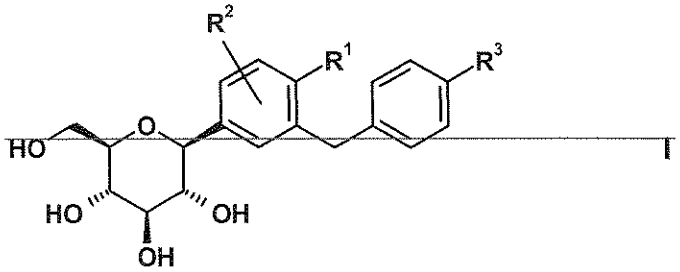
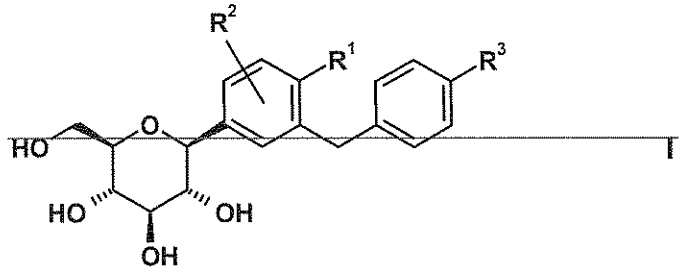
Patent Claims:

1. Method for preventing, slowing the progression of, delaying or treating a metabolic disorder selected from the group consisting of type 1 diabetes mellitus, type 2 diabetes mellitus, impaired glucose tolerance, impaired fasting blood glucose, hyperglycemia, postprandial hyperglycemia, overweight, obesity, metabolic syndrome, gestational diabetes, new-onset diabetes after transplantation (NODAT) and complications associated therewith, and post-transplant metabolic syndrome (PTMS) and complications associated therewith in a patient in need thereof characterized in that a pharmaceutical composition comprising an SGLT2 inhibitor is administered to the patient, wherein the SGLT2 inhibitor is a glucopyranosyl-substituted benzene derivative of the formula (I)



wherein R^1 denotes Cl, methyl or cyano; R^2 denotes H, methyl, methoxy or hydroxy and R^3 denotes ethyl, cyclopropyl, ethynyl, ethoxy, *(R)*-tetrahydrofuran-3-yloxy or *(S)*-tetrahydrofuran-3-yloxy; or a prodrug thereof.

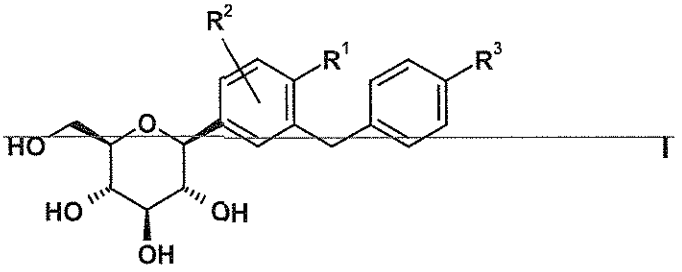
2. Method for improving glycemic control and/or for reducing of fasting plasma glucose, of postprandial plasma glucose and/or of glycosylated hemoglobin HbA1c in a patient in need thereof characterized in that a pharmaceutical composition comprising an SGLT2 is administered to the patient, wherein the SGLT2 inhibitor is a glucopyranosyl-substituted benzene derivative of the formula (I)



wherein R^1 denotes Cl, methyl or cyano; R^2 denotes H, methyl, methoxy or hydroxy

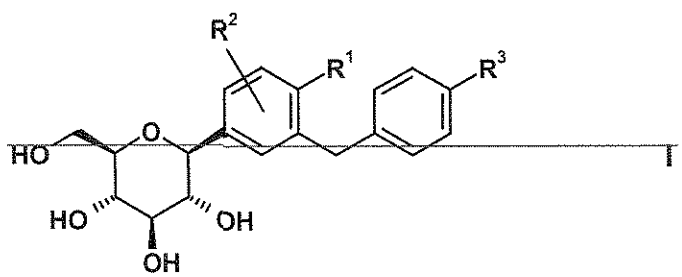
and R^3 denotes ethyl, cyclopropyl, ethynyl, ethoxy, *(R)*-tetrahydrofuran-3-yloxy or *(S)*-tetrahydrofuran-3-yloxy; or a prodrug thereof.

3. Method for preventing, slowing, delaying or reversing progression from impaired glucose tolerance, impaired fasting blood glucose, insulin resistance and/or from metabolic syndrome to type 2 diabetes mellitus in a patient in need thereof characterized in that a pharmaceutical composition comprising an SGLT2 inhibitor is administered to the patient, wherein the SGLT2 inhibitor is a glucopyranosyl-substituted benzene derivative of the formula (I)



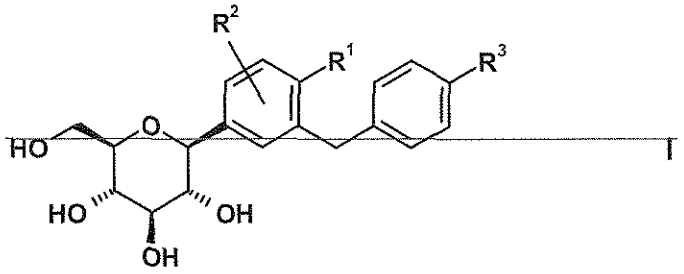
wherein R^1 denotes Cl, methyl or cyano; R^2 denotes H, methyl, methoxy or hydroxy and R^3 denotes ethyl, cyclopropyl, ethynyl, ethoxy, *(R)*-tetrahydrofuran-3-yloxy or *(S)*-tetrahydrofuran-3-yloxy; or a prodrug thereof.

4. Method for preventing, slowing the progression of, delaying or treating of a condition or disorder selected from the group consisting of complications of diabetes mellitus such as cataracts and micro- and macrovascular diseases, such as nephropathy, retinopathy, neuropathy, tissue ischaemia, diabetic foot, arteriosclerosis, myocardial infarction, accute coronary syndrome, unstable angina pectoris, stable angina pectoris, stroke, peripheral arterial occlusive disease, cardiomyopathy, heart failure, heart rhythm disorders and vascular restenosis, in a patient in need thereof characterized in that a pharmaceutical composition comprising an SGLT2 inhibitor is administered to the patient, wherein the SGLT2 inhibitor is a glucopyranosyl-substituted benzene derivative of the formula (I)



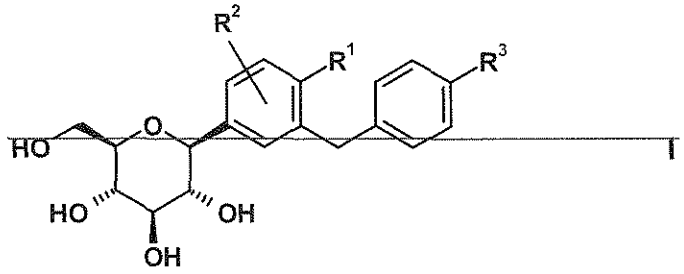
wherein R^1 denotes Cl, methyl or cyano; R^2 denotes H, methyl, methoxy or hydroxy and R^3 denotes ethyl, cyclopropyl, ethynyl, ethoxy, *(R)*-tetrahydrofuran-3-yloxy or *(S)*-tetrahydrofuran-3-yloxy; or a prodrug thereof.

5. Method for reducing body weight and/or body fat, or preventing an increase in body weight and/or body fat, or facilitating a reduction in body weight and/or body fat, in a patient in need thereof characterized in that a pharmaceutical composition comprising an SGLT2 inhibitor is administered to the patient, wherein the SGLT2 inhibitor is a glucopyranosyl-substituted benzene derivative of the formula (I)



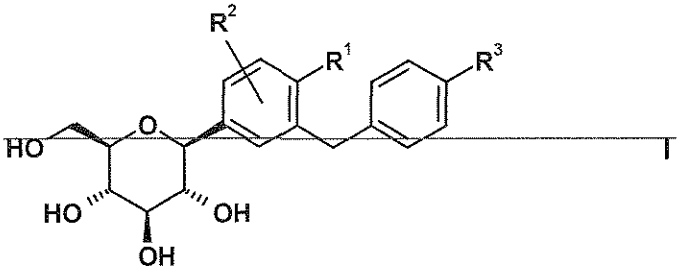
wherein R^1 denotes Cl, methyl or cyano; R^2 denotes H, methyl, methoxy or hydroxy and R^3 denotes ethyl, cyclopropyl, ethynyl, ethoxy, *(R)*-tetrahydrofuran-3-yloxy or *(S)*-tetrahydrofuran-3-yloxy; or a prodrug thereof.

6. Method for preventing, slowing, delaying or treating the degeneration of pancreatic beta-cells and/or the decline of the functionality of pancreatic beta-cells and/or for improving and/or restoring the functionality of pancreatic beta-cells and/or restoring the functionality of pancreatic insulin secretion in a patient in need thereof characterized in that a pharmaceutical composition comprising an SGLT2 inhibitor is administered to the patient, wherein the SGLT2 inhibitor is a glucopyranosyl-substituted benzene derivative of the formula (I)



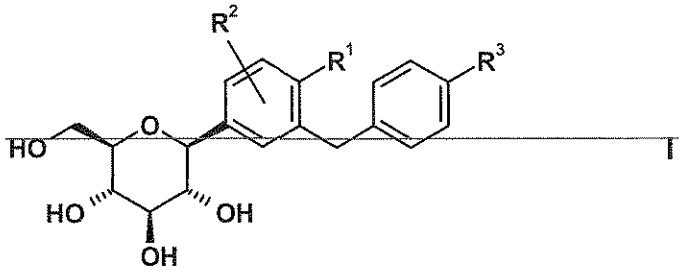
wherein R^1 denotes Cl, methyl or cyano; R^2 denotes H, methyl, methoxy or hydroxy and R^3 denotes ethyl, cyclopropyl, ethynyl, ethoxy, *(R)*-tetrahydrofuran-3-yloxy or *(S)*-tetrahydrofuran-3-yloxy; or a prodrug thereof.

7. Method for preventing, slowing, delaying or treating diseases or conditions attributed to an abnormal accumulation of ectopic fat in a patient in need thereof characterized in that a pharmaceutical composition comprising an SGLT2 inhibitor is administered to the patient, wherein the SGLT2 inhibitor is a glucopyranosyl-substituted benzene derivative of the formula (I)



wherein R^1 denotes Cl, methyl or cyano; R^2 denotes H, methyl, methoxy or hydroxy and R^3 denotes ethyl, cyclopropyl, ethynyl, ethoxy, *(R)*-tetrahydrofuran-3-yloxy or *(S)*-tetrahydrofuran-3-yloxy; or a prodrug thereof.

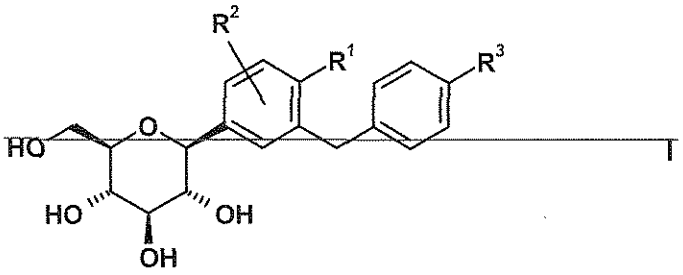
8. Method for maintaining and/or improving the insulin sensitivity and/or for treating or preventing hyperinsulinemia and/or insulin resistance in a patient in need thereof characterized in that a pharmaceutical composition comprising a SGLT2 inhibitor is administered to the patient, wherein the SGLT2 inhibitor is a glucopyranosyl-substituted benzene derivative of the formula (I)



wherein R^1 denotes Cl, methyl or cyano; R^2 denotes H, methyl, methoxy or hydroxy and R^3 denotes ethyl, cyclopropyl, ethynyl, ethoxy, *(R)*-tetrahydrofuran-3-yloxy or *(S)*-tetrahydrofuran-3-yloxy; or a prodrug thereof.

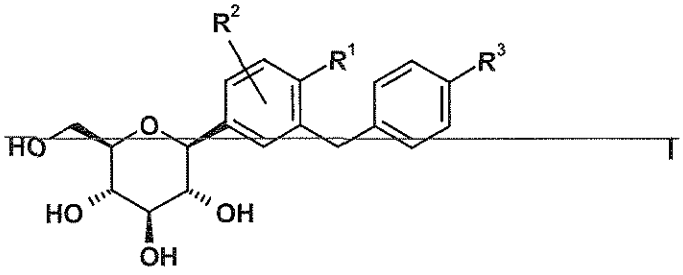
9. Method for treating and preventing hyperuricemia and hyperuricemia associated conditions, kidney stones and hyponatremia in a patient in need thereof characterized in that a pharmaceutical composition comprising a SGLT2 inhibitor is administered to the patient, wherein the SGLT2 inhibitor is a glucopyranosyl-substituted benzene

derivative of the formula (I)



wherein R^1 denotes Cl, methyl or cyano; R^2 denotes H, methyl, methoxy or hydroxy and R^3 denotes ethyl, cyclopropyl, ethynyl, ethoxy, *(R)*-tetrahydrofuran-3-yloxy or *(S)*-tetrahydrofuran-3-yloxy; or a prodrug thereof.

10. Use of an SGLT2 inhibitor, wherein the SGLT2 inhibitor is a glucopyranosyl-substituted benzene derivative of the formula (I)



wherein R^1 denotes Cl, methyl or cyano; R^2 denotes H, methyl, methoxy or hydroxy and R^3 denotes ethyl, cyclopropyl, ethynyl, ethoxy, *(R)*-tetrahydrofuran-3-yloxy or *(S)*-tetrahydrofuran-3-yloxy; or a prodrug thereof, for the manufacture of a medicament for

- preventing, slowing the progression of, delaying or treating a metabolic disorder selected from the group consisting of type 1 diabetes mellitus, type 2 diabetes mellitus, impaired glucose tolerance, impaired fasting blood glucose, hyperglycemia, postprandial hyperglycemia, overweight, obesity, metabolic syndrome and gestational diabetes; or
- improving glycemic control and/or for reducing of fasting plasma glucose, of postprandial plasma glucose and/or of glycosylated hemoglobin HbA1c; or
- preventing, slowing, delaying or reversing progression from impaired glucose tolerance, insulin resistance and/or from metabolic syndrome to type 2 diabetes mellitus; or
- preventing, slowing the progression of, delaying or treating of a condition or disorder selected from the group consisting of complications of diabetes mellitus such as cataracts and micro- and macrovascular diseases, such as nephropathy,

- retinopathy, neuropathy, tissue ischaemia, diabetic foot, arteriosclerosis, myocardial infarction, acute coronary syndrome, unstable angina pectoris, stable angina pectoris, stroke, peripheral arterial occlusive disease, cardiomyopathy, heart failure, heart rhythm disorders and vascular restenosis; or
- reducing body weight and/or body fat, or preventing an increase in body weight and/or body fat, or facilitating a reduction in body weight and/or body fat; or
- preventing, slowing, delaying or treating the degeneration of pancreatic beta-cells and/or the decline of the functionality of pancreatic beta-cells and/or for improving and/or restoring the functionality of pancreatic beta-cells and/or restoring the functionality of pancreatic insulin secretion; or
- for preventing, slowing, delaying or treating diseases or conditions attributed to an abnormal accumulation of ectopic fat; or
- maintaining and/or improving the insulin sensitivity and/or for treating or preventing hyperinsulinemia and/or insulin resistance;
- preventing, slowing progression of, delaying, or treating new onset diabetes after transplantation (NODAT) and/or post-transplant metabolic syndrome (PTMS);
- preventing, delaying, or reducing NODAT and/or PTMS associated complications including micro- and macrovascular diseases and events, graft rejection, infection, and death;
- treating hyperuricemia and hyperuricemia associated conditions;
- treating or preventing kidney stones;
- treating hyponatremia;

in a patient in need thereof.

11. Method according to one of the claims 1 to 9 or use according to claim 10 wherein the patient is an individual diagnosed of one or more of the conditions selected from the group consisting of overweight, obesity, visceral obesity and abdominal obesity.

12. Method according to one of the claims 1 to 9 or use according to claim 10 wherein the patient is an individual who shows one, two or more of the following conditions:

(a) a fasting blood glucose or serum glucose concentration greater than 100 mg/dL, in particular greater than 125 mg/dL;

(b) a postprandial plasma glucose equal to or greater than 140 mg/dL;

(c) an HbA1c value equal to or greater than 6.5 %, in particular equal to or greater than 8.0 %.

~~13. Method according to one of the claims 1 to 9 or use according to claim 10 wherein the patient is an individual wherein one, two, three or more of the following conditions are present:~~

~~(a) obesity, visceral obesity and/or abdominal obesity,~~

~~(b) triglyceride blood level ≥ 150 mg/dL,~~

~~(c) HDL-cholesterol blood level < 40 mg/dL in female patients and < 50 mg/dL in male patients,~~

~~(d) a systolic blood pressure ≥ 130 mm Hg and a diastolic blood pressure ≥ 85 mm Hg,~~

~~(e) a fasting blood glucose level ≥ 100 mg/dL.~~

~~14. Method according to one of the claims 1 to 9 or use according to one of the claims 10 to 13, wherein the SGLT2 inhibitor is selected from the group consisting of the group of compounds (I.1) to (I.11):~~

~~(I.1) 6-(4-ethylbenzyl)-4-(β-D-glucopyranos-1-yl)-2-methoxy-benzonitrile,~~

~~(I.2) 2-(4-ethylbenzyl)-4-(β-D-glucopyranos-1-yl)-5-methoxy-benzonitrile,~~

~~(I.3) 1-cyano-2-(4-ethylbenzyl)-4-(β-D-glucopyranos-1-yl)-5-methyl-benzene,~~

~~(I.4) 2-(4-ethylbenzyl)-4-(β-D-glucopyranos-1-yl)-5-hydroxy-benzonitrile,~~

~~(I.5) 2-(4-ethyl-benzyl)-4-(β-D-glucopyranos-1-yl)-benzonitrile,~~

~~(I.6) 2-(4-cyclopropyl-benzyl)-4-(β -D-glucopyranos-1-yl)-benzonitrile,~~

~~(I.7) 1-chloro-4-(β-D-glucopyranos-1-yl)-2-(4-ethynyl-benzyl)-benzene,~~

~~(I.8) 1-chloro-4-(β-D-glucopyranos-1-yl)-2-[4-((*R*)-tetrahydrofuran-3-yloxy)-benzyl]-benzene,~~

~~(I.9) 1-chloro-4-(β-D-glucopyranos-1-yl)-2-[4-((*S*)-tetrahydrofuran-3-yloxy)-benzyl]-benzene,~~

~~(I.10) 1-methyl-2-[4-((*R*)-tetrahydrofuran-3-yloxy)-benzyl]-4-(β-D-glucopyranos-1-yl)-benzene, and~~

~~(I.11) 1-methyl-2-[4-((*S*)-tetrahydrofuran-3-yloxy)-benzyl]-4-(β-D-glucopyranos-1-yl)-benzene.~~

~~15. Method according to one or more of the claims 1 to 9 or use according to one of the claims 10 to 13 wherein the pharmaceutical composition additionally comprises one or more pharmaceutically acceptable carriers.~~

Patent Claims:

1. A SGLT2 inhibitor 1-chloro-4-(β-D-glucopyranos-1-yl)-2-[4-((*S*)-tetrahydrofuran-3-yloxy)-benzyl]-benzene for use in a method for improving glycemic control in a patient in need thereof wherein a pharmaceutical composition comprising an amount of 5 mg to 25 mg of the SGLT2 inhibitor is orally administered once daily to the patient.

2. A SGLT2 inhibitor 1-chloro-4-(β-D-glucopyranos-1-yl)-2-[4-((*S*)-tetrahydrofuran-3-yloxy)-benzyl]-benzene for use in a method for preventing, slowing the progression of, delaying or treating of complications of diabetes mellitus selected from the group consisting nephropathy, retinopathy, neuropathy, tissue ischaemia, diabetic foot, arteriosclerosis, myocardial infarction, accute coronary syndrome, unstable angina pectoris, stable angina pectoris, stroke, peripheral arterial occlusive disease, cardiomyopathy, heart failure, heart rhythm disorders and vascular restenosis in a patient in need thereof wherein a pharmaceutical composition comprising an amount of 5 mg to 25 mg of the SGLT2 inhibitor is orally administered once daily to the patient.

3. A SGLT2 inhibitor 1-chloro-4-(β-D-glucopyranos-1-yl)-2-[4-((*S*)-tetrahydrofuran-3-yloxy)-benzyl]-benzene for use in a method for reducing the cardiovascular risk in a patient in need thereof wherein a pharmaceutical composition comprising an amount of 5 mg to 25 mg of the SGLT2 inhibitor is orally administered once daily to the patient.

4. The SGLT2 inhibitor according to any one of the previous claims wherein the amount of the SGLT2 inhibitor is 10 mg.

5. The SGLT2 inhibitor according to any one of the previous claims wherein the amount of the SGLT2 inhibitor is 25 mg.

6. The SGLT2 inhibitor according any one of the previous claims wherein the patient is diagnosed having one or more of the following conditions

- insulin resistance,
- hyperinsulinemia,
- pre-diabetes,
- type 2 diabetes mellitus,
- type 1 diabetes mellitus.

7. The SGLT2 inhibitor according to claim 6 wherein the patient is a patient with type 2 diabetes mellitus.

8. The SGLT2 inhibitor according to claim 6 wherein the patient is a patient with type 1 diabetes mellitus.

9. The SGLT2 inhibitor according to any one of the previous claims wherein the patient is a patient with insulin dependency.

10. The SGLT2 inhibitor according to any one of the previous claims wherein the patient is a patient who is treated or otherwise would be treated or needs treatment with an insulin or a derivative of insulin or a substitute of insulin or a formulation comprising an insulin or a derivative or substitute thereof.

11. The SGLT2 inhibitor according to any one of the previous claims wherein the patient shows one, two or more of the following conditions:
(a) insufficient glycemic control with diet and exercise alone;
(b) insufficient glycemic control despite oral monotherapy with metformin, in particular despite oral monotherapy at a maximal tolerated dose of metformin;
(c) insufficient glycemic control despite oral monotherapy with another antidiabetic agent, in particular despite oral monotherapy at a maximal tolerated dose of the other antidiabetic agent.

12. The SGLT2 inhibitor according to any one of the previous claims wherein the patient shows or has an increased risk for one or more of the following disorders: renal insufficiency or diseases, cardiac diseases, cardiac failure, hepatic diseases, pulmonal diseases, catabolytic states and/or danger of lactate acidosis, or female patients being pregnant or during lactation.

13. The SGLT2 inhibitor according to any one of the previous claims wherein the patient is an individual diagnosed of one or more of the conditions selected from the group consisting of overweight, obesity, visceral obesity and abdominal obesity.

14. The SGLT2 inhibitor according to any one of the previous claims wherein the patient is an individual who shows one, two or more of the following conditions:
(a) a fasting blood glucose or serum glucose concentration greater than 100 mg/dL, in particular greater than 125 mg/dL;
(b) a postprandial plasma glucose equal to or greater than 140 mg/dL;

(c) an HbA1c value equal to or greater than 6.5 %, in particular equal to or greater than 8.0 %.

15. The SGLT2 inhibitor according to any one of the previous claims wherein the patient is an individual wherein one, two, three or more of the following conditions are present:
(a) obesity, visceral obesity and/or abdominal obesity,
(b) triglyceride blood level ≥ 150 mg/dL,
(c) HDL-cholesterol blood level < 40 mg/dL in female patients and < 50 mg/dL in male patients,
(d) a systolic blood pressure ≥ 130 mm Hg and a diastolic blood pressure ≥ 85 mm Hg,
(e) a fasting blood glucose level ≥ 100 mg/dL.

16. The SGLT2 inhibitor according to any one of the previous claims wherein the pharmaceutical composition additionally comprises one or more pharmaceutically acceptable carriers.

17. Use of a SGLT2 inhibitor 1-chloro-4-(β-D-glucopyranos-1-yl)-2-[4-((*S*)-tetrahydrofuran-3-yloxy)-benzyl]-benzene in the manufacture of a medicament for improving glycemic control in a patient, wherein the medicament comprises an amount of 5 mg to 25 mg of the SGLT2 inhibitor to be orally administered once daily to the patient.

18. Use of a SGLT2 inhibitor 1-chloro-4-(β-D-glucopyranos-1-yl)-2-[4-((*S*)-tetrahydrofuran-3-yloxy)-benzyl]-benzene in the manufacture of a medicament for preventing, slowing the progression of, delaying or treating of complications of diabetes mellitus selected from the group consisting nephropathy, retinopathy, neuropathy, tissue ischaemia, diabetic foot, arteriosclerosis, myocardial infarction, accute coronary syndrome, unstable angina pectoris, stable angina pectoris, stroke, peripheral arterial occlusive disease, cardiomyopathy, heart failure, heart rhythm disorders and vascular restenosis in a patient, wherein the medicament comprises an amount of 5 mg to 25 mg of the SGLT2 inhibitor to be orally administered once daily to the patient.

19. Use of a SGLT2 inhibitor 1-chloro-4-(β-D-glucopyranos-1-yl)-2-[4-((*S*)-tetrahydrofuran-3-yloxy)-benzyl]-benzene in the manufacture of a medicament for reducing the cardiovascular risk in a patient, wherein the medicaement comprises an amount of 5 mg to 25 mg of the SGLT2 inhibitor to be is orally administered once daily to the patient.

20. The use according to any one of claims 17 to 19 wherein the amount of the SGLT2 inhibitor is 10 mg.

21. The use according to any one of claims 17 to 20 wherein the amount of the SGLT2 inhibitor is 25 mg.

22. The use according any one of claims 17 to 21 wherein the patient is diagnosed having one or more of the following conditions

- insulin resistance,
- hyperinsulinemia,
- pre-diabetes,
- type 2 diabetes mellitus,
- type 1 diabetes mellitus.

23. The use according to claim 22 wherein the patient is a patient with type 2 diabetes mellitus.

24. The use according to claim 22 wherein the patient is a patient with type 1 diabetes mellitus.

25. The use according to any one of claims 17 to 24 wherein the patient is a patient with insulin dependency.

26. The use according to any one of claims 17 to 25 wherein the patient is a patient who is treated or otherwise would be treated or needs treatment with an insulin or a derivative of insulin or a substitute of insulin or a formulation comprising an insulin or a derivative or substitute thereof.

27. The use according to any one of claims 17 to 26 wherein the patient shows one, two or more of the following conditions:

(a) insufficient glycemic control with diet and exercise alone;

(b) insufficient glycemic control despite oral monotherapy with metformin, in particular despite oral monotherapy at a maximal tolerated dose of metformin;

(c) insufficient glycemic control despite oral monotherapy with another antidiabetic agent, in particular despite oral monotherapy at a maximal tolerated dose of the other antidiabetic agent.

28. The use according to any one of claims 17 to 27 wherein the patient shows or has an increased risk for one or more of the following disorders: renal insufficiency or diseases, cardiac diseases, cardiac failure, hepatic diseases, pulmonal diseases, catabolytic states and/or danger of lactate acidosis, or female patients being pregnant or during lactation.

29. The use according to any one of claims 17 to 28 wherein the patient is an individual diagnosed of one or more of the conditions selected from the group consisting of overweight, obesity, visceral obesity and abdominal obesity.

30. The use according to any one of claims 17 to 29 wherein the patient is an individual who shows one, two or more of the following conditions:
(a) a fasting blood glucose or serum glucose concentration greater than 100 mg/dL, in particular greater than 125 mg/dL;
(b) a postprandial plasma glucose equal to or greater than 140 mg/dL;
(c) an HbA1c value equal to or greater than 6.5 %, in particular equal to or greater than 8.0 %.

31. The use according to any one of claims 17 to 30 wherein the patient is an individual wherein one, two, three or more of the following conditions are present:
(a) obesity, visceral obesity and/or abdominal obesity,
(b) triglyceride blood level ≥ 150 mg/dL,
(c) HDL-cholesterol blood level < 40 mg/dL in female patients and < 50 mg/dL in male patients,
(d) a systolic blood pressure ≥ 130 mm Hg and a diastolic blood pressure ≥ 85 mm Hg,
(e) a fasting blood glucose level ≥ 100 mg/dL.

32. The use according to any one of claims 17 to 31 wherein the medicament additionally comprises one or more pharmaceutically acceptable carriers.