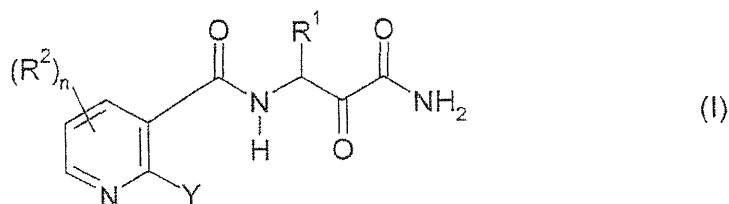


Claims:

1. A carboxamide compound of the formula I



in which

R^1 is C_1 - C_{10} -alkyl, C_2 - C_{10} -alkenyl, C_2 - C_{10} -alkynyl, where the last 3 radicals mentioned may be partly or completely halogenated and/or have 1, 2 or 3 substituents R^{1a} ,

C_3 - C_7 -cycloalkyl, C_3 - C_7 -cycloalkyl- C_1 - C_4 -alkyl, where a CH_2 group in the cycloalkyl moiety of the last two radicals mentioned may be replaced by O, NH, or S, or two adjacent C atoms may form a double bond, where the cycloalkyl moiety may further have 1, 2, 3 or 4 radicals R^{1b} ,

aryl, hetaryl, aryl- C_1 - C_6 -alkyl, aryl- C_2 - C_6 -alkenyl, hetaryl- C_1 - C_4 -alkyl or hetaryl- C_2 - C_6 -alkenyl, where aryl and hetaryl in the last 6 radicals mentioned may be unsubstituted or may carry 1, 2, 3 or 4 identical or different radicals R^{1c} , where

R^{1a} is selected independently of one another from the group consisting of OH, SH, COOH, CN, OCH_2COOH , C_1 - C_6 -alkoxy, C_1 - C_6 -haloalkoxy, C_3 - C_7 -cycloalkyloxy, C_1 - C_6 -alkylthio, C_1 - C_6 -haloalkylthio, $COOR^{a1}$, $CONR^{a2}R^{a3}$, $SO_2NR^{a2}R^{a3}$, $-NR^{a2}-SO_2-R^{a4}$, $NR^{a2}-CO-R^{a5}$, SO_2-R^{a4} and $NR^{a6}R^{a7}$;

R^{1b} is selected independently of one another from the group consisting of OH, SH, COOH, CN, OCH_2COOH , halogen, phenyl which optionally has 1, 2 or 3 substituents R^{1d} ,

C₁-C₆-alkyl, C₁-C₆-alkoxy, C₁-C₆-alkylthio, where the alkyl moieties in the last 3 substituents mentioned may be partly or completely halogenated and/or have 1, 2 or 3 substituents R^{1a},
 COOR^{b1}, CONR^{b2}R^{b3}, SO₂NR^{b2}R^{b3}, NR^{b2}-SO₂-R^{b4}, NR^{b2}-CO-R^{b5},
 SO₂-R^{b4} and NR^{b6}R^{b7},

in addition two R^{1b} radicals may together form a C₁-C₄-alkylene group, or 2 R^{1b} radicals bonded to adjacent C atoms of cycloalkyl may form together with the carbon atoms to which they are bonded also a benzene ring,

R^{1c} is selected independently of one another from the group consisting of OH, SH, halogen, NO₂, NH₂, CN, COOH, OCH₂COOH, C₁-C₆-alkyl, C₁-C₆-alkoxy, C₁-C₆-alkoxy-C₁-C₄-alkyl, C₁-C₆-alkylthio, where the alkyl moieties in the last 4 substituents mentioned may be partly or completely halogenated and/or have 1, 2 or 3 substituents R^{1a},
 C₃-C₇-cycloalkyl, C₃-C₇-cycloalkyl-C₁-C₄-alkyl, C₃-C₇-cycloalkyloxy, where the cycloalkyl moiety of the last three radicals mentioned may have 1, 2, 3 or 4 R^{1b} radicals,

aryl, hetaryl, O-aryl, O-CH₂-aryl, where the last three radicals mentioned are unsubstituted in the aryl moiety or may carry 1, 2, 3 or 4 R^{1d} radicals,

COOR^{c1}, CONR^{c2}R^{c3}, SO₂NR^{c2}R^{c3}, NR^{c2}-SO₂-R^{c4}, NR^{c2}-CO-R^{c5},
 SO₂-R^{c4},

-(CH₂)_p-NR^{c6}R^{c7} with p = 0, 1, 2, 3, 4, 5 or 6 and

O-(CH₂)_q-NR^{c6}R^{c7} with q = 2, 3, 4, 5 or 6; where

or two radicals R^{1b} or two radicals R^{1c} bonded to adjacent C atoms form together with the C atoms to which they are bonded a 4, 5, 6 or 7-membered, optionally substituted carbocycle or an optionally substituted heterocycle which has 1, 2 or 3 different or identical heteroatoms from the group of O, N and S as ring members;

R^{1d} is selected from the group consisting of halogen, OH, SH, NO₂,

COOH, C(O)NH₂, CHO, CN, NH₂, OCH₂COOH, C₁-C₆-alkyl, C₁-C₆-haloalkyl, C₁-C₆-alkoxy, C₁-C₆-haloalkoxy, C₁-C₆-alkylthio, C₁-C₆-haloalkylthio, CO-C₁-C₆-alkyl, CO-O-C₁-C₆-alkyl, NH-C₁-C₆-alkyl, NHCHO, NH-C(O)C₁-C₆-alkyl, and SO₂-C₁-C₆-alkyl;

5

R² is selected from the group consisting of halogen, NH₂, CN, CF₃, CHF₂, CH₂F, O-CF₃, O-CHF₂, O-CH₂F, COOH, OCH₂COOH, C₁-C₂-alkyl, C₁-C₂-alkoxy, C₁-C₂-alkoxy-C₁-C₂-alkyl, C₁-C₂-alkylthio and CH₂NRR', where

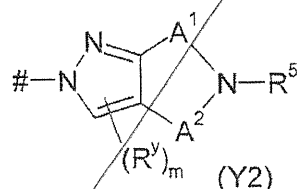
10

R and R' are selected independently of one another from the group consisting of hydrogen and C₁-C₄-alkyl;

n is 0, 1 or 2;

15

Y is a radical of the formula Y2



where # indicates the point of attachment of Y to the pyridine ring;

20

A¹ is (CH₂)_q with q being 0, 1, 2 or 3, where one or two hydrogen atoms may be replaced by halogen or C₁-C₄-alkyl;

A² is (CH₂)_r with r being 0, 1, 2 or 3, where one or two hydrogen atoms may be replaced by halogen or C₁-C₄-alkyl;

25

provided that r + q is 2, 3, 4, 5 or 6;

m is 0 or 1;

30

R^y is selected from the group consisting of halogen, NH₂, CN, CF₃, CHF₂,

CH_2F , $\text{O}-\text{CF}_3$, $\text{O}-\text{CHF}_2$, $\text{O}-\text{CH}_2\text{F}$, COOH , OCH_2COOH , $\text{C}_1\text{-C}_2\text{-alkyl}$, $\text{C}_1\text{-C}_2\text{-alkoxy}$, $\text{C}_1\text{-C}_2\text{-alkoxy-C}_1\text{-C}_2\text{-alkyl}$ and $\text{C}_1\text{-C}_2\text{-alkylthio}$;

5 R^5 is a radical COOR^{bl} or is selected from the group consisting of hydrogen, $\text{C}_1\text{-C}_6\text{-alkyl}$, $\text{C}_1\text{-C}_6\text{-haloalkyl}$, $\text{C}_1\text{-C}_6\text{-alkyl}$ which has 1, 2 or 3 substituents $\text{R}^{3\text{a}}$, $\text{C}_3\text{-C}_7\text{-cycloalkyl}$, $\text{C}_3\text{-C}_7\text{-cycloalkyl-C}_1\text{-C}_4\text{-alkyl}$, where the cycloalkyl moiety of the last 2 radicals mentioned may have 1, 2, 3 or 4 radicals $\text{R}^{3\text{b}}$, $\text{C}_2\text{-C}_6\text{-alkenyl}$ or $\text{C}_2\text{-C}_6\text{-alkynyl}$, where alkenyl and alkynyl, in the last 2 radicals mentioned are unsubstituted or have 1, 2 or 3 substituents $\text{R}^{3\text{a}}$, 10 phenyl or phenyl- $\text{C}_1\text{-C}_4\text{-alkyl}$, where phenyl in the last 2 radicals mentioned are unsubstituted or have 1, 2 or 3 substituents $\text{R}^{3\text{c}}$, and a radical $\text{C}(=\text{O})\text{R}^{3\text{d}}$,

15 $\text{R}^{3\text{a}}$ is selected from the group consisting of OH , SH , CN , $\text{C}_1\text{-C}_6\text{-alkoxy}$, $\text{C}_1\text{-C}_6\text{-haloalkoxy}$, $\text{C}_3\text{-C}_7\text{-cycloalkyloxy}$, $\text{C}_1\text{-C}_6\text{-alkylthio}$, $\text{C}_1\text{-C}_6\text{-haloalkylthio}$, COOR^{a1} , $\text{CONR}^{\text{a2}}\text{R}^{\text{a3}}$, $\text{SO}_2\text{NR}^{\text{a2}}\text{R}^{\text{a3}}$, $-\text{NR}^{\text{a2}}-\text{SO}_2-\text{R}^{\text{a4}}$, $\text{NR}^{\text{a2}}-\text{CO}-\text{R}^{\text{a5}}$, $\text{SO}_2-\text{R}^{\text{a4}}$ and $\text{NR}^{\text{a6}}\text{R}^{\text{a7}}$,

20 $\text{R}^{3\text{b}}$ is selected from the group consisting of OH , SH , CN , halogen, $\text{C}_1\text{-C}_6\text{-alkyl}$, $\text{C}_1\text{-C}_6\text{-alkoxy}$, $\text{C}_1\text{-C}_6\text{-alkylthio}$, where the alkyl moieties in the last 3 substituents mentioned may be partly or completely halogenated and/or have 1, 2 or 3 substituents $\text{R}^{3\text{a}}$, phenyl which optionally has 1, 2 or 3 substituents $\text{R}^{3\text{c}}$, COOR^{b1} , $\text{CONR}^{\text{b2}}\text{R}^{\text{b3}}$, $\text{SO}_2\text{NR}^{\text{b2}}\text{R}^{\text{b3}}$, $\text{NR}^{\text{b2}}-\text{SO}_2-\text{R}^{\text{b4}}$, $\text{NR}^{\text{b2}}-\text{CO}-\text{R}^{\text{b5}}$, 25 $\text{SO}_2-\text{R}^{\text{b4}}$ and $\text{NR}^{\text{b6}}\text{R}^{\text{b7}}$, or two $\text{R}^{3\text{b}}$ radicals may together also form a $\text{C}_1\text{-C}_4\text{-alkylene}$ group, or 2 $\text{R}^{3\text{b}}$ radicals bonded to adjacent C atoms of cycloalkyl may form together with the carbon atoms to which they are bonded also a benzene ring,

30 $\text{R}^{3\text{c}}$ is selected from the group consisting of halogen, OH , SH , NO_2 , $\text{C}(\text{O})\text{NH}_2$, CHO , CN , NH_2 , $\text{C}_1\text{-C}_6\text{-alkyl}$, $\text{C}_1\text{-C}_6\text{-haloalkyl}$, $\text{C}_1\text{-C}_6\text{-alkoxy}$, $\text{C}_1\text{-C}_6\text{-haloalkoxy}$, $\text{C}_1\text{-C}_6\text{-alkylthio}$, $\text{C}_1\text{-C}_6\text{-haloalkylthio}$, $\text{CO-C}_1\text{-C}_6\text{-alkyl}$, $\text{CO-O-C}_1\text{-C}_6\text{-alkyl}$, $\text{NH-C}_1\text{-C}_6\text{-alkyl}$, $\text{NH-C}(\text{O})\text{C}_1\text{-C}_6\text{-}$

alkyl, and $\text{SO}_2\text{-C}_1\text{-C}_6\text{-alkyl}$;

R^{3d} is selected from the group consisting of $\text{C}_1\text{-C}_6\text{-alkyl}$, $\text{C}_1\text{-C}_6\text{-haloalkyl}$, $\text{C}_1\text{-C}_6\text{-alkyl}$ which has 1, 2 or 3 substituents R^{3a} , $\text{C}_3\text{-C}_7\text{-cycloalkyl}$, $\text{C}_3\text{-C}_7\text{-cycloalkyl-C}_1\text{-C}_4\text{-alkyl}$, where the cycloalkyl moiety of the last 2 radicals mentioned is unsubstituted or may have 1, 2, 3 or 4 radicals R^{3b} , phenyl which optionally has 1, 2 or 3 substituents R^{3c} ,

and where

R^{a1} , R^{b1} and R^{c1} are independently of one another selected from the group consisting of $\text{C}_1\text{-C}_6\text{-alkyl}$, $\text{C}_1\text{-C}_6\text{-haloalkyl}$, $\text{C}_1\text{-C}_6\text{-alkyl}$ which has 1, 2 or 3 substituents R^{1a} , or $\text{C}_2\text{-C}_6\text{-alkenyl}$, $\text{C}_2\text{-C}_6\text{-alkynyl}$, $\text{C}_3\text{-C}_7\text{-cycloalkyl}$, $\text{C}_3\text{-C}_7\text{-cycloalkyl-C}_1\text{-C}_4\text{-alkyl}$, $\text{C}_3\text{-C}_7\text{-heterocycloalkyl-C}_1\text{-C}_4\text{-alkyl}$, $\text{C}_1\text{-C}_6\text{-alkoxy-C}_1\text{-C}_4\text{-alkyl}$, aryl, aryl- $\text{C}_1\text{-C}_4\text{-alkyl}$, hetaryl and hetaryl- $\text{C}_1\text{-C}_4\text{-alkyl}$, where aryl and hetaryl in the last 4 radicals mentioned are unsubstituted or have 1, 2 or 3 substituents R^{1d} ,

R^{a2} , R^{b2} and R^{c2} are independently of one another selected from the group consisting of H, $\text{C}_1\text{-C}_6\text{-alkyl}$, $\text{C}_1\text{-C}_6\text{-haloalkyl}$, $\text{C}_1\text{-C}_6\text{-alkyl}$ which has 1, 2 or 3 substituents R^{1a} , or $\text{C}_2\text{-C}_6\text{-alkenyl}$, $\text{C}_2\text{-C}_6\text{-alkynyl}$, $\text{C}_3\text{-C}_7\text{-cycloalkyl}$, $\text{C}_3\text{-C}_7\text{-cycloalkyl-C}_1\text{-C}_4\text{-alkyl}$, $\text{C}_3\text{-C}_7\text{-heterocycloalkyl-C}_1\text{-C}_4\text{-alkyl}$, $\text{C}_1\text{-C}_6\text{-alkoxy-C}_1\text{-C}_4\text{-alkyl}$, aryl, aryl- $\text{C}_1\text{-C}_4\text{-alkyl}$, hetaryl and hetaryl- $\text{C}_1\text{-C}_4\text{-alkyl}$, where aryl and hetaryl in the last 4 radicals mentioned are unsubstituted or have 1, 2 or 3 substituents R^{1d} ,

R^{a3} , R^{b3} and R^{c3} are independently of one another selected from the group consisting of H, $\text{C}_1\text{-C}_6\text{-alkyl}$, $\text{C}_1\text{-C}_6\text{-haloalkyl}$, $\text{C}_1\text{-C}_6\text{-alkyl}$ which has 1, 2 or 3 substituents R^{1a} , or $\text{C}_2\text{-C}_6\text{-alkenyl}$, $\text{C}_2\text{-C}_6\text{-alkynyl}$, $\text{C}_3\text{-C}_7\text{-cycloalkyl}$, $\text{C}_3\text{-C}_7\text{-cycloalkyl-C}_1\text{-C}_4\text{-alkyl}$, $\text{C}_3\text{-C}_7\text{-heterocycloalkyl-C}_1\text{-C}_4\text{-alkyl}$, $\text{C}_1\text{-C}_6\text{-alkoxy-C}_1\text{-C}_4\text{-alkyl}$, aryl, aryl- $\text{C}_1\text{-C}_4\text{-alkyl}$, hetaryl and hetaryl- $\text{C}_1\text{-C}_4\text{-alkyl}$, where aryl and hetaryl in the last 4 radicals mentioned are unsubstituted or

have 1, 2 or 3 substituents R^{1d} , or
 the two radicals R^{a2} and R^{a3} , or R^{b2} and R^{b3} or R^{c2} and R^{c3} form together
 with the N atom a 3 to 7-membered, optionally substituted nitrogen
 heterocycle which may optionally have 1, 2 or 3 further different or
 5 identical heteroatoms from the group of O, N, S as ring members,

R^{a4} , R^{b4} and R^{c4} are independently of one another selected from the group
 consisting of C_1 - C_6 -alkyl, C_1 - C_6 -haloalkyl, C_1 - C_6 -alkyl which has 1, 2 or 3
 substituents R^{1a} , or C_2 - C_6 -alkenyl, C_2 - C_6 -alkynyl, C_3 - C_7 -cycloalkyl, C_3 - C_7 -
 10 cycloalkyl- C_1 - C_4 -alkyl, C_3 - C_7 -heterocycloalkyl- C_1 - C_4 -alkyl, C_1 - C_6 -alkoxy-
 C_1 - C_4 -alkyl, aryl, aryl- C_1 - C_4 -alkyl, hetaryl and hetaryl- C_1 - C_4 -alkyl, where
 aryl and hetaryl in the last 4 radicals mentioned are unsubstituted or have 1,
 2 or 3 substituents R^{1d} , and

15 R^{a5} , R^{b5} and R^{c5} have independently of one another the meanings mentioned for
 R^{a1} , R^{b1} and R^{c1} ;

R^{a6} , R^{b6} and R^{c6} are independently of one another selected from the group
 consisting of H, C_1 - C_6 -alkyl, C_1 - C_6 -alkoxy, C_1 - C_6 -haloalkyl, C_1 - C_6 -alkyl
 20 which has 1, 2 or 3 substituents R^{1a} , or C_2 - C_6 -alkenyl, C_2 - C_6 -alkynyl, C_3 -
 C_7 -cycloalkyl, C_3 - C_7 -cycloalkyl- C_1 - C_4 -alkyl, C_3 - C_7 -heterocycloalkyl- C_1 -
 C_4 -alkyl, C_1 - C_6 -alkoxy- C_1 - C_4 -alkyl, CO- C_1 - C_6 -alkyl, CO-O- C_1 - C_6 -alkyl,
 SO₂- C_1 - C_6 -alkyl, aryl, hetaryl, O-aryl, OCH₂-aryl, aryl- C_1 - C_4 -alkyl,
 hetaryl- C_1 - C_4 -alkyl, CO-aryl, CO-hetaryl, CO-(aryl- C_1 - C_4 -alkyl), CO-
 25 (hetaryl- C_1 - C_4 -alkyl), CO-O-aryl, CO-O-hetaryl, CO-O-(aryl- C_1 - C_4 -alkyl),
 CO-O-(hetaryl- C_1 - C_4 -alkyl), SO₂-aryl, SO₂-hetaryl, SO₂-(aryl- C_1 - C_4 -alkyl)
 and SO₂-(hetaryl- C_1 - C_4 -alkyl), where aryl and hetaryl in the last 18 radicals
 mentioned are unsubstituted or have 1, 2 or 3 substituents R^{1d} , and

30 R^{a7} , R^{b7} and R^{c7} are independently of one another selected from the group
 consisting of H, C_1 - C_6 -alkyl, C_1 - C_6 -haloalkyl, C_1 - C_6 -alkyl which has 1, 2
 or 3 substituents R^{1a} , or C_2 - C_6 -alkenyl, C_2 - C_6 -alkynyl, C_3 - C_7 -cycloalkyl,
 C_3 - C_7 -cycloalkyl- C_1 - C_4 -alkyl, C_3 - C_7 -heterocycloalkyl- C_1 - C_4 -alkyl, C_1 - C_6 -

alkoxy-C₁-C₄-alkyl, aryl, aryl-C₁-C₄-alkyl, hetaryl and hetaryl-C₁-C₄-alkyl, where aryl and hetaryl in the last 4 radicals mentioned are unsubstituted or have 1, 2 or 3 substituents R^{1d}, or

the two radicals R^{a6} and R^{a7}, or R^{b6} and R^{b7} or R^{c6} and R^{c7} form together with the N atom a 3 to 7-membered, optionally substituted nitrogen heterocycle which may optionally have 1, 2 or 3 further different or identical heteroatoms from the group of O, N and S as ring members,

the tautomers thereof, the hydrates thereof, the prodrugs thereof and the pharmaceutically suitable salts thereof.

2. The carboxamide compound of claim 1, wherein R¹ is selected from the group consisting of
C₁-C₁₀-alkyl which may be partly or completely halogenated and/or have 1, 2 or 3 substituents R^{1a},
C₃-C₇-cycloalkyl-methyl, where the cycloalkyl moiety may have 1, 2, 3 or 4 radicals R^{1b},
benzyl and hetaryl-methyl, where phenyl and hetaryl in the last 2 radicals mentioned may be unsubstituted or carry 1, 2, 3 or 4 identical or different radicals R^{1c}.
3. The carboxamide compound of claim 2, wherein R¹ is benzyl, which may be unsubstituted or carry 1 or 2 identical or different radicals selected from halogen, C₁-C₂-alkyl and C₁-C₂-alkoxy.
4. The carboxamide compound of any of the preceding claims, wherein n is 0 or 1 and, when n = 1, R² is selected from F, Cl, CN, CF₃, C₁-C₂-alkyl and C₁-C₂-alkoxy.
5. The carboxamide compound of any of the preceding claims, wherein m is 0.
6. The carboxamide compound of any of claims 1 to 5, wherein the moiety A¹ is a single bond, CH₂ or CH₂CH₂ and the moiety A² is CH₂, CH₂CH₂ or CH₂CH₂CH₂.

7. The carboxamide compound of any of claims 1 to 6, wherein

5 R^5 is hydrogen, C_1 - C_6 -alkyl, C_1 - C_6 -haloalkyl, C_3 - C_7 -cycloalkyl, C_3 - C_7 -cycloalkyl- C_1 - C_4 -alkyl, where the cycloalkyl moiety of the last 2 radicals mentioned may have 1, 2, 3 or 4 radicals R^{3b} , phenyl, phenyl- C_1 - C_4 -alkyl, where phenyl in the last 2 radicals mentioned are unsubstituted or have 1, 2 or 3 substituents R^{3c} , or a radical a radical $COOR^{bl}$, where

10 R^{3b} is selected from the group consisting of C_1 - C_6 -alkyl, which may be partly or completely halogenated, phenyl which optionally has 1, 2 or 3 substituents R^{3c} ,

R^{3c} is selected from halogen, OH, SH, NO_2 , $C(O)NH_2$, CHO, CN, NH_2 , C_1 - C_6 -alkyl, C_1 - C_6 -haloalkyl, C_1 - C_6 -alkoxy, C_1 - C_6 -haloalkoxy, C_1 - C_6 -alkylthio, C_1 - C_6 -haloalkylthio, $CO-C_1$ - C_6 -alkyl, $CO-O-C_1$ - C_6 -alkyl,

15 $NH-C_1$ - C_6 -alkyl, $NH-C(O)C_1$ - C_6 -alkyl, and SO_2-C_1 - C_6 -alkyl;

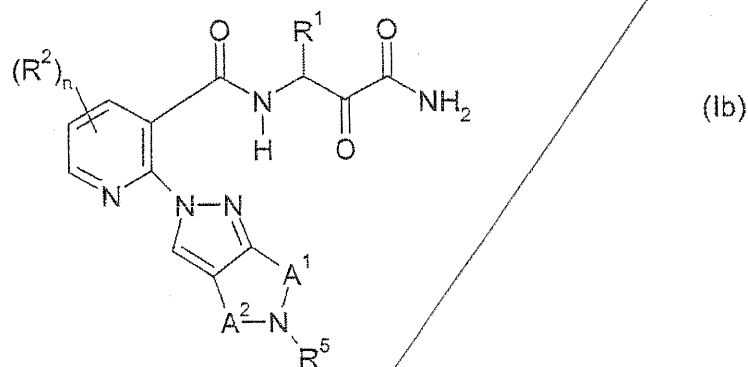
R^{bl} is selected from the group consisting of C_1 - C_6 -alkyl, C_3 - C_7 -cycloalkyl, C_3 - C_7 -cycloalkyl- C_1 - C_4 -alkyl, phenyl and phenyl- C_1 - C_4 -alkyl, where phenyl in the last 2 radicals mentioned is unsubstituted or has 1, 2 or 3

20 substituents R^{ld} , which are selected from the group consisting of halogen, C_1 - C_6 -alkyl, C_1 - C_6 -alkoxy and C_1 - C_6 -haloalkyl.

8. The carboxamide compound of any of claims 1 to 7, wherein the radical of the formula Y2 is selected from the group consisting of 4,5,6,7-
- 25 tetrahydropyrazolo[3,4-c]pyridin-2-yl, 6-(C_1 - C_4 -alkyl)-4,5,6,7-tetrahydropyrazolo[3,4-c]pyridin-2-yl, 6-(tert.-butoxycarbonyl)-4,5,6,7-tetrahydropyrazolo[3,4-c]pyridin-2-yl, 6-benzyl-4,5,6,7-tetrahydropyrazolo[3,4-c]pyridin-2-yl, 6-cyclopropylmethyl-4,5,6,7-tetrahydropyrazolo[3,4-c]pyridin-2-yl, 4,5,6,7-tetrahydropyrazolo[4,3-c]pyridin-2-yl, 5-(C_1 - C_4 -alkyl)-4,5,6,7-
- 30 tetrahydropyrazolo[4,3-c]pyridin-2-yl, 5-(tert.-butoxycarbonyl)-4,5,6,7-tetrahydropyrazolo[4,3-c]pyridin-2-yl, 5-benzyl-4,5,6,7-tetrahydropyrazolo[4,3-c]pyridin-2-yl, 5-cyclopropylmethyl-4,5,6,7-tetrahydropyrazolo[4,3-c]pyridin-2-yl, 2,4,5,6-tetrahydropyrrolo[3,4-c]pyrazol-2-yl, 5-(C_1 - C_4 -alkyl)-2,4,5,6-

tetrahydropyrrolo[3,4-c]pyrazol-2-yl, 5-benzyl-2,4,5,6-tetrahydropyrrolo[3,4-c]pyrazol-2-yl, 5-(tert.-butoxycarbonyl)-2,4,5,6-tetrahydropyrrolo[3,4-c]pyrazol-2-yl, 4,5,6,7-tetrahydropyrazolo[4,3-c]pyridin-2-yl, 5-(C₁-C₄-alkyl)-4,5,6,7-tetrahydropyrazolo[4,3-b]pyridin-2-yl, 5-(tert.-butoxycarbonyl)-4,5,6,7-tetrahydropyrazolo[4,3-b]pyridin-2-yl, 5-benzyl-4,5,6,7-tetrahydropyrazolo[4,3-b]pyridin-2-yl and 5-cyclopropylmethyl-4,5,6,7-tetrahydropyrazolo[4,3-b]pyridin-2-yl.

9. The carboxamide compound of any of claims 1 to 8, having the following formula



where R¹, R², R⁵ and n are as defined above and where

A¹ is (CH₂)_q with q being 0, 1 or 2;

A² is (CH₂)_r with r being 1, 2 or 3;

where q + r is 1, 2 or 3,

the tautomers thereof, the hydrates thereof, the prodrugs thereof and the pharmaceutically suitable salts thereof.

10. The carboxamide compound of claim 1 which is selected from the group consisting of

N-(4-amino-3,4-dioxo-1-phenylbutan-2-yl)-2-(5-benzyl-4,5,6,7-tetrahydro-2H-pyrazolo[4,3-c]pyridin-2-yl)nicotinamide;

N-(4-amino-3,4-dioxo-1-phenyl-2-butanyl)-2-(5-benzyl-4,5,6,7-tetrahydro-2H-

pyrazolo[4,3-c]pyridin-2-yl)nicotinamide;

N-(4-amino-3,4-dioxo-1-phenyl-2-butanyl)-2-[5-(cyclopropylmethyl)-4,5,6,7-tetrahydro-2H-pyrazolo[4,3-c]pyridin-2-yl]nicotinamide;

N-(4-amino-3,4-dioxo-1-phenyl-2-butanyl)-2-(4,5,6,7-tetrahydro-2Hpyrazolo[4,3-c]pyridin-2-yl)nicotinamide;

tert-butyl 2-(3-(4-amino-3,4-dioxo-1-phenylbutan-2-ylcarbamoyl)pyridin-2-yl)-4,6-dihydropyrrolo[3,4-c]pyrazole-5(2H)-carboxylate;

N-(4-amino-3,4-dioxo-1-phenyl-2-butanyl)-2-(5,6-dihydropyrrolo[3,4-c]pyrazol-2(4H)-yl)nicotinamide;

tert-butyl 2-(3-(4-amino-3,4-dioxo-1-phenylbutan-2-ylcarbamoyl)pyridin-2-yl)-2,4,5,7-tetrahydro-6H-pyrazolo[3,4-c]pyridine-6-carboxylate;

N-(4-amino-3,4-dioxo-1-phenyl-2-butanyl)-2-(4,5,6,7-tetrahydro-pyrazolo[3,4-c]pyridin-2-yl)nicotinamide;

tert-butyl 2-(3-(4-amino-3,4-dioxo-1-phenylbutan-2-ylcarbamoyl)pyridin-2-yl)-2,5,6,7-tetrahydro-4H-pyrazolo[4,3-b]pyridine-4-carboxylate;

N-(4-amino-3,4-dioxo-1-phenyl-2-butanyl)-2-(4,5,6,7-tetrahydro-pyrazolo[4,3-b]pyridin-2-yl)nicotinamide;

N-(4-amino-3,4-dioxo-1-phenyl-2-butanyl)-2-(4-benzyl-4,5,6,7-tetrahydro-2H-pyrazolo[4,3-b]pyridin-2-yl)nicotinamide;

N-(4-amino-3,4-dioxo-1-phenyl-2-butanyl)-2-(6-ethyl-4,5,6,7-tetrahydro-2H-pyrazolo[3,4-c]pyridin-2-yl)nicotinamide;

the tautomers thereof, the hydrates thereof, the prodrugs thereof and the pharmaceutically suitable salts thereof.

11. The carboxamide compound as claimed in claim 1 being N-(4-amino-3,4-dioxo-1-phenylbutan-2-yl)-2-(5-benzyl-4,5,6,7-tetrahydro-2H-pyrazolo[4,3-c]pyridin-2-yl)nicotinamide, or tautomer thereof, or a hydrate thereof, or a prodrug thereof or a pharmaceutically suitable salt thereof.

12. The carboxamide compound as claimed in claim 1 being tert-butyl 2-(3-(4-amino-3,4-dioxo-1-phenylbutan-2-ylcarbamoyl)pyridin-2-yl)-4,6-dihydropyrrolo[3,4-c]pyrazole-5(2H)-carboxylate, or tautomer thereof, or a hydrate thereof, or a

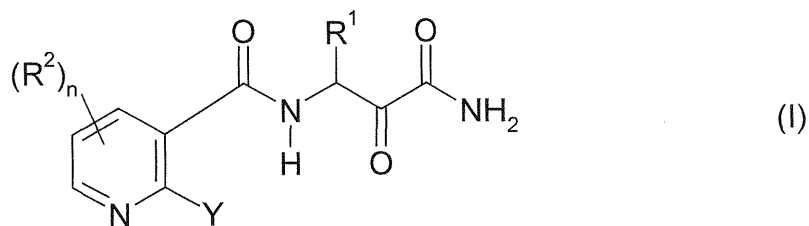
prodrug thereof or a pharmaceutically suitable salt thereof.

13. The carboxamide compound as claimed in claim 1 being N-(4-amino-3,4-dioxo-1-phenyl-2-butanyl)-2-(5,6-dihydropyrrolo[3,4-c]pyrazol-2(4H)-yl)nicotinamide, or
5 tautomer thereof, or a hydrate thereof, or a prodrug thereof or a pharmaceutically suitable salt thereof.
14. The carboxamide compound as claimed in claim 1 being N-(4-amino-3,4-dioxo-1-phenylbutan-2-yl)-2-(4-benzyl-4,5,6,7-tetrahydro-2H-pyrazolo[4,3-b]pyridin-2-yl)nicotinamide, or tautomer thereof, or a hydrate thereof, or a prodrug thereof or
10 a pharmaceutically suitable salt thereof
15. The carboxamide compound of any of the preceding claims, which has the S configuration at the carbon atom carrying the group R¹.
- 15 16. The carboxamide compound of any of the preceding claims for use in therapy.
17. A pharmaceutical composition comprising at least one carboxamide compound as of any of claims 1 to 15 and a carrier.
- 20 18. Use of the carboxamide compound of any of claims 1 to 15 in the manufacture of a medicament for the treatment of a disorder, an impairment or a condition which is associated with an elevated calpain activity.
- 25 19. Use of the carboxamide compound of any of claims 1 to 15 in the manufacture of a medicament for the treatment of neurodegenerative disorders or impairments.
20. Use of the carboxamide compound of any of claims 1 to 15 in the manufacture of a medicament for treating a neurodegenerative disorder occurring as a result of a
30 chronic brain supply deficit, an ischemia or a trauma.
21. Use of the carboxamide compound of any of claims 1 to 15 in the manufacture of a medicament for the use in the treatment of a disorder, an impairment or a

- condition selected from Alzheimer's disease, Parkinson's disease, amyotrophic lateral sclerosis, Huntington's disease, multiple sclerosis and concomitant damage to the nervous system epilepsy, pain, damage to the heart following cardiac ischemias, skeletal muscle damage, muscular dystrophies, damage resulting from proliferation of smooth muscle cells, coronary vasospasms, cerebral vasospasms, macular degeneration, cataracts of the eyes, restenosis of the blood vessels following angioplasty, damages to the kidney and chronic kidney diseases, for use in the treatment of a disorder or an impairment associated with an elevated interleukin-I, TNF or A β level and
- 10 for use in the treatment of a disorder or an impairment associated with a protozoan infection such as malaria or toxoplasmosis.
22. Use of the carboxamide compound of any of claims 1 to 15 in the manufacture of a medicament for chemotherapy of tumors and metastasis thereof.
- 15 23. Use of the carboxamide compound of any of claims 1 to 15 in the manufacture of a medicament for treatment of HIV patients.

Claims:

1. A carboxamide compound of the formula I



in which

R^1 is C_1 - C_{10} -alkyl, C_2 - C_{10} -alkenyl, C_2 - C_{10} -alkynyl, where the last 3 radicals mentioned may be partly or completely halogenated and/or have 1, 2 or 3 substituents R^{1a} ,
 C_3 - C_7 -cycloalkyl, C_3 - C_7 -cycloalkyl- C_1 - C_4 -alkyl, where a CH_2 group in the cycloalkyl moiety of the last two radicals mentioned may be replaced by O, NH, or S, or two adjacent C atoms may form a double bond, where the cycloalkyl moiety may further have 1, 2, 3 or 4 radicals R^{1b} ,
 aryl, hetaryl, aryl- C_1 - C_6 -alkyl, aryl- C_2 - C_6 -alkenyl, hetaryl- C_1 - C_4 -alkyl or hetaryl- C_2 - C_6 -alkenyl, where aryl and hetaryl in the last 6 radicals mentioned may be unsubstituted or may carry 1, 2, 3 or 4 identical or different radicals R^{1c} ; where

R^{1a} is selected independently of one another from the group consisting of OH, SH, COOH, CN, OCH_2COOH , C_1 - C_6 -alkoxy, C_1 - C_6 -haloalkoxy, C_3 - C_7 -cycloalkyloxy, C_1 - C_6 -alkylthio, C_1 - C_6 -haloalkylthio, $COOR^{a1}$, $CONR^{a2}R^{a3}$, $SO_2NR^{a2}R^{a3}$, $-NR^{a2}-SO_2-R^{a4}$, $NR^{a2}-CO-R^{a5}$, SO_2-R^{a4} and $NR^{a6}R^{a7}$;

R^{1b} is selected independently of one another from the group consisting of OH, SH, COOH, CN, OCH_2COOH , halogen, phenyl which optionally has 1, 2 or 3 substituents R^{1d} ,

C₁-C₆-alkyl, C₁-C₆-alkoxy, C₁-C₆-alkylthio, where the alkyl moieties in the last 3 substituents mentioned may be partly or completely halogenated and/or have 1, 2 or 3 substituents R^{1a},

COOR^{b1}, CONR^{b2}R^{b3}, SO₂NR^{b2}R^{b3}, NR^{b2}-SO₂-R^{b4}, NR^{b2}-CO-R^{b5},
 5 SO₂-R^{b4} and NR^{b6}R^{b7},

in addition two R^{1b} radicals may together form a C₁-C₄-alkylene group, or 2 R^{1b} radicals bonded to adjacent C atoms of cycloalkyl may form together with the carbon atoms to which they are bonded also a benzene ring,

10 R^{1c} is selected independently of one another from the group consisting of OH, SH, halogen, NO₂, NH₂, CN, COOH, OCH₂COOH, C₁-C₆-alkyl, C₁-C₆-alkoxy, C₁-C₆-alkoxy-C₁-C₄-alkyl, C₁-C₆-alkylthio, where the alkyl moieties in the last 4 substituents mentioned may be partly or
 15 completely halogenated and/or have 1, 2 or 3 substituents R^{1a}, C₃-C₇-cycloalkyl, C₃-C₇-cycloalkyl-C₁-C₄-alkyl, C₃-C₇-cycloalkyloxy, where the cycloalkyl moiety of the last three radicals mentioned may have 1, 2, 3 or 4 R^{1b} radicals,

aryl, hetaryl, O-aryl, O-CH₂-aryl, where the last three radicals mentioned are unsubstituted in the aryl moiety or may carry 1, 2, 3 or
 20 4 R^{1d} radicals,

COOR^{c1}, CONR^{c2}R^{c3}, SO₂NR^{c2}R^{c3}, NR^{c2}-SO₂-R^{c4}, NR^{c2}-CO-R^{c5},
 SO₂-R^{c4},

-(CH₂)_p-NR^{c6}R^{c7} with p = 0, 1, 2, 3, 4, 5 or 6 and

25 O-(CH₂)_q-NR^{c6}R^{c7} with q = 2, 3, 4, 5 or 6; where

or two radicals R^{1b} or two radicals R^{1c} bonded to adjacent C atoms form together with the C atoms to which they are bonded a 4, 5, 6 or
 30 7-membered, optionally substituted carbocycle or an optionally substituted heterocycle which has 1, 2 or 3 different or identical heteroatoms from the group of O, N and S as ring members;

R^{1d} is selected from the group consisting of halogen, OH, SH, NO₂,

COOH, C(O)NH₂, CHO, CN, NH₂, OCH₂COOH, C₁-C₆-alkyl, C₁-C₆-haloalkyl, C₁-C₆-alkoxy, C₁-C₆-haloalkoxy, C₁-C₆-alkylthio, C₁-C₆-haloalkylthio, CO-C₁-C₆-alkyl, CO-O-C₁-C₆-alkyl, NH-C₁-C₆-alkyl, NHCHO, NH-C(O)C₁-C₆-alkyl, and SO₂-C₁-C₆-alkyl;

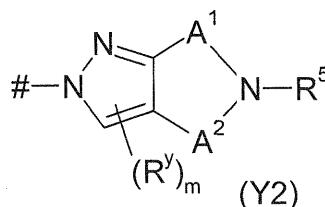
5

R² is selected from the group consisting of halogen, NH₂, CN, CF₃, CHF₂, CH₂F, O-CF₃, O-CHF₂, O-CH₂F, COOH, OCH₂COOH, C₁-C₂-alkyl, C₁-C₂-alkoxy, C₁-C₂-alkoxy-C₁-C₂-alkyl, C₁-C₂-alkylthio and CH₂NRR', where

10 R and R' are selected independently of one another from the group consisting of hydrogen and C₁-C₄-alkyl;

n is 0, 1 or 2;

15 Y is a radical of the formula Y2



where # indicates the point of attachment of Y to the pyridine ring;

20 A¹ is (CH₂)_q with q being 0, 1, 2 or 3, where one or two hydrogen atoms may be replaced by halogen or C₁-C₄-alkyl;

A² is (CH₂)_r with r being 0, 1, 2 or 3, where one or two hydrogen atoms may be replaced by halogen or C₁-C₄-alkyl;

25

provided that r + q is 2, 3, 4, 5 or 6;

m is 0 or 1;

30 R^y is selected from the group consisting of halogen, NH₂, CN, CF₃, CHF₂,

CH₂F, O-CF₃, O-CHF₂, O-CH₂F, COOH, OCH₂COOH, C₁-C₂-alkyl, C₁-C₂-alkoxy, C₁-C₂-alkoxy-C₁-C₂-alkyl and C₁-C₂-alkylthio;

- 5 R⁵ is a radical COOR^{b1} or is selected from the group consisting of hydrogen, C₁-C₆-alkyl, C₁-C₆-haloalkyl, C₁-C₆-alkyl which has 1, 2 or 3 substituents R^{3a}, C₃-C₇-cycloalkyl, C₃-C₇-cycloalkyl-C₁-C₄-alkyl, where the cycloalkyl moiety of the last 2 radicals mentioned may have 1, 2, 3 or 4 radicals R^{3b}, C₂-C₆-alkenyl or C₂-C₆-alkynyl, where alkenyl and alkynyl, in the last 2 radicals mentioned are unsubstituted or have 1, 2 or 3 substituents R^{3a}, phenyl or phenyl-C₁-C₄-alkyl, where phenyl in the last 2 radicals mentioned are unsubstituted or have 1, 2 or 3 substituents R^{3c}, and a radical C(=O)R^{3d};
- 10
- 15 R^{3a} is selected from the group consisting of OH, SH, CN, C₁-C₆-alkoxy, C₁-C₆-haloalkoxy, C₃-C₇-cycloalkyloxy, C₁-C₆-alkylthio, C₁-C₆-haloalkylthio, COOR^{a1}, CONR^{a2}R^{a3}, SO₂NR^{a2}R^{a3}, -NR^{a2}-SO₂-R^{a4}, NR^{a2}-CO-R^{a5}, SO₂-R^{a4} and NR^{a6}R^{a7},
- 20 R^{3b} is selected from the group consisting of OH, SH, CN, halogen, C₁-C₆-alkyl, C₁-C₆-alkoxy, C₁-C₆-alkylthio, where the alkyl moieties in the last 3 substituents mentioned may be partly or completely halogenated and/or have 1, 2 or 3 substituents R^{3a}, phenyl which optionally has 1, 2 or 3 substituents R^{3c}, COOR^{b1}, CONR^{b2}R^{b3}, SO₂NR^{b2}R^{b3}, NR^{b2}-SO₂-R^{b4}, NR^{b2}-CO-R^{b5}, SO₂-R^{b4} and NR^{b6}R^{b7}, or
- 25 two R^{3b} radicals may together also form a C₁-C₄-alkylene group, or 2 R^{3b} radicals bonded to adjacent C atoms of cycloalkyl may form together with the carbon atoms to which they are bonded also a benzene ring,
- 30 R^{3c} is selected from the group consisting of halogen, OH, SH, NO₂, C(O)NH₂, CHO, CN, NH₂, C₁-C₆-alkyl, C₁-C₆-haloalkyl, C₁-C₆-alkoxy, C₁-C₆-haloalkoxy, C₁-C₆-alkylthio, C₁-C₆-haloalkylthio, CO-C₁-C₆-alkyl, CO-O-C₁-C₆-alkyl, NH-C₁-C₆-alkyl, NH-C(O)C₁-C₆-

alkyl, and $\text{SO}_2\text{-C}_1\text{-C}_6\text{-alkyl}$;

R^{3d} is selected from the group consisting of $\text{C}_1\text{-C}_6\text{-alkyl}$, $\text{C}_1\text{-C}_6\text{-haloalkyl}$, $\text{C}_1\text{-C}_6\text{-alkyl}$ which has 1, 2 or 3 substituents R^{3a} , $\text{C}_3\text{-C}_7\text{-cycloalkyl}$, $\text{C}_3\text{-C}_7\text{-cycloalkyl-C}_1\text{-C}_4\text{-alkyl}$, where the cycloalkyl moiety of the last 2 radicals mentioned is unsubstituted or may have 1, 2, 3 or 4 radicals R^{3b} , phenyl which optionally has 1, 2 or 3 substituents R^{3c} ,

and where

R^{a1} , R^{b1} and R^{c1} are independently of one another selected from the group consisting of $\text{C}_1\text{-C}_6\text{-alkyl}$, $\text{C}_1\text{-C}_6\text{-haloalkyl}$, $\text{C}_1\text{-C}_6\text{-alkyl}$ which has 1, 2 or 3 substituents R^{1a} , or $\text{C}_2\text{-C}_6\text{-alkenyl}$, $\text{C}_2\text{-C}_6\text{-alkynyl}$, $\text{C}_3\text{-C}_7\text{-cycloalkyl}$, $\text{C}_3\text{-C}_7\text{-cycloalkyl-C}_1\text{-C}_4\text{-alkyl}$, $\text{C}_3\text{-C}_7\text{-heterocycloalkyl-C}_1\text{-C}_4\text{-alkyl}$, $\text{C}_1\text{-C}_6\text{-alkoxy-C}_1\text{-C}_4\text{-alkyl}$, aryl, aryl- $\text{C}_1\text{-C}_4\text{-alkyl}$, hetaryl and hetaryl- $\text{C}_1\text{-C}_4\text{-alkyl}$, where aryl and hetaryl in the last 4 radicals mentioned are unsubstituted or have 1, 2 or 3 substituents R^{1d} ,

R^{a2} , R^{b2} and R^{c2} are independently of one another selected from the group consisting of H, $\text{C}_1\text{-C}_6\text{-alkyl}$, $\text{C}_1\text{-C}_6\text{-haloalkyl}$, $\text{C}_1\text{-C}_6\text{-alkyl}$ which has 1, 2 or 3 substituents R^{1a} , or $\text{C}_2\text{-C}_6\text{-alkenyl}$, $\text{C}_2\text{-C}_6\text{-alkynyl}$, $\text{C}_3\text{-C}_7\text{-cycloalkyl}$, $\text{C}_3\text{-C}_7\text{-cycloalkyl-C}_1\text{-C}_4\text{-alkyl}$, $\text{C}_3\text{-C}_7\text{-heterocycloalkyl-C}_1\text{-C}_4\text{-alkyl}$, $\text{C}_1\text{-C}_6\text{-alkoxy-C}_1\text{-C}_4\text{-alkyl}$, aryl, aryl- $\text{C}_1\text{-C}_4\text{-alkyl}$, hetaryl and hetaryl- $\text{C}_1\text{-C}_4\text{-alkyl}$, where aryl and hetaryl in the last 4 radicals mentioned are unsubstituted or have 1, 2 or 3 substituents R^{1d} ,

R^{a3} , R^{b3} and R^{c3} are independently of one another selected from the group consisting of H, $\text{C}_1\text{-C}_6\text{-alkyl}$, $\text{C}_1\text{-C}_6\text{-haloalkyl}$, $\text{C}_1\text{-C}_6\text{-alkyl}$ which has 1, 2 or 3 substituents R^{1a} , or $\text{C}_2\text{-C}_6\text{-alkenyl}$, $\text{C}_2\text{-C}_6\text{-alkynyl}$, $\text{C}_3\text{-C}_7\text{-cycloalkyl}$, $\text{C}_3\text{-C}_7\text{-cycloalkyl-C}_1\text{-C}_4\text{-alkyl}$, $\text{C}_3\text{-C}_7\text{-heterocycloalkyl-C}_1\text{-C}_4\text{-alkyl}$, $\text{C}_1\text{-C}_6\text{-alkoxy-C}_1\text{-C}_4\text{-alkyl}$, aryl, aryl- $\text{C}_1\text{-C}_4\text{-alkyl}$, hetaryl and hetaryl- $\text{C}_1\text{-C}_4\text{-alkyl}$, where aryl and hetaryl in the last 4 radicals mentioned are unsubstituted or

have 1, 2 or 3 substituents R^{1d} , or
 the two radicals R^{a2} and R^{a3} , or R^{b2} and R^{b3} or R^{c2} and R^{c3} form together
 with the N atom a 3 to 7-membered, optionally substituted nitrogen
 heterocycle which may optionally have 1, 2 or 3 further different or
 identical heteroatoms from the group of O, N, S as ring members,

5

R^{a4} , R^{b4} and R^{c4} are independently of one another selected from the group
 consisting of C_1 - C_6 -alkyl, C_1 - C_6 -haloalkyl, C_1 - C_6 -alkyl which has 1, 2 or 3
 substituents R^{1a} , or C_2 - C_6 -alkenyl, C_2 - C_6 -alkynyl, C_3 - C_7 -cycloalkyl, C_3 - C_7 -
 cycloalkyl- C_1 - C_4 -alkyl, C_3 - C_7 -heterocycloalkyl- C_1 - C_4 -alkyl, C_1 - C_6 -alkoxy-
 C_1 - C_4 -alkyl, aryl, aryl- C_1 - C_4 -alkyl, hetaryl and hetaryl- C_1 - C_4 -alkyl, where
 aryl and hetaryl in the last 4 radicals mentioned are unsubstituted or have 1,
 2 or 3 substituents R^{1d} , and

10

15 R^{a5} , R^{b5} and R^{c5} have independently of one another the meanings mentioned for
 R^{a1} , R^{b1} and R^{c1} ;

R^{a6} , R^{b6} and R^{c6} are independently of one another selected from the group
 consisting of H, C_1 - C_6 -alkyl, C_1 - C_6 -alkoxy, C_1 - C_6 -haloalkyl, C_1 - C_6 -alkyl
 which has 1, 2 or 3 substituents R^{1a} , or C_2 - C_6 -alkenyl, C_2 - C_6 -alkynyl, C_3 -
 C_7 -cycloalkyl, C_3 - C_7 -cycloalkyl- C_1 - C_4 -alkyl, C_3 - C_7 -heterocycloalkyl- C_1 -
 C_4 -alkyl, C_1 - C_6 -alkoxy- C_1 - C_4 -alkyl, CO- C_1 - C_6 -alkyl, CO-O- C_1 - C_6 -alkyl,
 SO₂- C_1 - C_6 -alkyl, aryl, hetaryl, O-aryl, OCH₂-aryl, aryl- C_1 - C_4 -alkyl,
 hetaryl- C_1 - C_4 -alkyl, CO-aryl, CO-hetaryl, CO-(aryl- C_1 - C_4 -alkyl), CO-
 (hetaryl- C_1 - C_4 -alkyl), CO-O-aryl, CO-O-hetaryl, CO-O-(aryl- C_1 - C_4 -alkyl),
 CO-O-(hetaryl- C_1 - C_4 -alkyl), SO₂-aryl, SO₂-hetaryl, SO₂-(aryl- C_1 - C_4 -alkyl)
 and SO₂-(hetaryl- C_1 - C_4 -alkyl), where aryl and hetaryl in the last 18 radicals
 mentioned are unsubstituted or have 1, 2 or 3 substituents R^{1d} , and

20

25

30 R^{a7} , R^{b7} and R^{c7} are independently of one another selected from the group
 consisting of H, C_1 - C_6 -alkyl, C_1 - C_6 -haloalkyl, C_1 - C_6 -alkyl which has 1, 2
 or 3 substituents R^{1a} , or C_2 - C_6 -alkenyl, C_2 - C_6 -alkynyl, C_3 - C_7 -cycloalkyl,
 C_3 - C_7 -cycloalkyl- C_1 - C_4 -alkyl, C_3 - C_7 -heterocycloalkyl- C_1 - C_4 -alkyl, C_1 - C_6 -

alkoxy-C₁-C₄-alkyl, aryl, aryl-C₁-C₄-alkyl, hetaryl and hetaryl-C₁-C₄-alkyl, where aryl and hetaryl in the last 4 radicals mentioned are unsubstituted or have 1, 2 or 3 substituents R^{1d}, or

the two radicals R^{a6} and R^{a7}, or R^{b6} and R^{b7} or R^{c6} and R^{c7} form together with the N atom a 3 to 7-membered, optionally substituted nitrogen heterocycle which may optionally have 1, 2 or 3 further different or identical heteroatoms from the group of O, N and S as ring members,

the tautomers thereof, the hydrates thereof, the prodrugs thereof and the pharmaceutically suitable salts thereof, where prodrugs are compounds of the formula I, wherein the oxygen atom of the keto group in α -position to the carbamoyl moiety CONH₂ is replaced with a group O-Alk-O, S-Alk-O or S-Alk-S, where Alk is linear C₂-C₅-alkanediyl, which may be unsubstituted or substituted with 1, 2, 3 or 4 radicals selected from C₁-C₄-alkyl or halogen, or wherein prodrugs are compounds of the formula I, wherein the keto group in α -position to the carbamoyl moiety CONH₂ is replaced with a group C=NR ^{α} , where R ^{α} is selected from H, C₁-C₆-alkyl, C₁-C₆-alkoxy, C₂-C₆-alkenyl, C₃-C₆-cycloalkyl, C₃-C₆-cycloalkyl-C₁-C₄-alkyl, C₂-C₆-alkenyloxy, C₃-C₆-cycloalkyloxy, C₃-C₆-cycloalkyl-C₁-C₄-alkyloxy.

2. The carboxamide compound of claim 1, wherein R¹ is selected from the group consisting of
 - C₁-C₁₀-alkyl which may be partly or completely halogenated and/or have 1, 2 or 3 substituents R^{1a},
 - C₃-C₇-cycloalkyl-methyl, where the cycloalkyl moiety may have 1, 2, 3 or 4 radicals R^{1b},
 - benzyl and hetaryl-methyl, where phenyl and hetaryl in the last 2 radicals mentioned may be unsubstituted or carry 1, 2, 3 or 4 identical or different radicals R^{1c}.
3. The carboxamide compound of claim 2, wherein R¹ is benzyl, which may be unsubstituted or carry 1 or 2 identical or different radicals selected from halogen, C₁-C₂-alkyl and C₁-C₂-alkoxy.

4. The carboxamide compound of any of the preceding claims, wherein n is 0 or 1 and, when $n = 1$, R^2 is selected from F, Cl, CN, CF_3 , C_1 - C_2 -alkyl and C_1 - C_2 -alkoxy.
5. The carboxamide compound of any of the preceding claims, wherein m is 0.
6. The carboxamide compound of any of claims 1 to 5, wherein the moiety A^1 is a single bond, CH_2 or CH_2CH_2 and the moiety A^2 is CH_2 , CH_2CH_2 or $CH_2CH_2CH_2$.
7. The carboxamide compound of any of claims 1 to 6, wherein

R^5 is hydrogen, C_1 - C_6 -alkyl, C_1 - C_6 -haloalkyl, C_3 - C_7 -cycloalkyl, C_3 - C_7 -cycloalkyl- C_1 - C_4 -alkyl, where the cycloalkyl moiety of the last 2 radicals mentioned may have 1, 2, 3 or 4 radicals R^{3b} , phenyl, phenyl- C_1 - C_4 -alkyl, where phenyl in the last 2 radicals mentioned are unsubstituted or have 1, 2 or 3 substituents R^{3c} , or a radical a radical $COOR^{b1}$, where

R^{3b} is selected from the group consisting of C_1 - C_6 -alkyl, which may be partly or completely halogenated, phenyl which optionally has 1, 2 or 3 substituents R^{3c} ,

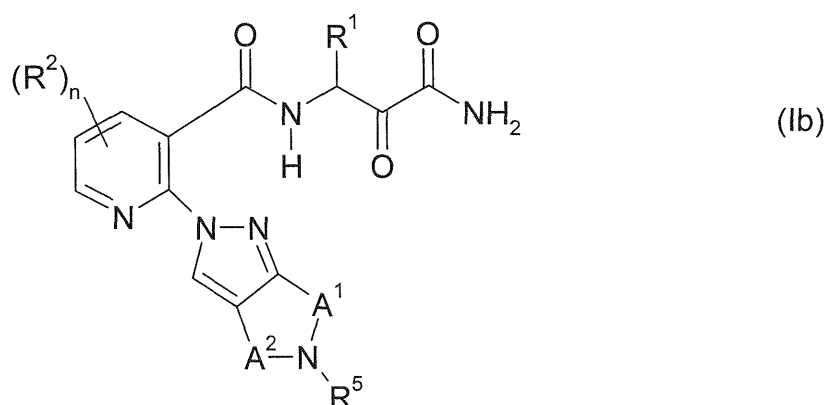
R^{3c} is selected from halogen, OH, SH, NO_2 , $C(O)NH_2$, CHO, CN, NH_2 , C_1 - C_6 -alkyl, C_1 - C_6 -haloalkyl, C_1 - C_6 -alkoxy, C_1 - C_6 -haloalkoxy, C_1 - C_6 -alkylthio, C_1 - C_6 -haloalkylthio, CO- C_1 - C_6 -alkyl, CO-O- C_1 - C_6 -alkyl, NH- C_1 - C_6 -alkyl, NH-C(O)- C_1 - C_6 -alkyl, and SO_2 - C_1 - C_6 -alkyl;

R^{b1} is selected from the group consisting of C_1 - C_6 -alkyl, C_3 - C_7 -cycloalkyl, C_3 - C_7 -cycloalkyl- C_1 - C_4 -alkyl, phenyl and phenyl- C_1 - C_4 -alkyl, where phenyl in the last 2 radicals mentioned is unsubstituted or has 1, 2 or 3 substituents R^{1d} , which are selected from the group consisting of halogen, C_1 - C_6 -alkyl, C_1 - C_6 -alkoxy and C_1 - C_6 -haloalkyl.
8. The carboxamide compound of any of claims 1 to 7, wherein the radical of the formula Y2 is selected from the group consisting of 4,5,6,7-

- tetrahydropyrazolo[3,4-c]pyridin-2-yl, 6-(C₁-C₄-alkyl)-4,5,6,7-
 tetrahydropyrazolo[3,4-c]pyridin-2-yl, 6-(tert.-butoxycarbonyl)-4,5,6,7-
 tetrahydropyrazolo[3,4-c]pyridin-2-yl, 6-benzyl-4,5,6,7-tetrahydropyrazolo[3,4-
 c]pyridin-2-yl, 6-cyclopropylmethyl-4,5,6,7-tetrahydropyrazolo[3,4-c]pyridin-2-
 5 yl, 4,5,6,7-tetrahydropyrazolo[4,3-c]pyridin-2-yl, 5-(C₁-C₄-alkyl)-4,5,6,7-
 tetrahydropyrazolo[4,3-c]pyridin-2-yl, 5-(tert.-butoxycarbonyl)-4,5,6,7-
 tetrahydropyrazolo[4,3-c]pyridin-2-yl, 5-benzyl-4,5,6,7-tetrahydropyrazolo[4,3-
 c]pyridin-2-yl, 5-cyclopropylmethyl-4,5,6,7-tetrahydropyrazolo[4,3-c]pyridin-2-
 yl, 2,4,5,6-tetrahydropyrrolo[3,4-c]pyrazol-2-yl, 5-(C₁-C₄-alkyl)-2,4,5,6-
 10 tetrahydropyrrolo[3,4-c]pyrazol-2-yl, 5-benzyl-2,4,5,6-tetrahydropyrrolo[3,4-
 c]pyrazol-2-yl, 5-(tert.-butoxycarbonyl)-2,4,5,6-tetrahydropyrrolo[3,4-c]pyrazol-
 2-yl, 4,5,6,7-tetrahydropyrazolo[4,3-b]pyridin-2-yl, 4-(C₁-C₄-alkyl)-4,5,6,7-
 tetrahydropyrazolo[4,3-b]pyridin-2-yl, 4-(tert.-butoxycarbonyl)-4,5,6,7-
 tetrahydropyrazolo[4,3-b]pyridin-2-yl, 4-benzyl-4,5,6,7-tetrahydropyrazolo[4,3-
 15 b]pyridin-2-yl and 4-cyclopropylmethyl-4,5,6,7-tetrahydropyrazolo[4,3-b]pyridin-
 2-yl.

9. The carboxamide compound of any of claims 1 to 8, having the following formula
 1b

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where R¹, R², R⁵ and n are as defined above and where

A¹ is (CH₂)_q with q being 0, 1 or 2;

25 A² is (CH₂)_r with r being 1, 2 or 3;

where q + r is 2 or 3,

the tautomers thereof, the hydrates thereof, the prodrugs thereof and the pharmaceutically suitable salts thereof.

10. The carboxamide compound of claim 1 which is selected from the group consisting of

5

N-(4-amino-3,4-dioxo-1-phenylbutan-2-yl)-2-(5-benzyl-4,5,6,7-tetrahydro-2H-pyrazolo[4,3-c]pyridin-2-yl)nicotinamide;

10

N-(4-amino-3,4-dioxo-1-phenyl-2-butanyl)-2-(5-benzyl-4,5,6,7-tetrahydro-2H-pyrazolo[4,3-c]pyridin-2-yl)nicotinamide;

N-(4-amino-3,4-dioxo-1-phenyl-2-butanyl)-2-[5-(cyclopropylmethyl)-4,5,6,7-tetrahydro-2H-pyrazolo[4,3-c]pyridin-2-yl]nicotinamide;

15

N-(4-amino-3,4-dioxo-1-phenyl-2-butanyl)-2-(4,5,6,7-tetrahydro-2Hpyrazolo[4,3-c]pyridin-2-yl)nicotinamide;

tert-butyl 2-(3-(4-amino-3,4-dioxo-1-phenylbutan-2-ylcarbamoyl)pyridin-2-yl)-4,6-dihydropyrrolo[3,4-c]pyrazole-5(2H)-carboxylate;

N-(4-amino-3,4-dioxo-1-phenyl-2-butanyl)-2-(5,6-dihydropyrrolo[3,4-c]pyrazol-2(4H)-yl)nicotinamide;

20

tert-butyl 2-(3-(4-amino-3,4-dioxo-1-phenylbutan-2-ylcarbamoyl)pyridin-2-yl)-2,4,5,7-tetrahydro-6H-pyrazolo[3,4-c]pyridine-6-carboxylate;

N-(4-amino-3,4-dioxo-1-phenyl-2-butanyl)-2-(4,5,6,7-tetrahydro-pyrazolo[3,4-c]pyridin-2-yl)nicotinamide;

tert-butyl 2-(3-(4-amino-3,4-dioxo-1-phenylbutan-2-ylcarbamoyl)pyridin-2-yl)-2,5,6,7-tetrahydro-4H-pyrazolo[4,3-b]pyridine-4-carboxylate;

25

N-(4-amino-3,4-dioxo-1-phenyl-2-butanyl)-2-(4,5,6,7-tetrahydro-pyrazolo[4,3-b]pyridin-2-yl)nicotinamide;

N-(4-amino-3,4-dioxo-1-phenyl-2-butanyl)-2-(4-benzyl-4,5,6,7-tetrahydro-2H-pyrazolo[4,3-b]pyridin-2-yl)nicotinamide;

30

N-(4-amino-3,4-dioxo-1-phenyl-2-butanyl)-2-(6-ethyl-4,5,6,7-tetrahydro-2H-pyrazolo[3,4-c]pyridin-2-yl)nicotinamide;

the tautomers thereof, the hydrates thereof, the prodrugs thereof and the pharmaceutically suitable salts thereof.

11. The carboxamide compound as claimed in claim 1 being N-(4-amino-3,4-dioxo-1-phenylbutan-2-yl)-2-(5-benzyl-4,5,6,7-tetrahydro-2H-pyrazolo[4,3-c]pyridin-2-yl)nicotinamide, or tautomer thereof, or a hydrate thereof, or a prodrug thereof or
5 a pharmaceutically suitable salt thereof.
12. The carboxamide compound as claimed in claim 1 being tert-butyl 2-(3-(4-amino-3,4-dioxo-1-phenylbutan-2-ylcarbamoyl)pyridin-2-yl)-4,6-dihydropyrrolo[3,4-c]pyrazole-5(2H)-carboxylate, or tautomer thereof, or a hydrate thereof, or a
10 prodrug thereof or a pharmaceutically suitable salt thereof.
13. The carboxamide compound as claimed in claim 1 being N-(4-amino-3,4-dioxo-1-phenyl-2-butanyl)-2-(5,6-dihydropyrrolo[3,4-c]pyrazol-2(4H)-yl)nicotinamide, or tautomer thereof, or a hydrate thereof, or a prodrug thereof or a pharmaceutically
15 suitable salt thereof.
14. The carboxamide compound as claimed in claim 1 being N-(4-amino-3,4-dioxo-1-phenylbutan-2-yl)-2-(4-benzyl-4,5,6,7-tetrahydro-2H-pyrazolo[4,3-b]pyridin-2-yl)nicotinamide, or tautomer thereof, or a hydrate thereof, or a prodrug thereof or
20 a pharmaceutically suitable salt thereof.
15. The carboxamide compound of any of the preceding claims, which has the S configuration at the carbon atom carrying the group R¹.
- 25 16. The carboxamide compound of any of the preceding claims for use in therapy.
17. A pharmaceutical composition comprising at least one carboxamide compound as of any of claims 1 to 15 and a carrier.
- 30 18. Use of the carboxamide compound of any of claims 1 to 15 in the manufacture of a medicament for the treatment of neurodegenerative disorders or impairments.
19. Use of the carboxamide compound of any of claims 1 to 15 in the manufacture of

a medicament for treating a neurodegenerative disorder occurring as a result of a chronic brain supply deficit, an ischemia or a trauma.

- 5 20. Use of the carboxamide compound of any of claims 1 to 15 in the manufacture of a medicament for the use in the treatment of a disorder, an impairment or a condition selected from Alzheimer's disease, Parkinson's disease, amyotrophic lateral sclerosis, Huntington's disease, multiple sclerosis and concomitant damage to the nervous system, epilepsy, pain, damage to the heart following cardiac ischemias, skeletal muscle damage, muscular dystrophies, damage resulting from proliferation of smooth muscle cells, coronary vasospasms, cerebral vasospasms, macular degeneration, cataracts of the eyes, restenosis of the blood vessels following angioplasty, damages to the kidney and chronic kidney diseases, for use in the treatment of a disorder or an impairment associated with an elevated interleukin-I, TNF or A β level and for use in the treatment of a disorder or an impairment associated with a protozoan infection such as malaria or toxoplasmosis.
- 10 21. Use of the carboxamide compound of any of claims 1 to 15 in the manufacture of a medicament for chemotherapy of tumors and metastasis thereof.
- 15 22. Use of the carboxamide compound of any of claims 1 to 15 in the manufacture of a medicament for treatment of HIV patients.
- 20 23. Use of at least one compound as claimed in any of claims 1 to 15 in the manufacture of a medicament for the therapeutic and/or prophylactic treatment of a disease, of a condition or of an impairment as set forth in any of claims 18 to 22.
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- 30