CLAIMS

What is claimed is:

1. Use of an inhibitor of miR-22 in the manufacture of a medicament for treating a metabolic disorder in a subject in need thereof, wherein said medicament is to be administered in an effective amount to the subject, wherein the expression and/or activity of miR-22 is reduced in the subject following administration of the inhibitor, said inhibitor being an oligonucleotide based inhibitor comprising one or more chemically modified nucleotides, said chemically modified nucleotides being locked nucleotides (LNAs), and wherein the metabolic disorder is liver steatosis.

2. The use of claim 1, wherein the oligonucleotide-based inhibitor comprises a sequence that is at least 75%, at least 80%, at least 85%, at least 90%, at least 95%, at least 96%, at least 97%, at least 98%, at least 99%, or at least 100% complementary to a mature sequence of miR-22.

3. The use of claim 1 or 2, wherein the oligonucleotide-based inhibitor comprises deoxynucleotides or ribonucleotides.

4. The use of any one of claims 1-3, wherein the oligonucleotide-based inhibitor comprises at least 25, at least 20, at least 15, at least 10, at least 9, at least 8, at least 7, at least 6, or at least 5 or fewer nucleotides.

5. The use of any one of claims 1-4, wherein the inhibitor comprises a nucleic acid consisting of any one of SEQ ID Nos: 2, 4-12, wherein the capital letters are LNA (locked nucleic acid)-modified nucleotides, and the lower-case letters are unmodified nucleotides.

6. The use of claim 5, wherein the oligonucleotide-based inhibitor is CRM0010 CTTcaACtgGCAgCT (SEQ ID NO: 5).

7. The use of any one of claims 1-6, wherein the oligonucleotide-based inhibitor is conjugated to one or more N-acetylgalactosamine (GalNAc) moieties.

8. The use of any one of claims 1-7, wherein the subject is suffering from Prader-Willi Syndrome.

9. The use of any one of claims 1-7, wherein the subject is suffering from hypercholesterolemia.

10. The use of any one of claims 1-7, wherein the subject harbors a fat mass and obesity-associated protein (FTO) variant and/or shows an upregulation of FTO expression and/or activity.

11. The use of any one of claims 1-10, wherein the subject is obese and has a body mass index of greater than at least 30.

12. The use of any one of claims 1-10, wherein the subject is overweight and has a body mass index of at least 25-29.9.

13. The use of any one of claims 1-12, wherein the medicament induces weight loss.

14. The use of claim 13, wherein the medicament induces a total weight loss of about 1%, about 5%, about 10%, about 15%, about 20%, or about 25% or more in the subject.

15. The use of any one of claims 1-12, wherein the medicament prevents weight gain.

16. The use of any one of claims 1-15, wherein the medicament reduces or prevents the growth of adipose tissue.

17. The use of any one of claims 1-15, wherein the medicament impairs adipocyte differentiation.

18. The use of any one of claims 1-17, wherein the medicament reduces or prevents liver

steatosis.

19. The use of any one of claims 1-18, wherein the medicament reduces or prevents liver fibrosis.

20. The use of any one of claims 1-19, wherein the medicament reduces the activity and/or expression of fat mass and obesity-associated protein (FTO), ALKB Homologous 5 (ALKBH5), CCAAT/enhancer binding protein alpha (CEBPα), peroxisome proliferator activated receptor gamma (PPARγ), peroxisome proliferator activated receptor alpha (PPARa), ATP citrate lyase (ACLY), PPARγ co-activator-α (PGC1-α), Specific Protein 1 (SP1), Fibroblast Grow Factor 21 (FGF-21), Uncoupled protein 1 (UCP1), DNA Damage Included Transcript 4 (DDIT-4, REDD1), tumor protein p63 (TP63), fibroblast growth factor 1 (FGF1), and/or Methyltransferase like 3 (METTL3).

21. The use of any one of claims 1-20, wherein the medicament increases the activity and/or expression of phosphatase and tensin homolog (PTEN) and/or tet methylcytosine dioxygenase 2 (TET2).