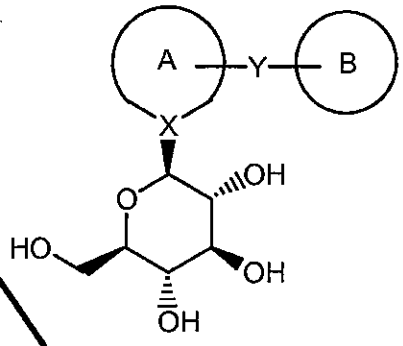
What is claimed is:

1. A method for treating a glucose related disorder comprising administering to a subject in need thereof a therapeutically effective amount of co-therapy comprising

(a) metformin or a pharmaceutically acceptable salt thereof; and

(b) a compound of formula (I)



(I)

wherein Ring A and Ring B are one of the followings:

(1) Ring A is an optionally substituted unsaturated monocyclic heterocyclic ring, and Ring B is an optionally substituted unsaturated monocyclic heterocyclic ring, an optionally substituted unsaturated fused heterobicyclic ring, or an optionally substituted benzene ring; or

(2) Ring A is an optionally substituted benzene ring, and Ring B is an optionally substituted unsaturated monocyclic heterocyclic ring, or an optionally substituted unsaturated fused heterobicyclic ring wherein Y is linked to the heterocyclic ring of the fused heterobicyclic ring; or

(3) Ring A is an optionally substituted unsaturated fused heterobicyclic ring, wherein the sugar moiety X-(sugar) and the moiety –Y-(Ring B) are both on the same heterocyclic ring of the fused heterobicyclic ring, and Ring B is an optionally substituted unsaturated monocyclic heterocyclic ring, an optionally substituted unsaturated fused heterobicyclic ring, or an optionally substituted benzene ring;

X is a carbon atom or a nitrogen atom; and

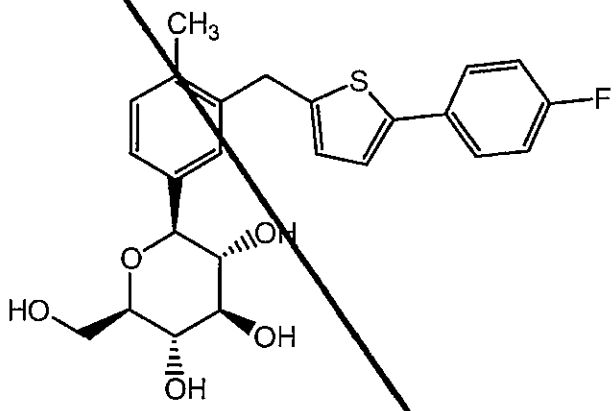
Y is $-(CH_2)_n-$ (wherein n is 1 or 2);

or a pharmaceutically acceptable salt thereof.

2. A method as in Claim 1, wherein the glucose related disorder is selected from the group consisting of diabetes mellitus, diabetic retinopathy, diabetic neuropathy, diabetic nephropathy, delayed wound healing, insulin resistance, hyperglycemia, hyperinsulinemia, elevated blood levels of fatty acids, elevated blood levels of glucose, hyperlipidemia, obesity, hypertriglyceridemia, Syndrome X, diabetic complications, atherosclerosis and hypertension.

3. A method as in Claim 1, wherein the glucose related disorder is type 2 diabetes mellitus.

4. A method as in Claim 1, wherein the compound of formula (I) is a compound of formula (I-X)



(I-X)

or pharmaceutically acceptable salt thereof.

5. A method as in Claim 4, wherein the compound of formula (I-X) is a crystalline hemihydrate.

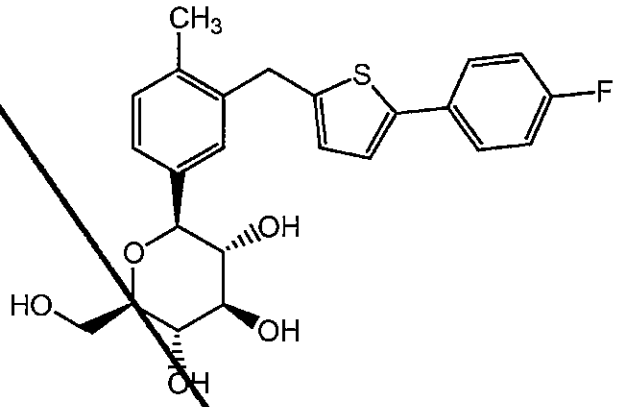
6. A method as in Claim 1, wherein the metformin or pharmaceutically acceptable salt thereof is metformin hydrochloride; and wherein the metformin hydrochloride is administered at a dosage of between about 100 mg and about 2000 mg.

7. A method as in Claim 1, wherein the compound of formula (I) or pharmaceutically acceptable salt thereof is administered at a dosage in the range of from about 50 mg to about 500 mg.

8. A method for treating a glucose related disorder comprising administering to a subject in need thereof a therapeutically effective amount of co-therapy comprising

(a) metformin hydrochloride; and

(b) a compound of formula (I-X)



(I-X)

or pharmaceutically acceptable salt thereof.

9. A method as in Claim 8, wherein the glucose related disorder is selected from the group consisting of diabetes mellitus, diabetic retinopathy, diabetic neuropathy, diabetic nephropathy, delayed wound healing, insulin resistance, hyperglycemia, hyperinsulinemia, elevated blood levels of fatty acids, elevated blood levels of glucose, hyperlipidemia, obesity, hypertriglyceridemia, Syndrome X, diabetic complications, atherosclerosis and hypertension.

10. A method as in Claim 9, wherein the glucose related disorder is type 2 diabetes mellitus.

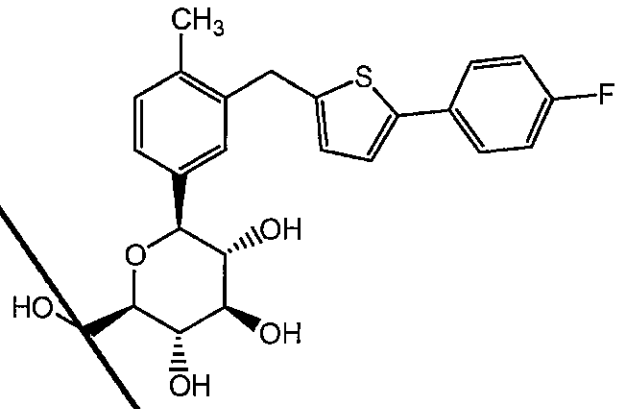
11. A method as in Claim 8, wherein the metformin hydrochloride is administered at a dosage of between about 100 mg and about 2000 mg.

12. A method as in Claim 8, wherein the compound of formula (I-X) or pharmaceutically acceptable salt thereof is administered at a dosage in the range of from about 50 mg to about 500 mg.

13. A pharmaceutical composition comprising

(a) metformin hydrochloride;

(b) a compound of formula (I-X)



(I-X)

or a pharmaceutically acceptable salt thereof; and

(c) a pharmaceutically acceptable excipient.

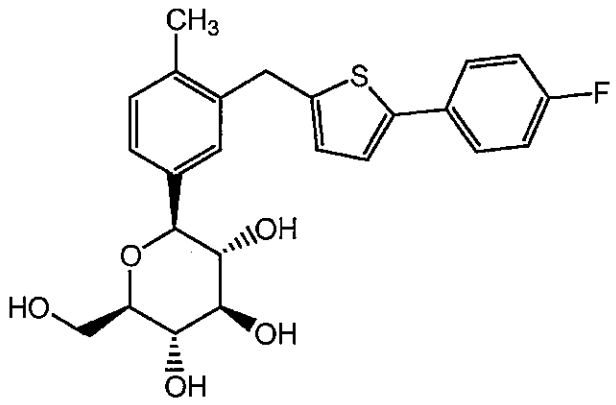
14. A pharmaceutical compositions as in Claim 13, wherein the metformin hydrochloride is present in an amount in the range of from about 100 mg to about 2000 mg; and wherein the compound of formula (I-X) or pharmaceutically acceptable salt thereof is present in an amount in the range of from about 50 mg to about 500 mg.

15. A pharmaceutical composition as in Claim 13, wherein the metformin hydrochloride is present in an amount of about 250 mg, about 500 mg, about 750 mg, about 850 mg, or about 1000 mg; and wherein the compound of formula (I-X) or pharmaceutically acceptable salt thereof is present in an amount of about 100 mg, about 150 mg or about 300 mg.

16. A pharmaceutical composition comprising

(a) metformin or a pharmaceutically acceptable salt thereof;

(b) a compound of formula (I-X)



(I-X)

or pharmaceutically acceptable salt thereof;

(c) a sulfonylurea or pharmaceutically acceptable salt thereof; and

(d) a pharmaceutically acceptable excipient.

17. A pharmaceutical composition as in Claim 16, wherein the sulfonylurea is selected from the group consisting of chlorpropamide, tolazamide, tolbutamide, glyburide, glipizide and glimepiride.

18. A pharmaceutical composition as in Claim 16, wherein the metformin or pharmaceutically acceptable salt thereof is metformin hydrochloride; and wherein the sulfonylurea is glyburide.

19. A pharmaceutical composition as in Claim 16, wherein

the metformin hydrochloride is present in an amount in the range of from about 100 mg to about 2000 mg;

the compound of formula (I-X) or pharmaceutically acceptable salt thereof is present in an amount in the range of from about 50 mg to about 500 mg;

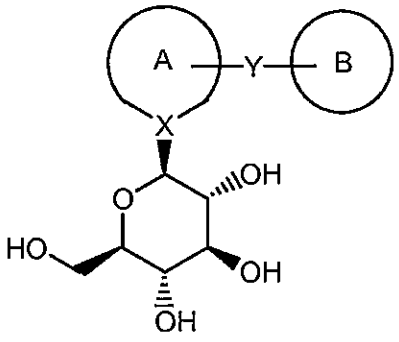
and the glyburide is present in an amount in the range of form about 2.5 mg to about 20 mg.

What is claimed is:

1. A method for treating a glucose related disorder comprising administering to a subject in need thereof a therapeutically effective amount of co-therapy comprising

(a) metformin or a pharmaceutically acceptable salt thereof; and

(b) a compound of formula (I)



(I)

wherein Ring A and Ring B are one of the followings:

(1) Ring A is an optionally substituted unsaturated monocyclic heterocyclic ring, and Ring B is an optionally substituted unsaturated monocyclic heterocyclic ring, an optionally substituted unsaturated fused heterobicyclic ring, or an optionally substituted benzene ring; or

(2) Ring A is an optionally substituted benzene ring, and Ring B is an optionally substituted unsaturated monocyclic heterocyclic ring, or an optionally substituted unsaturated fused heterobicyclic ring wherein Y is linked to the heterocyclic ring of the fused heterobicyclic ring; or

(3) Ring A is an optionally substituted unsaturated fused heterobicyclic ring, wherein the sugar moiety X-(sugar) and the moiety –Y-(Ring B) are both on the same heterocyclic ring of the fused heterobicyclic ring, and Ring B is an optionally substituted unsaturated monocyclic heterocyclic ring, an optionally substituted unsaturated fused heterobicyclic ring, or an optionally substituted benzene ring;

X is a carbon atom or a nitrogen atom; and

Y is $-(CH_2)_n-$ (wherein n is 1 or 2);

or a pharmaceutically acceptable salt thereof.