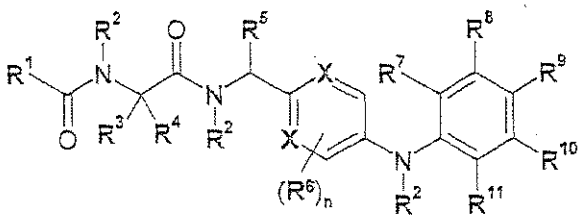
NEW COMPOUNDS

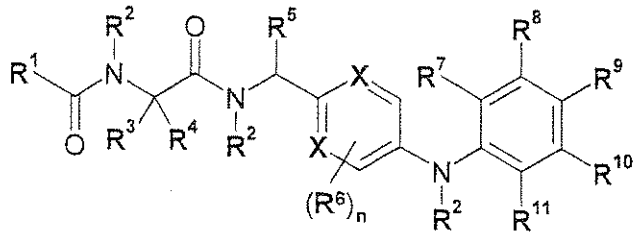
The present invention relates to the compounds of general formula I



, (I)

wherein **n**, R^1, R^2, R^3, R^4, R^5, R^6, R^7, R^8, R^9, R^{10}, R^{11} and **X** are as defined hereinafter, the enantiomers, the diastereomers, the mixtures and the salts thereof, particularly the physiologically acceptable salts thereof with organic or inorganic acids or bases, which have valuable properties, the preparation thereof, the medicaments containing the pharmacologically effective compounds, the preparation thereof and the use thereof.

In a first aspect, there is provided compounds of general formula I



, (I)

wherein

n denotes one of the numbers 0, 1 or 2,

R^1 denotes

(a) a C_{1-6}-alkyl group optionally substituted by a group $R^{1.1}$,

(b) a C_{1-3}-alkyl group wherein each methylene group may be substituted by 1 or 2 fluorine atoms and each methyl group may be substituted by 1, 2 or 3 fluorine atoms,

(c) a substituted C_{3-6}-cycloalkyl group optionally substituted by a group $R^{1.2}$ wherein a $-CH_2-$ unit may be replaced by a -C(O)- group,

(d) an aryl-C_{0-2}-alkylene group optionally substituted by 1, 2 or 3 groups $R^{1.3}$,

(e) a five-membered heteroaryl-C_{0-2}-alkylene group optionally substituted by 1, 2 or 3 groups $R^{1.4}$, which contains at least one N, O or S atom and which optionally additionally contains one, two or three further N-atoms and which may additionally be benzo-condensed,

(f) a six-membered heteroaryl-C_{0-2}-alkylene group optionally substituted by 1 or 2 groups $R^{1.4}$, which contains one, two or three N-atoms and which may additionally be benzo-condensed,

(g) a nine- or ten-membered heteroaryl group optionally substituted by 1 or 2 groups $R^{1.4}$ substituted, which contains one, two or three N-atoms,

(h) a 5- or 6-membered heterocyclic group optionally substituted by 1 or 2 groups $R^{1.4}$, in which a $-CH_2-$ unit may be replaced by a -C(O)- group,

(i) $-O-R^{1.1.1}$,

(j) $-NR^{1.1.3}R^{1.1.4}$ or

(k) $-C(=NR^{1.5})-CN$,

$R^{1.1}$ denotes halogen, $-NO_2$, -CN, C_{3-6}-cycloalkyl, $-OR^{1.1.1}$, $-SR^{1.1.1}$, $-C(O)R^{1.1.1}$, $-S(O)_2-R^{1.1.2}$, $-O-S(O)_2-R^{1.1.1}$, $-CO_2R^{1.1.1}$, $-O-C(O)-R^{1.1.1}$, $-NR^{1.1.3}R^{1.1.4}$, $-NR^{1.1.3}-C(O)-R^{1.1.1}$, $-NR^{1.1.3}-C(O)-R^{1.1.1}$, $-NR^{1.1.3}-CO_2-R^{1.1.1}$ or $-C(O)-NR^{1.1.3}R^{1.1.4}$,

$R^{1.1.1}$ denotes

(a) H,

(b) C_{1-4}-alkyl,

(c) a C_{1-3}-alkyl group wherein each methylene group may be substituted by 1 or 2 fluorine atoms and each methyl group may be substituted by 1, 2 or 3 fluorine atoms,

(d) a phenyl group optionally substituted by 1, 2 or 3 groups $R^{1.1.1.1}$,

(e) C_{3-6}-cycloalkyl or

(f) a pyridyl group optionally substituted by 1, 2 or 3 groups $R^{1.1.1.2}$,

$R^{1.1.1.1}$ independently of one another denote

(a) halogen, $-NO_2$, -CN, -OH, $-O-C_{1-4}$-alkyl, C_{3-6}-cycloalkyl, C_{1-4}-alkyl or

(b) a C_{1-3}-alkyl group wherein each methylene group may be substituted by 1 or 2 fluorine atoms and each methyl group may be substituted by 1, 2 or 3 fluorine atoms,

$R^{1.1.1.2}$ independently of one another denote halogen or C_{1-4}-alkyl,

$R^{1.1.2}$ denotes

(a) C_{1-4}-alkyl,

(b) a C_{1-3}-alkyl group wherein each methylene group may be substituted by 1 or 2 fluorine atoms and each methyl group may be substituted by 1, 2 or 3 fluorine atoms,

(c) $-O-C_{1-4}$-alkyl or

(d) a phenyl group optionally substituted by 1, 2 or 3 groups $R^{1.1.1.1}$ substituted,

$R^{1.1.3}$,

$R^{1.1.4}$ independently of one another denote

(a) H,

(b) a C_{1-4}-alkyl group optionally substituted by 1, 2 or 3 groups $R^{1.1.4.1}$,

(c) a phenyl group optionally substituted by 1, 2 or 3 groups $R^{1.1.1.1}$,

(d) C_{3-6}-cycloalkyl, or

$R^{1.1.3}$ and $R^{1.1.4}$ together with the N atom to which they are attached form a 5- or 6-membered heterocyclic ring, which may additionally contain a further heteroatom selected from N, O and S, or

$R^{1.1.3}$ and $R^{1.1.4}$ together with the N atom to which they are attached, form a cyclic imide,

$R^{1.1.4.1}$ independently of one another halogen denote $-NH_2$, $-NH(C_{1-4}\text{-alkyl})$, $-N(C_{1-4}\text{-alkyl})_2$ or $-SO_2-R^{1.1.2}$,

$R^{1.2}$ denotes halogen, $-NO_2$, -CN, OH, $-O-CH_3$ or phenyl,

$R^{1.3}$ denotes

(a) halogen, $-NO_2$, -CN, $-OR^{1.1.1}$, $-SR^{1.1.1}$, $-CO_2R^{1.1.1}$, C_{1-6}-alkyl or

(b) a C_{1-3}-alkyl group wherein each methylene group may be substituted by 1 or 2 fluorine atoms and each methyl group may be substituted by 1, 2 or 3 fluorine atoms,

$R^{1.4}$ independently of one another denote

(a) halogen, $-NO_2$, -CN, $-OR^{1.1.1}$, $-SR^{1.1.1}$, $-S(O)-R^{1.1.2}$, $-S(O)_2-R^{1.1.2}$, $-NR^{1.1.3}R^{1.1.4}$, $-N(R^{1.4.1})-C(O)-C_{1-4}$-alkyl, C_{1-6}-alkyl,

(b) a C_{1-3}-alkyl group wherein each methylene group may be substituted by 1 or 2 fluorine atoms and each methyl group may be substituted by 1, 2 or 3 fluorine atoms, or

(c) an oxo group,

$R^{1.4.1}$ denotes H or C_{1-4}-alkyl,

$R^{1.5}$ denotes -OH or $-O-C_{1-3}$-alkyl,

R^2 denotes

(a) H,
(b) C_{1-4}-alkyl,
(c) C_{1-4}-alkyl-C(O)-,

R^3 and R^4 together with the carbon atom to which they are bound denote a C_{3-6}-cycloalkylene group optionally substituted by a group $R^{3.1}$ wherein a $-CH_2-$ unit may be replaced by a heteroatom O, N, S or by a group CO, SO or SO_2,

$R^{3.1}$ denotes H, -OH,

R^5 denotes
(a) H,
(b) C_{1-4}-alkyl,
(c) a C_{1-3}-alkyl group wherein each methylene group may be substituted by 1 or 2 fluorine atoms and each methyl group may be substituted by 1, 2 or 3 fluorine atoms,

R^6 independently of one another denote
(a) H, halogen, -CN, -OH, C_{1-6}-alkyl, C_{3-7}-cycloalkyl, -O-C_{1-4}-alkyl, -O-CF_3, -O-C_{3-6}-cycloalkyl, -N(C_{1-3}-alkyl)$_2$, -C(O)-NH_2, -(SO_2)NH_2, -SO_2-C_{1-3}-alkyl, or
(b) a C_{1-3}-alkyl group wherein each methylene group may be substituted by 1 or 2 fluorine atoms and each methyl group may be substituted by 1, 2 or 3 fluorine atoms,

R^7 denotes
(a) H, halogen, -CN, -OH,
(b) C_{1-6}-alkyl,
(c) C_{1-3}-alkyl or -O-C_{1-3}-alkyl, wherein each methylene group may be substituted by 1 or 2 fluorine atoms and each methyl group may be substituted by 1, 2 or 3 fluorine atoms,
(d) C_{3-7}-cycloalkyl,
(e) -O-C_{1-6}-alkyl,
(f) -O-C_{3-7}-cycloalkyl,
(g) -NH_2, -NH(C_{1-3}-alkyl), -N(C_{1-3}-alkyl)$_2$,

(h) -C(O)-$R^{7.1}$,

(i) -S-C_{1-4}-alkyl, -SO_2-$R^{7.2}$,

(j) a five-membered heteroaryl group optionally substituted by one or two C_{1-3}-alkyl groups which is selected from among pyrrolyl, oxazolyl, isoxazolyl, oxadiazolyl, thiazolyl, isothiazolyl, thiadiazolyl, imidazolyl, pyrazolyl, triazolyl and tetrazolyl, or

(k) a six-membered heteroaryl group optionally substituted by one or two C_{1-3}-alkyl groups which is selected from among pyridyl, pyrimidinyl, pyrazinyl, pyridazinyl and triazinyl,

$R^{7.1}$ denotes -NH_2, -NH(C_{1-6}-alkyl),-N(C_{1-6}-alkyl)$_2$, *N*-acetidinyl, *N*-pyrrolidinyl, *N*-piperidinyl, *N*-morpholinyl, -OH, -O-C_{1-6}-alkyl or -O-C_{3-7}-cycloalkyl,

$R^{7.2}$ denotes -NH_2, -NH(C_{1-6}-alkyl),-N(C_{1-6}-alkyl)$_2$, *N*-acetidinyl, *N*-pyrrolidinyl, *N*-piperidinyl or *N*-morpholinyl and

R^{8} denotes H, halogen, C_{1-4}-alkyl,

R^{9} denotes

(a) H, halogen, -CN, -OH,

(b) C_{1-6}-alkyl,

(c) C_{1-3}-alkyl or -O-C_{1-3}-alkyl, wherein each methylene group may be substituted by 1 or 2 fluorine atoms and each methyl group may be substituted by 1, 2 or 3 fluorine atoms,

(d) C_{3-7}-cycloalkyl,

(e) C_{2-4}-alkynyl,

(f) -O-C_{1-6}-alkyl,

(g) -O-C_{3-7}-cycloalkyl,

(h) -NH_2, -NH(C_{1-3}-alkyl), -N(C_{1-3}-alkyl)$_2$,

(i) -C(O)-$R^{9.1}$,

(j) -S-C_{1-4}-alkyl, -SO-C_{1-4}-alkyl, -SO_2-C_{1-4}-alkyl,

$R^{9.1}$ denotes -NH_2, -NH(C_{1-6}-alkyl),-N(C_{1-6}-alkyl)$_2$, *N*-acetidinyl, *N*-pyrrolidinyl, *N*-piperidinyl, *N*-morpholinyl, -OH, -O-C_{1-6}-alkyl or -O-C_{3-7}-cycloalkyl,

R^{10} denotes H, halogen, C_{1-4}-alkyl,

R^{11} denotes

(a) H, halogen, -CN, -OH,

(b) C_{1-6}-alkyl,

(c) C_{1-3}-alkyl or -O-C_{1-3}-alkyl, wherein each methylene group may be substituted by 1 or 2 fluorine atoms and each methyl group may be substituted by 1, 2 or 3 fluorine atoms,

(d) C_{3-7}-cycloalkyl,

(e) -O-C_{1-6}-alkyl,

(f) -O-C_{3-7}-cycloalkyl,

(g) $-NH_2$, -NH(C_{1-3}-alkyl), -N(C_{1-3}-alkyl)$_2$,

(h) -C(O)-$R^{11.1}$,

(i) -S-C_{1-3}-alkyl, -SO_2-$R^{11.2}$,

(j) a five-membered heteroaryl group optionally substituted by one or two C_{1-3}-alkyl groups which is selected from among pyrrolyl, oxazolyl, isoxazolyl, oxadiazolyl, thiazolyl, isothiazolyl, thiadiazolyl, imidazolyl, pyrazolyl, triazolyl and tetrazolyl, or

(k) a six-membered heteroaryl group optionally substituted by one or two C_{1-3}-alkyl groups which is selected from among pyridyl, pyrimidinyl, pyrazinyl, pyridazinyl and triazinyl,

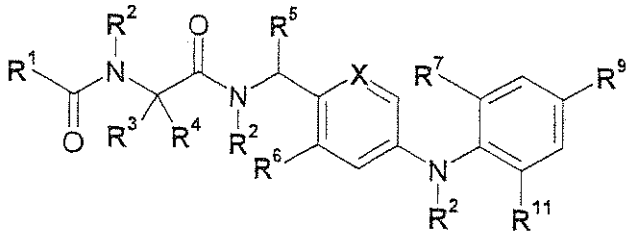
$R^{11.1}$ denotes $-NH_2$, -NH(C_{1-6}-alkyl),-N(C_{1-6}-alkyl)$_2$, *N*-acetidinyl, *N*-pyrrolidinyl, *N*-piperidinyl, *N*-morpholinyl, -OH, -O-C_{1-6}-alkyl or -O-C_{3-7}-cycloalkyl,

$R^{11.2}$ denotes $-NH_2$, -NH(C_{1-6}-alkyl),-N(C_{1-6}-alkyl)$_2$, *N*-acetidinyl, *N*-pyrrolidinyl, *N*-piperidinyl or *N*-morpholinyl and

X independently of one another denote C-R^6 or N,

the enantiomers, the diastereomers, the mixtures and the salts thereof.

In a second aspect, there is provided compounds of general formula **Ia**,



, (Ia)

wherein

R^1 denotes

(a) a C_{1-6}-alkyl group optionally substituted by a group $R^{1.1}$,

(b) a phenyl group optionally substituted by 1, 2 or 3 groups $R^{1.3}$,

(c) a five-membered heteroaryl group optionally substituted by 1, 2 or 3 groups $R^{1.4}$, which contains at least one N, O or S atom and which optionally additionally contains one, two or three further N-atoms,

(d) a six-membered heteroaryl group optionally substituted by 1 or 2 groups $R^{1.4}$, which contains one, two or three N-atoms,

(e) a nine- or ten-membered heteroaryl group optionally substituted by 1 or 2 groups $R^{1.4}$, which contains one, two or three N-atoms,

(f) a 5- or 6-membered heterocyclic group optionally substituted by 1 or 2 groups $R^{1.4}$, in which a $-CH_2$ unit may be replaced by a -C(O) group,

$R^{1.1}$ denotes -CN, C_{3-6}-cycloalkyl, -OH, $-OCH_3$, $-NH_2$, $-NHCH_3$, $-N(CH_3)_2$,

$R^{1.3}$ independently of one another denotes

(a) F, Cl, Br, -OH, $-OCH_3$, C_{1-6}-alkyl or

(b) a C_{1-3}-alkyl group wherein each methylene group may be substituted by 1 or 2 fluorine atoms and each methyl group may be substituted by 1, 2 or 3 fluorine atoms, and

$R^{1.4}$ independently of one another denotes

(a) F, Cl, Br, -OH, $-OCH_3$, $-NH_2$, $-NHCH_3$, $-N(CH_3)_2$, -NH-C(O)-C_{1-4}-alkyl, C_{1-6}-alkyl, or

(a) a C_{1-3}-alkyl group wherein each methylene group may be substituted by 1 or 2 fluorine atoms and each methyl group may be substituted by 1, 2 or 3 fluorine atoms,

R^2 denotes H or CH_3,

R^3 and R^4 together with the carbon atom to which they are bonded denote a C_{3-6}-cycloalkylene group wherein a $-CH_2-$ unit may be replaced by an oxygen atom,

R^5 denotes H or C_{1-4}-alkyl,

R^6 denotes H, F, Cl, Br or C_{1-4}-alkyl,

R^7 denotes H, F, Cl, Br, -CN, C_{1-4}-alkyl, CF_3, CHF_2,

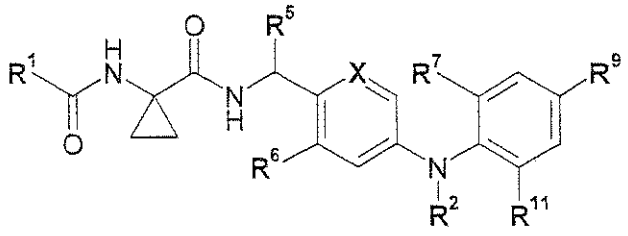
R^9 denotes F, Cl, Br, C_{1-4}-alkyl, -O-C_{1-4}-alkyl, -S-C_{1-4}-alkyl,

R^{11} denotes F, Cl, Br, -CN, C_{1-4}-alkyl, CF_3, CHF_2, and

X denotes CH or N,

the enantiomers, the diastereomers, the mixtures and the salts thereof.

In a third aspect, there is provided compounds of general formula **Ib**



, (**Ib**)

R^1 denotes

(a) a C_{1-6}-alkyl group optionally substituted by a group $R^{1.1}$,

(b) a phenyl group optionally substituted by 1, 2 or 3 groups $R^{1.3}$,

(c) a five-membered heteroaryl group optionally substituted by 1, 2 or 3 groups $R^{1.4}$, which contains at least one N, O or S atom and which optionally additionally contains one, two or three further N-atoms,

(d) a six-membered heteroaryl group optionally substituted by 1 or 2 groups $R^{1.4}$, which contains one, two or three N-atoms,

(e) a nine- or ten-membered heteroaryl group optionally substituted by 1 or 2 groups $R^{1.4}$, which contains one, two or three N-atoms,

(f) a 5- or 6-membered heterocyclic group optionally substituted by 1 or 2 groups $R^{1.4}$, in which a $-CH_2-$ unit may be replaced by a -C(O)- group,

$R^{1.1}$ denotes -CN, C_{3-6}-cycloalkyl, -OH, $-OCH_3$, $-NH_2$, $-NHCH_3$, $-N(CH_3)_2$,

$R^{1.3}$ denotes independently of one another

(a) F, Cl, Br, -OH, $-OCH_3$, C_{1-6}-alkyl or

(b) a C_{1-3}-alkyl group wherein each methylene group may be substituted by 1 or 2 fluorine atoms and each methyl group may be substituted by 1, 2 or 3 fluorine atoms, and

$R^{1.4}$ denotes independently of one another

(a) F, Cl, Br, -OH, $-OCH_3$, $-NH_2$, $-NHCH_3$, $-N(CH_3)_2$, -NH-C(O)-C_{1-4}-alkyl, C_{1-6}-alkyl, or

(a) a C_{1-3}-alkyl group wherein each methylene group may be substituted by 1 or 2 fluorine atoms and each methyl group may be substituted by 1, 2 or 3 fluorine atoms,

R^2 denotes H or CH_3,

R^5 denotes H or C_{1-4}-alkyl,

R^6 denotes H, F, Cl, Br or C_{1-4}-alkyl,

R^7 denotes H, F, Cl, Br, -CN, C_{1-4}-alkyl, CF_3, CHF_2,

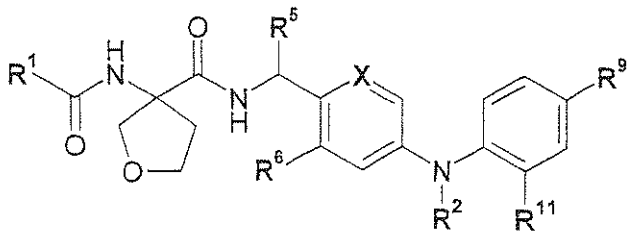
R^9 denotes F, Cl, Br, C_{1-4}-alkyl, -O-C_{1-4}-alkyl, -S-C_{1-4}-alkyl,

R^{11} denotes F, Cl, Br, -CN, C_{1-4}-alkyl, CF_3, CHF_2, and

X denotes CH or N,

the enantiomers, the diastereomers, the mixtures and the salts thereof.

In a fourth aspect, there is provided compounds of general formula **Ic**,



, (**Ic**)

wherein

R^1 denotes

(a) a C_{1-6}-alkyl group optionally substituted by a group $R^{1.1}$,

(b) a phenyl group optionally substituted by 1, 2 or 3 groups $R^{1.3}$,

(c) a five-membered heteroaryl group optionally substituted by 1, 2 or 3 groups $R^{1.4}$, which contains at least one N, O or S atom and which optionally additionally contains one, two or three further N-atoms,

(d) a six-membered heteroaryl group optionally substituted by 1 or 2 groups $R^{1.4}$, which contains one, two or three N-atoms,

(e) a nine- or ten-membered heteroaryl group optionally substituted by 1 or 2 groups $R^{1.4}$, which contains one, two or three N-atoms,

(f) a 5- or 6-membered heterocyclic group optionally substituted by 1 or 2 groups $R^{1.4}$, in which a $-CH_2-$ unit may be replaced by a -C(O)- group,

$R^{1.1}$ denotes -CN, C_{3-6}-cycloalkyl, -OH, $-OCH_3$, $-NH_2$, $-NHCH_3$, $-N(CH_3)_2$,

$R^{1.3}$ denotes independently of one another

(a) F, Cl, Br, -OH, $-OCH_3$, C_{1-6}-alkyl or

(b) a C_{1-3}-alkyl group wherein each methylene group may be substituted by 1 or 2 fluorine atoms and each methyl group may be substituted by 1, 2 or 3 fluorine atoms, and

$R^{1.4}$ denotes independently of one another

(a) F, Cl, Br, -OH, $-OCH_3$, $-NH_2$, $-NHCH_3$, $-N(CH_3)_2$, -NH-C(O)-C_{1-4}-alkyl, C_{1-6}-alkyl, or

(b) a C_{1-3}-alkyl group wherein each methylene group may be substituted by 1 or 2 fluorine atoms and each methyl group may be substituted by 1, 2 or 3 fluorine atoms,

R^2 denotes H or CH_3,

R^5 denotes H or C_{1-4}-alkyl,

R^6 denotes H, F, Cl, Br or C_{1-4}-alkyl,

R^7 denotes H, F, Cl, Br, -CN, C_{1-4}-alkyl, CF_3, CHF_2,

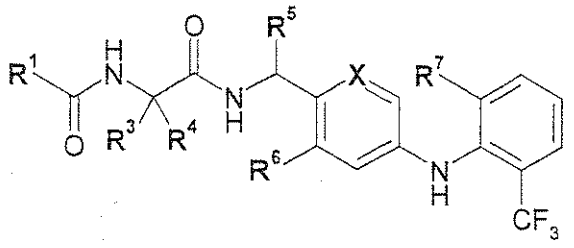
R^9 denotes F, Cl, Br, C_{1-4}-alkyl, -O-C_{1-4}-alkyl, -S-C_{1-4}-alkyl,

R^{11} denotes F, Cl, Br, -CN, C_{1-4}-alkyl, CF_3, CHF_2, and

X denotes CH or N,

the enantiomers, the diastereomers, the mixtures and the salts thereof.

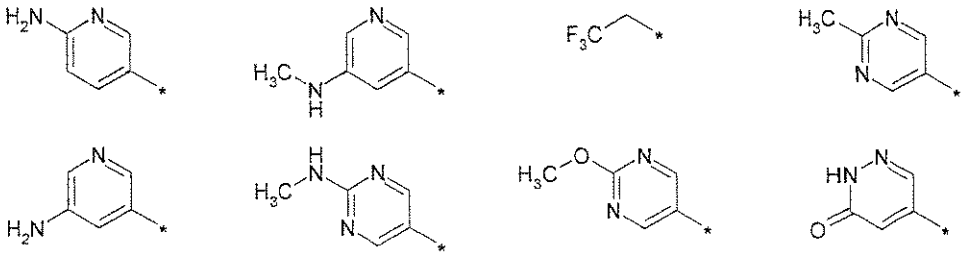
In a fifth aspect, there is provided compounds of general formula **Id**,



, (**Id**)

wherein

R^1 denotes a group selected from



R^3 and R^4 together with the carbon atom to which they are attached denote a C_{3-6}-cycloalkylene group wherein a $-CH_2$ unit may be replaced by an oxygen atom,

R^5 denotes H or CH_3,

R^6 denotes Cl or CH_3,

R^7 denotes H or F,

X denotes CH or N,

the enantiomers, the diastereomers, the mixtures and the salts thereof, particularly the physiologically acceptable salts thereof with organic or inorganic acids or bases.

In a sixth aspect, there is provided physiologically acceptable salts of the compounds as defined above with inorganic or organic acids or bases.

In a seventh aspect, there is provided medicaments, containing a compound as defined above or a physiologically acceptable salt as defined above optionally together with one or more inert carriers and/or diluents.

In an eighth aspect, there is provided a compound of general formula I as defined above for use as medicaments.

In a ninth aspect, there is provided a compound of general formula I as defined above for preparing a medicament for the acute and prophylactic treatment of acute pain, visceral pain, neuropathic pain, inflammatory / pain receptor-mediated pain, tumour pain and headache diseases.

In a tenth aspect, there is provided the use of a compound as defined above for preparing a medicament for the acute and prophylactic treatment of osteoarthritis.

In an eleventh aspect, there is provided a process for preparing a medicament as defined above, characterised in that a compound as defined above is incorporated by a non-chemical method in one or more inert carriers and/or diluents.

DETAILED DESCRIPTION OF THE INVENTION

In the above general formula I in one embodiment 1

n denotes one of the numbers 0, 1 or 2,

R^1 denotes

(a) a C_{1-6}-alkyl group optionally substituted by a group $R^{1.1}$,

(b) a C_{1-3}-alkyl group wherein each methylene group may be substituted by 1 or 2 fluorine atoms and each methyl group may be substituted by 1, 2 or 3 fluorine atoms,

(c) a substituted C_{3-6}-cycloalkyl group optionally substituted by a group $R^{1.2}$ wherein a $-CH_2-$ unit may be replaced by a -C(O)- group,

(d) an aryl-C_{0-2}-alkylene group optionally substituted by 1, 2 or 3 groups $R^{1.3}$,

(e) a five-membered heteroaryl-C_{0-2}-alkylene group optionally substituted by 1, 2 or 3 groups $R^{1.4}$, which contains at least one N, O or S atom and which optionally additionally contains one, two or three further N-atoms and which may additionally be benzo-condensed,

(b) a C_{1-3}-alkyl group wherein each methylene group may be substituted by 1 or 2 fluorine atoms and each methyl group may be substituted by 1, 2 or 3 fluorine atoms, and

$\mathbf{R^{1.4}}$ denotes independently of one another

(a) F, Cl, Br, -OH, $-OCH_3$, $-NH_2$, $-NHCH_3$, $-N(CH_3)_2$, -NH-C(O)-C_{1-4}-alkyl, C_{1-6}-alkyl, or

(b)~~(a)~~ a C_{1-3}-alkyl group wherein each methylene group may be substituted by 1 or 2 fluorine atoms and each methyl group may be substituted by 1, 2 or 3 fluorine atoms,

$\mathbf{R^2}$ denotes H or CH_3,

$\mathbf{R^5}$ denotes H or C_{1-4}-alkyl,

$\mathbf{R^6}$ denotes H, F, Cl, Br or C_{1-4}-alkyl,

$\mathbf{R^7}$ denotes H, F, Cl, Br, -CN, C_{1-4}-alkyl, CF_3, CHF_2,

$\mathbf{R^9}$ denotes F, Cl, Br, C_{1-4}-alkyl, -O-C_{1-4}-alkyl, -S-C_{1-4}-alkyl,

$\mathbf{R^{11}}$ denotes F, Cl, Br, -CN, C_{1-4}-alkyl, CF_3, CHF_2, and

X denotes CH or N,

the enantiomers, the diastereomers, the mixtures and the salts thereof.

24. Compounds of general formula **Ic** according to claim 20, wherein

$\mathbf{R^1}$ denotes

(a) a C_{1-6}-alkyl group optionally substituted by a group $\mathbf{R^{1.1}}$,

(b) a phenyl group optionally substituted by 1, 2 or 3 groups $\mathbf{R^{1.3}}$,

(c) a five-membered heteroaryl group optionally substituted by 1, 2 or 3 groups $\mathbf{R^{1.4}}$, which is selected from among