Proposed **CLAIMS**

(Clean and Re-numbered)

1. A compound having the formula of:

X-Y-Z (I)

wherein

(a) X is a pharmacologically active organic base or acid;

(b) Z is a pharmacologically active organic acid; and

(c) Y a covalent bond or a linker,

wherein at least

X is berberine, or a derivative thereof; and

Z is ursodeoxycholic acid, or eicosapentaenoic acid, or docosahexaenoic acid, or rhein, or R-(+)-α-lipoic acid, or ursolic acid, or corosolic acid, or hydroxycitric acid, or cinnamic acid, or cholic acid, or oleanolic acid, or salicylic acid, or betulinic acid, or chlorogenic acid, or caffeic acid, or bassic acid, or acetyl L-carnitine, or S-allyl cysteine sulphoxide, or S-methyl cysteine sulfoxide, or pantothenic acid, or ascorbic acid, or retinoic acid, or nicotinic acid, or biotin, or a derivative thereof.

2. The compound of claim 1, wherein the linker comprises an amide bond or an ester bond.

3. The compound of claim 1, wherein Z is ursodeoxycholic acid, or a derivative thereof selected from Table 1.

4. The compound of claim 1, wherein X is a derivative of berberine selected from Table 3.

5. The compound of claim 1, wherein Z is ursolic acid or corosolic acid or a derivative thereof, or hydroxycitric acid or a derivative thereof.

6. A compound having the formula of:

X-Y-Z (I)

wherein

(a) X is a pharmacologically active organic base or acid;

(b) Z is a pharmacologically active organic acid; and

(c) Y a covalent bond or a linker,

wherein at least

X is metformin, or a derivative thereof selected from Table 5; and

Z is a moiety derived from ursodeoxycholic acid, or eicosapentaenoic acid, or docosahexaenoic acid, or rhein, or R-(+)-α-lipoic acid, or ursolic acid, or corosolic acid, or hydroxycitric acid, or cinnamic acid, or cholic acid, or oleanolic acid, or salicylic acid, or betulinic acid, or chlorogenic acid, or caffeic acid, or bassic acid, or acetyl L-carnitine, or S-allyl cysteine sulphoxide, or S-methyl cysteine sulfoxide, or pantothenic acid, or ascorbic acid, or retinoic acid, or nicotinic acid, or biotin, or a derivative or analog thereof.

7. A pharmaceutical composition comprising an amount of a compound according to any of claims 1-6 suitable for treating one or more diseases or disorders selected from liver diseases or disorders, diabetes, diabetic complications, pre-diabetes, dyslipidemia, obesity, metabolic syndromes, muscle atrophy, inflammation, and cancers or a related disease or disorder thereof in a mammal including a human, and a pharmaceutically acceptable excipient, carrier, or diluent.

8. The pharmaceutical composition of claim 7, wherein the disease or disorder is selected from non-alcoholic fatty liver disease (NAFLD), non-alcoholic steatohepatitis (NASH), cholestatic liver diseases or graft-versus-host disease of the liver.

9. The pharmaceutical composition of claim 7, wherein the disease or disorder is selected from diabetes, diabetic complications and pre-diabetes.

10. The pharmaceutical composition of claim 7, wherein the disease or disorder is

dyslipidemia.

11. The pharmaceutical composition of claim 7, wherein the disease or disorder is obesity.

12. The pharmaceutical composition of claim 7, wherein the disease or disorder is metabolic syndromes.

13. The pharmaceutical composition of claim 7, wherein the disease or disorder is muscle atrophy.

14. The pharmaceutical composition of claim 7, wherein the disease or disorder is inflammation.

15. The pharmaceutical composition of claim 7, wherein the disease or disorder is cancer.

16. Use of a compound of any one of claims 1-6 or a pharmaceutical composition of any one of claims 7-15 for treating a disease or disorder selected from liver diseases or disorders, diabetes, diabetic complications, pre-diabetes, dyslipidemia, obesity, metabolic syndromes, muscle atrophy, inflammation, and cancers, or a related disease or disorder thereof in a mammal, including a human.

17. The compound of claim 6, wherein the linker comprises an amide bond or an ester bond.