siRNA comprises SEQ ID No. 30 or 32.

24. Use of a saRNA targeting a C/EBPα transcript in the manufacture of a medicament for treating non-alcoholic fatty liver disease, cirrhosis, insulin resistance or obesity in a patient in need thereof.

25. The use of claim 24, wherein the LDL level in liver cells of said patient is reduced.

26. The use of claim 24, wherein the triglyceride level in liver cells of said patient is reduced.

27. The use of claim 24, wherein the body weight of said patient is reduced.

28. The use of claim 24, wherein the liver size of said patient is reduced.

29. The use of claim 24, wherein the expression of FAT/CD36, SREBP1, DGAT2, CETP, FASN, PPARγ-CoA1α, PPARγ-CoA1β, or MLXIPL is reduced.

30. The use of claim 24, wherein the expression of LPL, LXD, ACACA, ACACB, APOC3, MTP, LDLR, PGC-1α, PGC-1β, PPARγ, or PPARα is increased.

31. The use of claim 24, wherein the saRNA comprises SEQ ID. No. 2, 4, 6, 8, 10 or 12.

32. The use of claim 24, wherein the white adipose tissue of said patient is reduced.

33. The use of claim 24, wherein the brown adipose tissue of said patient is activated.

34. The use of claim 24, wherein the body fat of said patient is reduced.

35. The use of claim 24, wherein the serum albumin level of said patient is increased.

36. A pharmaceutical composition comprising a saRNA targeting a C/EBPα transcript and at least one pharmaceutically acceptable carrier.

37. The pharmaceutical composition of claim 36, further comprising a siRNA.

38. The pharmaceutical composition of claim 37, wherein the siRNA inhibits C/EBPβ gene expression.

39. The pharmaceutical composition of claim 36, further comprising a drug that increases the insulin sensitivity of a liver or treats type II diabetes.

40. The pharmaceutical composition of claim 36, further comprising a drug that reduces LDL levels in liver cells.

41. The pharmaceutical composition of claim 36, wherein the saRNA comprises SEQ ID. No. 2, 4, 6, 8, 10 or 12

42. The pharmaceutical composition of claim 42, wherein the carrier is a dendrimer.

43. The pharmaceutical composition of claim 42, wherein the dendrimer is a poly(amidoamine) (PAMAM).

44. A saRNA targeting a C/EBPα transcript comprising a flanking sequence, wherein the flanking sequence is the sequence of a microRNA.

45. The saRNA of claim 44, wherein the microRNA is miR-30.

46. The saRNA of claim 44, wherein the saRNA sequence is SEQ ID No. 2, 4, 6, 8, 10 or 12.

47. A conjugate comprising a saRNA targeting a C/EBPα transcript and an aptamer.

48. The conjugate of claim 47, wherein the aptamer is a nucleotide.

49. The conjugate of claim 48, wherein the aptamer is a peptide

50. The conjugate of claim 47, wherein the saRNA sequence comprises a sequence selected from SEQ ID No. 2, 4, 6, 8, 10 or 12.