[0009] In one example, the present disclosure describes 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 example, there is described 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 one aspect, the present invention refers to an *in vitro* method of reducing 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 an oncogene, and wherein the cell is hepatocellular carcinoma cell. 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, 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, wherein the saRNA comprises an antisense strand of SEQ ID No. 318. In a further 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, wherein the hyperproliferative disorder is hepatocellular carcinoma or breast cancer, wherein the saRNA comprises an antisense strand of SEQ ID No. 318. In yet another aspect, the present invention refers to a pharmaceutical composition comprising a saRNA targeting a C/EBPα transcript, wherein the saRNA comprises an antisense strand of SEQ ID No. 318, and at least one pharmaceutically acceptable carrier. In one example, the present disclosure provides 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, wherein the saRNA comprises an antisense strand of SEQ ID No. 318. One example discloses a pharmaceutical composition comprising a saRNA that targets a C/EBPα transcript and at least one pharmaceutically acceptable carrier.

[0010] In one example, there is disclosed the 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 example, there is disclosed the 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 example discloses 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 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 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 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 a method of regulating stem cell differentiation and pluripotency comprising contact said stem cell with a saRNA that targets a C/EBPα transcript.

Claims

1. An *in vitro* method of reducing 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 an oncogene, and wherein the cell is hepatocellular carcinoma cell.

2. The method of claim 1, wherein the expression of the oncogene is reduced at least 20%.

3. The method of claim 1, 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.

4. The method of claim 1, wherein the saRNA comprises an antisense strand of SEQ ID No. 2, 4, 6, 8, 10, 12, or 318.

5. 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, 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, wherein the saRNA comprises an antisense strand of SEQ ID No. 318.

6. The method of claim 5, wherein the saRNA is double-stranded and further comprises a sense strand of SEQ ID No. 280.

7. 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, wherein the hyperproliferative disorder is hepatocellular carcinoma or breast cancer, wherein the saRNA comprises an antisense strand of SEQ ID No. 318.

8. The use of claim 7, wherein the tumor burden is reduced at least 10%.

9. The use of claim 7, wherein the composition further comprises a siRNA that inhibits C/EBPβ gene expression.

10. The use of claim 7, wherein the saRNA is double-stranded and further comprises a sense strand of SEQ ID No. 280.

11. The use of claim 7, wherein the siRNA comprises SEQ ID No. 30 or 32.

12. A pharmaceutical composition comprising a saRNA targeting a C/EBPα transcript, wherein the saRNA comprises an antisense strand of SEQ ID No. 318, and at least one pharmaceutically acceptable carrier.

13. The pharmaceutical composition of claim 12, further comprising a siRNA.

14. The pharmaceutical composition of claim 13, wherein the siRNA inhibits C/EBPβ gene expression.

15. The pharmaceutical composition of claim 12, further comprising a drug that increases the insulin sensitivity of a liver or treats type II diabetes.

16. The pharmaceutical composition of claim 12, further comprising a drug that reduces LDL levels in liver cells.

17. The pharmaceutical composition of claim 12, wherein the saRNA further comprises a sense strand of SEQ ID. No. 280.

18. The pharmaceutical composition of claim 12, wherein the carrier is a dendrimer.

19. The pharmaceutical composition of claim 18, wherein the dendrimer is a poly(amidoamine) (PAMAM).

20. A conjugate comprising a saRNA targeting a C/EBPα transcript and an aptamer, wherein the saRNA comprises an antisense strand of SEQ ID No. 318.

21. The conjugate of claim 20, wherein the aptamer is a nucleotide.

22. The conjugate of claim 20, wherein the aptamer is a peptide.

23. The conjugate of claim 20, wherein the saRNA further comprises a sense strand of SEQ ID No. 280.