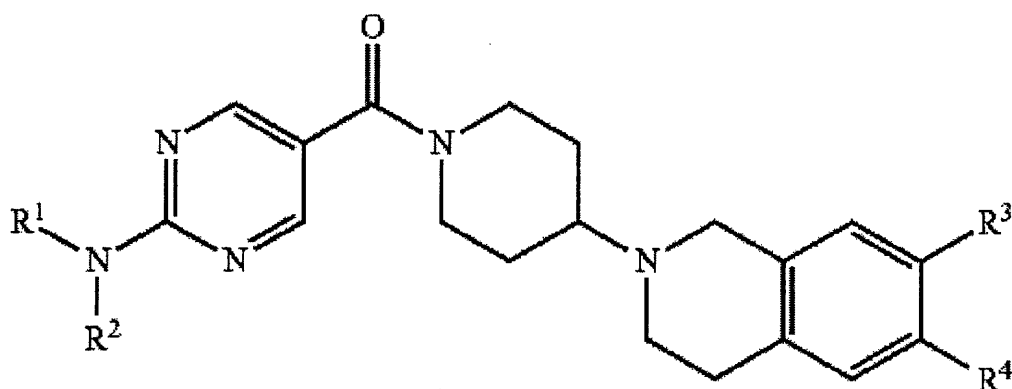


CLAIMS

1. A compound of the formula (I)

(I)



in which

R¹ represents C₁-C₆-alkyl or C₃-C₅-cycloalkyl,
 where alkyl is substituted by 1 to 2 substituents inde-
 pendently of one another selected from the group
 consisting of hydroxy, C₁-C₄-alkoxy and haloalkoxy

and

R² represents hydrogen or C₁-C₄-alkyl,

or

R¹ and R² together with the nitrogen atom to which they
 are attached form a 4- to 7-membered N-heterocycle,
 where the N-heterocycle may be substituted by 1 to 3
 substituents independently of one another selected
 from the group consisting of oxo, hydroxy, mono-
 fluoromethyl, difluoromethyl, trifluoromethyl,
 hydroxycarbonyl, tert-butoxycarbonyl, aminocarbo-
 nyl, C₁-C₄-alkyl, C₁-C₄-alkoxy, C₁-C₄-alkoxy-C₁-
 C₄-alkyl, halogen and hydroxyalkyl,

or

where the N-heterocycle may have two substituents which, together with the carbon atom of the N-heterocycle to which they are jointly attached, form a 4- to 6-membered heterocycle, where this heterocycle for its part may be substituted by 1 to 3 substituents independently of one another selected from the group consisting of oxo, methyl and ethyl,

R^3 represents hydrogen, fluorine, methoxy or ethoxy and

R^4 represents hydrogen, fluorine, methoxy or ethoxy, and the salts thereof, the solvates thereof and the solvates of the salts thereof.

2. The compound of the formula (I) according to claim 1 in which

R^1 represents C_1 - C_6 -alkyl or C_3 - C_5 -cycloalkyl, where alkyl is substituted by 1 to 2 substituents independently of one another selected from the group consisting of hydroxy and C_1 - C_4 -alkoxy

and

R^2 represents hydrogen or C_1 - C_4 -alkyl,

or

R^1 and R^2 together with the nitrogen atom to which they are attached form a 4- to 7-membered N-heterocycle, where the N-heterocycle may be substituted by 1 to 3 substituents independently of one another selected from the group consisting of oxo, hydroxy, monofluoromethyl, difluoromethyl, trifluoromethyl, hydroxycarbonyl, tert-butoxycarbonyl, aminocarbonyl, C_1 - C_4 -alkyl, C_1 - C_4 -alkoxy and halogen,

or

where the N-heterocycle may have two substituents which, together with the carbon atom of the N-het-

erocycle to which they are jointly attached, form a 4- to 6-membered heterocycle,

where this heterocycle for its part may be substituted by 1 to 3 substituents independently of one another selected from the group consisting of oxo, methyl and ethyl,

R^3 represents hydrogen, fluorine, methoxy or ethoxy, and

R^4 represents hydrogen, fluorine, methoxy or ethoxy, and the salts thereof, the solvates thereof and the solvates of the salts thereof.

3. The compound of the formula (I) according to claim 1 in which

R^1 represents C_2 - C_6 -alkyl,

where alkyl is substituted by a substituent selected from the group consisting of hydroxy, methoxy and ethoxy,

and

R^2 represents hydrogen,

or

R^1 and R^2 together with the nitrogen atom to which they are attached form an azetidine, pyrrolidine, piperidine, azepane, piperazine, morpholine, thiomorpholine, 1-oxidithiomorpholine or 1,1-dioxidithiomorpholine, where azetidine, pyrrolidine, piperidine, azepane, piperazine, morpholine, thiomorpholine, 1-oxidithiomorpholine and 1,1-dioxidithiomorpholine may be substituted by 1 to 2 substituents independently of one another selected from the group consisting of hydroxy, trifluoromethyl, hydroxycarbonyl, C_1 - C_3 -alkyl, methoxy and methoxymethyl,

or

where azetidine, pyrrolidine, piperidine, azepane, piperazine and morpholine may have two substituents

which, together with the carbon atom of the azetidine, pyrrolidine, piperidine, azepane, piperazine or morpholine to which they are jointly attached, form an azetidine, oxetane or 1,1-dioxidothietane, where this azetidine, oxetane or 1,1-dioxidothietane for its part may be substituted by 1 to 2 substituents independently of one another selected from the group consisting of methyl and ethyl,

R^3 represents hydrogen

and

R^4 represents hydrogen, fluorine or methoxy,

or

R^3 represents hydrogen, fluorine or methoxy

and

R^4 represents hydrogen,

and the salts thereof, the solvates thereof and the solvates of the salts thereof.

4. The compound of the formula (I) according to claim 1 in which

R^1 represents C_2 - C_4 -alkyl,

where alkyl is substituted by a substituent selected from the group consisting of hydroxy and methoxy,

and

R^2 represents hydrogen,

or

R^1 and R^2 together with the nitrogen atom to which they are attached form an azetidine, pyrrolidine, morpholine or 1,1-dioxidothiomorpholine,

where azetidine, pyrrolidine, morpholine or 1,1-dioxidothiomorpholine may be substituted by 1 to 2 substituents selected independently from the group consisting of hydroxycarbonyl, methyl, trifluoromethyl, methoxy and methoxymethyl,

or

R^1 and R^2 together with the nitrogen atom to which they are attached form an azetidine,

where the azetidine may have two substituents which, together with the carbon atom of the azetidine to which they are jointly attached, form an oxetane or 1,1-dioxidothietane,

R^3 represents hydrogen, fluorine or methoxy
and

R^4 represents hydrogen,
or

R^3 represents hydrogen,
and

R^4 represents hydrogen, fluorine or methoxy,
and the salts thereof, the solvates thereof and the solvates of the salts thereof.

5. The compound of the formula (I) according to claim 1 in which

R^1 represents C_2 - C_4 -alkyl,
where alkyl is substituted by a substituent selected from the group consisting of hydroxy and methoxy,

and

R^2 represents hydrogen,
or

R^1 and R^2 together with the nitrogen atom to which they are attached form an azetidine, pyrrolidine, morpholine or 1,1-dioxidothiomorpholine,

where azetidine, pyrrolidine, morpholine or 1,1-dioxidothiomorpholine may be substituted by 1 to 2 substituents selected independently from the group consisting of hydroxycarbonyl and methyl,

or

R^1 and R^2 together with the nitrogen atom to which they are attached form an azetidine,
where the azetidine may have two substituents which,

together with the carbon atom of the azetidine to which they are jointly attached, form an oxetane,

R^3 represents hydrogen,

and

R^4 represents hydrogen,

and the salts thereof, the solvates thereof and the solvates of the salts thereof.

6. The compound of the formula (I) according to claim 1 in which

R^1 and R^2 together with the nitrogen atom to which they are attached form an azetidine,

where the azetidine has two substituents which, together with the carbon atom of the azetidine to which they are jointly attached, form an oxetane,

R^3 represents hydrogen,

and

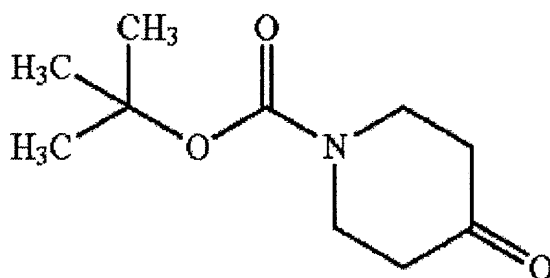
R^4 represents hydrogen,

and the salts thereof, the solvates thereof and the solvates of the salts thereof.

7. A method for preparing a compound of the formula (I) according to claim 1 or one of the salts thereof, solvates thereof or solvates of the salts thereof, wherein

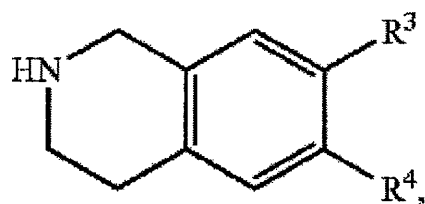
[A] a compound of the formula (II)

(II)



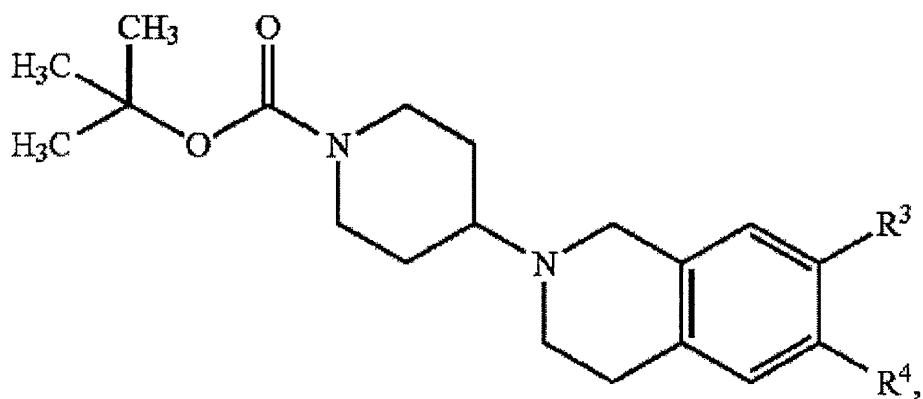
is reacted with a compound of the formula (III)

(III)



in which R^3 and R^4 have the meanings given in claim 1,
 in the presence of a reducing agent to give a compound of the formula (IV)

(IV)

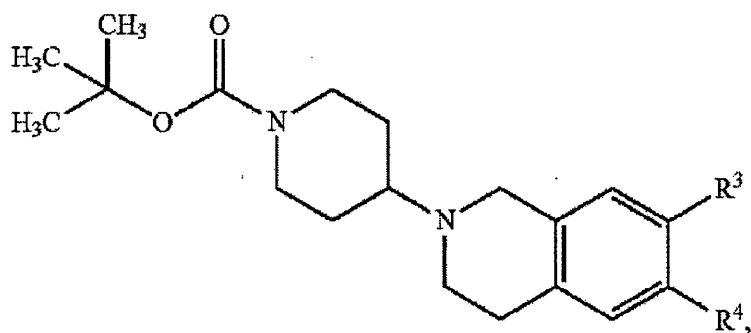


in which R^3 and R^4 have the meanings given in claim 1,

or

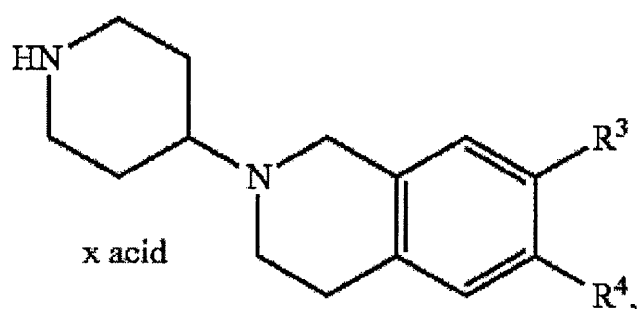
[B] compound of the formula (IV)

(IV)



in which R^3 and R^4 have the meanings given in claim 1,

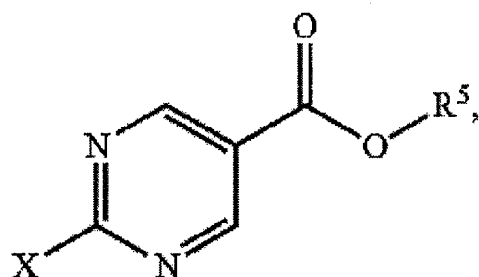
is reacted in the presence of an acid to give a compound of the formula (V)



in which R^3 and R^4 have the meanings given in claim 1,

or

[C] a compound of the formula (VI)



in which

X represents halogen, preferably fluorine, chlorine or bromine, or sulphonylmethane and

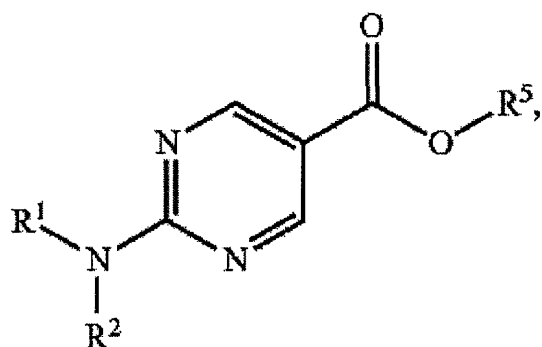
R^5 represents C_1 - C_4 -alkyl, preferably methyl or ethyl,
is reacted in the presence of a base with a compound of the formula (VII)

(VII)



in which R^1 and R^2 have the meaning given in claim 1,
to give a compound of the formula (VIII)

(VIII)

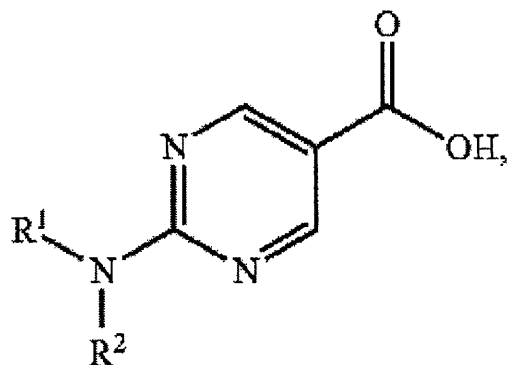


in which R^1 and R^2 have the meaning given in claim 1 and
 R^5 is as defined above,

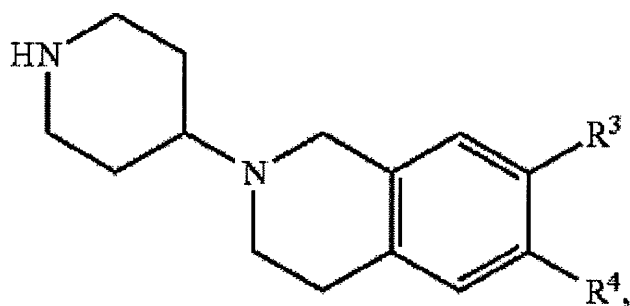
or

[D] a compound of the formula (IX)

(IX)



in which R^1 and R^2 have the meaning given in claim 1,
is reacted with a compound of the formula (V)



in which R³ and R⁴ have the meanings given in claim 1,

in the presence of a dehydrating agent to give a compound of the formula (I).

8. A medicament comprising the compound of claim 1 in combination with one or more inert non-toxic pharmaceutically suitable auxiliaries.

9. A medicament comprising the compound of claim 1 in combination with one or more further active compounds selected from the group consisting of lipid metabolism-modulating active compounds, antidiabetics, hypotensive agents, agent which lower the sympathetic tone, perfusion-enhancing and/or antithrombotic agents, antioxidants, aldosterone and mineralocorticoid receptor antagonists, vasopressin receptor antagonists, organic nitrates and NO donors, IP receptor agonists, positive inotropic compounds, calcium sensitizers, ACE inhibitors, cGMP- and cAMP-modulating compounds, natriuretic peptides, NO-independent stimulators of guanylate cyclase, NO-independent activators of guanylate cyclase, inhibitors of human neutrophil elastase, compounds which inhibit the signal transduction cascade, compounds which modulate the energy metabolism of the heart, chemokine receptor antagonists, p38 kinase inhibitors, NPY agonists, orexin agonists, anorectics, PAF-AH inhibitors, antiphlogistics, analgesics, antidepressives and psychopharmaceuticals.

10. A medicament comprising the compound of claim 1 in combination with one or more further active compounds selected from the group consisting of rivaroxaban, iloprost, and inhibitors of phosphodiesterases (PDE) 1, 2, 3, 4, and/or 5, wherein an effective amount of the compound of claim 1 is to be administered.

11. A compound of the formula (I) as defined in any one of claims 1 to 6 for use in the treatment and/or prevention of diseases.

12. Use of a compound of the formula (I) as defined in any one of claims 1 to 6 in the manufacture of a medicament for the treatment and/or prophylaxis of primary and secondary forms of diabetic microangiopathies, diabetic wound healing, diabetic ulcers on the extremities, in particular for promoting wound healing of diabetic foot ulcers, diabetic retinopathy, diabetic nephropathy, diabetic erectile dysfunction, diabetic heart failure, diabetic coronary microvascular heart disorders, peripheral and cardiac vascular disorders, thromboembolic disorders and ischaemias, peripheral circulatory disturbances, Raynaud's phenomenon, CREST syndrome, microcirculatory disturbances, intermittent claudication, and peripheral and autonomous neuropathies.