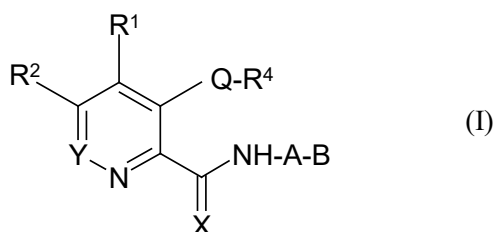


Unconditional amendments to EP (UK) 1 633 333:

1. A compound of formula (I) that stabilizes HIF α for use in treating anemia of chronic disease in a subject:



wherein

A is 1,2-arylidene, 1,3-arylidene, 1,4-arylidene; or (C₁-C₄)-alkylene, optionally substituted by one or two halogen, cyano, nitro, trifluoromethyl, (C₁-C₆)-alkyl, (C₁-C₆)-hydroxyalkyl, (C₁-C₆)-alkoxy, -O-[CH₂]_x-C_fH_(2f+1-g)Hal_g, (C₁-C₆)-fluoroalkoxy, (C₁-C₈)-fluoroalkenyloxy, (C₁-C₈)-fluoroalkynyloxy, -OCF₂Cl, -O-CF₂-CHFCl; (C₁-C₆)-alkylmercapto, (C₁-C₆)-alkylsulfinyl, (C₁-C₆)-alkylsulfonyl, (C₁-C₆)-alkylcarbonyl, (C₁-C₆)-alkoxycarbonyl, carbamoyl, N-(C₁-C₄)-alkylcarbamoyl, N,N-di-(C₁-C₄)-alkylcarbamoyl, (C₁-C₆)-alkylcarbonyloxy, (C₃-C₈)-cycloalkyl, phenyl, benzyl, phenoxy, benzyloxy, anilino, N-methylanilino, phenylmercapto, phenylsulfonyl, phenylsulfinyl, sulfamoyl, N-(C₁-C₄)-alkylsulfamoyl, N,N-di-(C₁-C₄)-alkylsulfamoyl; or by a substituted (C₆-C₁₂)-aryloxy, (C₇-C₁₁)-aralkyloxy, (C₆-C₁₂)-aryl, (C₇-C₁₁)-aralkyl radical, which carries in the aryl moiety one to five identical or different substituents selected from halogen, cyano, nitro, trifluoromethyl, (C₁-C₆)-alkyl, (C₁-C₆)-alkoxy, -O-[CH₂]_x-C_fH_(2f+1-g)Hal_g, -OCF₂Cl, -O-CF₂-CHFCl, (C₁-C₆)-alkylmercapto, (C₁-C₆)-alkylsulfinyl, (C₁-C₆)-alkylsulfonyl, (C₁-C₆)-alkylcarbonyl, (C₁-C₆)-alkoxycarbonyl, carbamoyl, N-(C₁-C₄)-alkylcarbamoyl, N,N-di-(C₁-C₄)-alkylcarbamoyl, (C₁-C₆)-alkylcarbonyloxy, (C₃-C₈)-cycloalkyl, sulfamoyl, N-(C₁-C₄)-alkylsulfamoyl, N,N-di-(C₁-C₄)-alkylsulfamoyl; or wherein A is -CR⁵R⁶ and R⁵ and R⁶ are each independently selected from hydrogen, (C₁-C₆)-alkyl, (C₃-C₇)-cycloalkyl, aryl, or a substituent of the

α -carbon atom of an α -amino acid, wherein the amino acid is a natural L-amino acid or its D-isomer.

B is $-\text{CO}_2\text{H}$, $-\text{NH}_2$, $-\text{NHSO}_2\text{CF}_3$, tetrazolyl, imidazolyl, 3-hydroxyisoxazolyl, $-\text{CONHCOR}''''$, $-\text{CONHSOR}''''$, $\text{CONHSO}_2\text{R}''''$, where R'''' is aryl, heteroaryl, $(\text{C}_3\text{-C}_7)$ -cycloalkyl, or $(\text{C}_1\text{-C}_4)$ -alkyl, optionally monosubstituted by $(\text{C}_6\text{-C}_{12})$ -aryl, heteroaryl, OH, SH, $(\text{C}_1\text{-C}_4)$ -alkyl, $(\text{C}_1\text{-C}_4)$ -alkoxy, $(\text{C}_1\text{-C}_4)$ -thioalkyl, $(\text{C}_1\text{-C}_4)$ -sulfinyl, $(\text{C}_1\text{-C}_4)$ -sulfonyl, CF_3 , Cl, Br, F, I, NO_2 , $-\text{COOH}$, $(\text{C}_2\text{-C}_5)$ -alkoxycarbonyl, NH_2 , mono- $(\text{C}_1\text{-C}_4)$ -alkyl-amino, di- $(\text{C}_1\text{-C}_4)$ -alkyl-amino, or $(\text{C}_1\text{-C}_4)$ -perfluoroalkyl; or wherein B is a $\text{CO}_2\text{-G}$ carboxyl radical, where G is a radical of an alcohol G-OH in which G is selected from $(\text{C}_1\text{-C}_{20})$ -alkyl radical, $(\text{C}_3\text{-C}_8)$ cycloalkyl radical, $(\text{C}_2\text{-C}_{20})$ -alkenyl radical, $(\text{C}_3\text{-C}_8)$ -cycloalkenyl radical, retinyl radical, $(\text{C}_2\text{-C}_{20})$ -alkynyl radical, $(\text{C}_4\text{-C}_{20})$ -alkenylnyl radical, where the alkenyl, cycloalkenyl, alkynyl, and alkenylnyl radicals contain one or more multiple bonds; $(\text{C}_6\text{-C}_{16})$ -carbocyclic aryl radical, $(\text{C}_7\text{-C}_{16})$ -carbocyclic aralkyl radical, heteroaryl radical, or heteroaralkyl radical, wherein a heteroaryl radical or heteroaryl moiety of a heteroaralkyl radical contains 5 or 6 ring atoms; and wherein radicals defined for G are substituted by one or more hydroxyl, halogen, cyano, trifluoromethyl, nitro, carboxyl, $(\text{C}_1\text{-C}_{12})$ -alkyl, $(\text{C}_3\text{-C}_8)$ -cycloalkyl, $(\text{C}_5\text{-C}_8)$ -cycloalkenyl, $(\text{C}_6\text{-C}_{12})$ -aryl, $(\text{C}_7\text{-C}_{16})$ -aralkyl, $(\text{C}_2\text{-C}_{12})$ -alkenyl, $(\text{C}_2\text{-C}_{12})$ -alkynyl, $(\text{C}_1\text{-C}_{12})$ -alkoxy, $(\text{C}_1\text{-C}_{12})$ -alkoxy- $(\text{C}_1\text{-C}_{12})$ -alkyl, $(\text{C}_1\text{-C}_{12})$ -alkoxy- $(\text{C}_1\text{-C}_{12})$ -alkoxy, $(\text{C}_6\text{-C}_{12})$ -aryloxy, $(\text{C}_7\text{-C}_{16})$ -aralkyloxy, $(\text{C}_1\text{-C}_8)$ -hydroxyalkyl, $-\text{O}[\text{CH}_2]_x\text{-C}_f\text{H}_{(2f+1-g)}\text{-F}_g$, $-\text{OCF}_2\text{Cl}$, $-\text{OCF}_2\text{-CHFCl}$, $(\text{C}_1\text{-C}_{12})$ -alkylcarbonyl, $(\text{C}_3\text{-C}_8)$ -cycloalkylcarbonyl, $(\text{C}_6\text{-C}_{12})$ -arylcarbonyl, $(\text{C}_7\text{-C}_{16})$ -aralkylcarbonyl, cinnamoyl, $(\text{C}_2\text{-C}_{12})$ -alkenylcarbonyl, $(\text{C}_2\text{-C}_{12})$ -alkynylcarbonyl, $(\text{C}_1\text{-C}_{12})$ -alkoxycarbonyl, $(\text{C}_1\text{-C}_{12})$ -alkoxy- $(\text{C}_1\text{-C}_{12})$ -alkoxycarbonyl, $(\text{C}_6\text{-C}_{12})$ -aryloxycarbonyl, $(\text{C}_7\text{-C}_{16})$ -aralkoxycarbonyl, $(\text{C}_3\text{-C}_8)$ -cycloalkoxycarbonyl, $(\text{C}_2\text{-C}_{12})$ -alkenyloxycarbonyl, $(\text{C}_2\text{-C}_{12})$ -alkynyloxycarbonyl, acyloxy, $(\text{C}_1\text{-C}_{12})$ -alkoxycarbonyloxy, $(\text{C}_1\text{-C}_{12})$ -alkoxy- $(\text{C}_1\text{-C}_{12})$ -alkoxycarbonyloxy, $(\text{C}_6\text{-C}_{12})$ -aryloxycarbonyloxy, $(\text{C}_7\text{-C}_{16})$ aralkyloxycarbonyloxy, $(\text{C}_3\text{-C}_8)$ -cycloalkoxycarbonyloxy,

(C₂-C₁₂)-alkenyloxycarbonyloxy, (C₂-C₁₂)-alkynyloxycarbonyloxy, carbamoyl, N-(C₁-C₁₂)-alkylcarbamoyl, N.N-di(C₁-C₁₂)-alkylcarbamoyl, N-(C₃-C₈)-cycloalkyl-carbamoyl, N-(C₆-C₁₆)-arylcarbamoyl, N-(C₇-C₁₆)-aralkylcarbamoyl, N-(C₁-C₁₀)-alkyl-N-(C₆-C₁₆)-arylcarbamoyl, N-(C₁-C₁₀)-alkyl-N-(C₇-C₁₆)-aralkylcarbamoyl, N-((C₁-C₁₀)-alkoxy-(C₁-C₁₀)-alkyl)-carbamoyl, N-((C₆-C₁₂)-aryloxy-(C₁-C₁₀)-alkyl)-carbamoyl, N-((C₇-C₁₆)-aralkyloxy-(C₁-C₁₀)-alkyl)-carbamoyl, N-(C₁-C₁₀)-alkyl-N-((C₁-C₁₀)-alkoxy-(C₁-C₁₀)-alkyl)-carbamoyl, N-(C₁-C₁₀)-alkyl-N-((C₆-C₁₆)-aryloxy-(C₁-C₁₀)-alkyl)-carbamoyl, N-(C₁-C₁₀)-alkyl-N-((C₇-C₁₆)-aralkyloxy-(C₁-C₁₀)-alkyl)-carbamoyl, carbamoyloxy, N-(C₁-C₁₂)-alkylcarbamoyloxy, N.N-di-(C₁-C₁₂)-alkylcarbamoyloxy, N-(C₃-C₈)-cycloalkylcarbamoyloxy, N-(C₆-C₁₂)-arylcarbamoyloxy, N-(C₇-C₁₆)-aralkylcarbamoyloxy, N-(C₁-C₁₀)-alkyl-N-(C₆-C₁₂)-arylcarbamoyloxy, N-(C₁-C₁₀)-alkyl-N-(C₇-C₁₆)-aralkylcarbamoyloxy, N-((C₁-C₁₀)-alkyl)-carbamoyloxy, N-((C₆-C₁₂)-aryloxy-(C₁-C₁₀)-alkyl)-carbamoyloxy, N-((C₇-C₁₆)-aralkyloxy-(C₁-C₁₀)-alkyl)-carbamoyloxy, N-(C₁-C₁₀)-alkyl-N-((C₁-C₁₀)-alkoxy-(C₁-C₁₀)-alkyl)-carbamoyloxy, N-(C₁-C₁₀)-alkyl-N-((C₆-C₁₂)-aryloxy-(C₁-C₁₀)-alkyl)-carbamoyloxy, N-(C₁-C₁₀)-alkyl-N-((C₇-C₁₆)-aralkyloxy-(C₁-C₁₀)-alkyl)-carbamoyloxy, amino, (C₁-C₁₂)-alkylamino, di-(C₁-C₁₂)-alkylamino, (C₃-C₈)-cycloalkylamino, (C₂-C₁₂)-alkenylamino, (C₂-C₁₂)-alkynylamino, N-(C₆-C₁₂)-arylamino, N-(C-C₁₁)-aralkylamino, N-alkyl-aralkylamino, N-alkyl-arylamino, (C₁-C₁₂)-alkoxyamino, (C₁-C₁₂)-alkoxy-N-(C₁-C₁₀)-alkylamino, (C₁-C₁₂)-alkylcarbonylamino, (C₃-C₈)-cycloalkylcarbonylamino, (C₆-C₁₂)-arylcarbonylamino, (C₇-C₁₆)-aralkylcarbonylamino, (C₁-C₁₂)-alkylcarbonyl-N-(C₁-C₁₀)-alkylamino, (C₃-C₈)-cycloalkylcarbonyl-N-(C₁-C₁₀)-alkylamino, (C₆-C₁₂)-arylcarbonyl-N-(C₁-C₁₀)-alkylamino, (C₇-C₁₁)-aralkylcarbonyl-N-(C₁-C₁₀)-alkylamino, (C₁-C₁₂)-alkylcarbonylamino-(C₁-C₈)-alkyl, (C₃-C₈)-cycloalkylcarbonylamino-(C₁-C₈)-alkyl, (C₆-C₁₂)-arylcarbonylamino-(C₁-C₈)-alkyl, (C₇-C₁₂)-aralkylcarbonylamino-(C₁-C₈)-alkyl, amino-(C₁-C₁₀)-alkyl, N-(C₁-C₁₀)-alkylamino-(C₁-C₁₀)-alkyl, N.N-di-(C₁-C₁₀)-alkylamino-(C₁-C₁₀)-alkyl, (C₃-C₈)-cycloalkylamino-(C₁-C₁₀)-alkyl, (C₁-C₁₂)-alkylmercapto, (C₁-C₁₂)-alkylsulfinyl, (C₁-C₁₂)-alkylsulfonyl, (C₆-C₁₆)-arylmercapto,

(C₆-C₁₆)-arylsulfinyl, (C₆-C₁₂)-arylsulfonyl, (C₇-C₁₆)-aralkylmercapto, (C₇-C₁₆)-aralkylsulfinyl, (C₇-C₁₆)-aralkylsulfonyl, sulfamoyl, N-(C₁-C₁₀)-alkylsulfamoyl, N,N-di(C₁-C₁₀)-alkylsulfamoyl, (C₃-C₈)-cycloalkylsulfamoyl, N-(C₆-C₁₂)-alkylsulfamoyl, N-(C₇-C₁₆)-aralkylsulfamoyl, N-(C₁-C₁₀)-alkyl-N-(C₆-C₁₂)-arylsulfamoyl, N-(C₁-C₁₀)-alkyl-N-(C₇-C₁₆)-aralkylsulfamoyl, (C₁-C₁₀)-alkylsulfonamido, N-((C₁-C₁₀)-alkyl)-(C₁-C₁₀)-alkylsulfonamido, (C₇-C₁₆)-aralkylsulfonamido, or N-((C₁-C₁₀)-alkyl)-(C₇-C₁₆)-aralkylsulfonamido; wherein radicals which are aryl or contain an aryl moiety, may be substituted on the aryl by one to five identical or different hydroxyl, halogen, cyano, trifluoromethyl, nitro, carboxyl, (C₁-C₁₂)-alkyl, (C₃-C₈)-cycloalkyl, (C₆-C₁₂)-aryl, (C₇-C₁₆)-aralkyl, (C₁-C₁₂)-alkoxy, (C₁-C₁₂)-alkoxy-(C₁-C₁₂)-alkyl, (C₁-C₁₂)-alkoxy-(C₁-C₁₂)-alkoxy, (C₆-C₁₂)-aryloxy, (C₇-C₁₆)-aralkyloxy, (C₁-C₈)-hydroxyalkyl, (C₁-C₁₂)-alkylcarbonyl, (C₃-C₈)-cycloalkyl-carbonyl, (C₆-C₁₂)-arylcabonyl, (C₇-C₁₆)-aralkylcarbonyl, (C₁-C₁₂)-alkoxycarbonyl, (C₁-C₁₂)-alkoxy-(C₁-C₁₂)-alkoxycarbonyl, (C₆-C₁₂)-aryloxycarbonyl, (C₇-C₁₆)-aralkoxycarbonyl, (C₃-C₈)-cycloalkoxycarbonyl, (C₂-C₁₂)-alkenyloxycarbonyl, (C₂-C₁₂)-alkynyloxycarbonyl, (C₁-C₁₂)-alkylcarbonyloxy, (C₃-C₈)-cycloalkylcarbonyloxy, (C₆-C₁₂)-arylcabonyloxy, (C₇-C₁₆)-aralkylcarbonyloxy, cinnamoyloxy, (C₂-C₁₂)-alkenylcarbonyloxy, (C₂-C₁₂)-alkynylcarbonyloxy, (C₁-C₁₂)-alkoxycarbonyloxy, (C₁-C₁₂)-alkoxy-(C₁-C₁₂)-alkoxycarbonyloxy, (C₆-C₁₂)-aryloxycarbonyloxy, (C₇-C₁₆)-aralkyloxycarbonyloxy, (C₃-C₈)-cycloalkoxycarbonyloxy, (C₂-C₁₂)-alkenyloxycarbonyloxy, (C₂-C₁₂)-alkynyloxycarbonyloxy, carbamoyl, N-(C₁-C₁₂)-alkylcarbamoyl, N,N-di-(C₁-C₁₂)-alkylcarbamoyl, N-(C₃-C₈)-cycloalkylcarbamoyl, N-(C₆-C₁₂)-arylcabamoyl, N-(C₇-C₁₆)-aralkylcarbamoyl, N-(C₁-C₁₀)-alkyl-N-(C₆-C₁₂)-arylcabamoyl, N-(C₁-C₁₀)-alkyl-N-(C₇-C₁₆)-aralkylcarbamoyl, N-((C₁-C₁₀)-alkoxy)-(C₁-C₁₀)-alkyl)-carbamoyl, N-((C₆-C₁₂)-aryloxy)-(C₁-C₁₀)-alkyl)-carbamoyl, N-((C₇-C₁₆)-aralkyloxy)-(C₁-C₁₀)-alkyl)-carbamoyl, N-(C₁-C₁₀)-alkyl-N-((C₁-C₁₀)-alkoxy)-(C₁-C₁₀)-alkyl)-carbamoyl, N-(C₁-C₁₀)-alkyl-N-((C₆-C₁₂)-aryloxy)-(C₁-C₁₀)-alkyl)-carbamoyl, N-(C₁-C₁₀)-alkyl-N-((C₇-C₁₆)-aralkyloxy)-(C₁-C₁₀)-alkyl)-carbamoyl, carbamoyloxy, N-(C₁-C₁₂)-alkylcarbamoyloxy, N,N-di-(C₁-C₁₂)-alkylcarbamoyloxy, N-(C₃-C₈)-

cycloalkylcarbamoxyloxy, N-(C₆-C₁₂)-arylcarbamoxyloxy, N-(C₇-C₁₆)-
aralkylcarbamoxyloxy, N-(C₁-C₁₀)-alkyl-N-(C₆-C₁₂)-arylcarbamoxyloxy, N(C₁-C₁₀)-alkyl-
N-(C₇-C₁₆)-aralkylcarbamoxyloxy, N-((C₁-C₁₀)-alkyl)-carbamoxyloxy, N-((C₆-C₁₂)-
aryloxy-(C₁-C₁₀)-alkyl)-carbamoxyloxy, N-((C₇-C₁₆)-aralkyloxy-(C₁-C₁₀)-alkyl)-
carbamoxyloxy, N-(C₁-C₁₀)-alkyl-N-((C₁-C₁₀)-alkoxy-(C₁-C₁₀)-alkyl)-carbamoxyloxy, N-
(C₁-C₁₀)-alkyl-N-((C₆-C₁₂)-aryloxy-(C₁-C₁₀)-alkyl)-carbamoxyloxy, N-(C₁-C₁₀)-alkyl-N-
((C₇-C₁₆)-aralkyloxy-(C₁-C₁₀)-alkyl)-carbamoxyloxy, amino, (C₁-C₁₂)-alkylamino, di-(C₁-
C₁₂)-alkylamino, (C₃-C₈)-cycloalkylamino, (C₃-C₁₂)-alkenylamino, (C₃-C₁₂)-
alkynylamino, N-(C₆-C₁₂)-arylamino, N-(C₇-C₁₁)-aralkylamino, N-alkylaralkylamino, N-
alkyl-arylamino, (C₁-C₁₂)-alkoxyamino, (C₁-C₁₂)-alkoxy-N-(C₁-C₁₀)-alkylamino, (C₁-
C₁₂)-alkylcarbonylamino, (C₃-C₈)-cycloalkylcarbonylamino, (C₆-C₁₂)-
arylcarbonylamino, (C₇-C₁₆)-alkylcarbonylamino, (C₁-C₁₂)-alkylcarbonyl-N-(C₁-C₁₀)-
alkylamino, (C₃-C₈)-cycloalkylcarbonyl-N-(C₁-C₁₀)-alkylamino, (C₆-C₁₂)-arylcarbonyl-
N-(C₁-C₁₀)-alkylamino, (C₇-C₁₁)-aralkylcarbonyl-N-(C₁-C₁₀)-alkylamino, (C₁-C₁₂)-
alkylcarbonylamino-(C₁-C₈)-alkyl, (C₃-C₈)-cycloalkylcarbonylamino-(C₁-C₈)-alkyl, (C₆-
C₁₂)-arylcarbonylamino-(C₁-C₈)-alkyl, (C₇-C₁₆)-aralkylcarbonylamino-(C₁-C₈)-alkyl,
amino-(C₁-C₁₀)-alkyl, N-(C₁-C₁₀)-alkylamino-(C₁-C₁₀)alkyl, N.N-di-(C₁-C₁₀)-alkylamino-
(C₁-C₁₀)-alkyl, (C₃-C₈)-cycloalkylamino-(C₁-C₁₀)-alkyl, (C₁-C₁₂)-alkylmercapto, (C₁-
C₁₂)-alkylsulfinyl, (C₁-C₁₂)-alkylsulfonyl, (C₆-C₁₂)-arylmercapto, (C₆-C₁₂)-arylsulfinyl,
(C₆-C₁₂)-arylsulfonyl, (C₇-C₁₆)-aralkylmercapto, (C₇-C₁₆)-aralkylsulfinyl, or (C₇-C₁₆)-
aralkylsulfonyl;

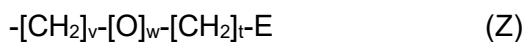
X is O or S;

Q is O, S, NR', or a bond;

where, if Q is a bond, R⁴ is halogen, nitrile, or trifluoromethyl;

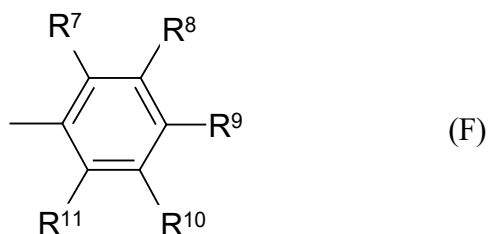
or where, if Q is O, S, or NR', R⁴ is hydrogen, (C₁-C₁₀)-alkyl radical, (C₂-C₁₀)-alkenyl
radical, (C₂-C₁₀)-alkynyl radical, wherein alkenyl or alkynyl radical contains one or two

C-C multiple bonds; unsubstituted fluoroalkyl radical of the formula $-\text{[CH}_2\text{]}_x\text{-C}_f\text{H}_{(2f+1-g)}\text{-F}_g$, (C₁-C₈)-alkoxy-(C₁-C₆)-alkyl radical, (C₁-C₆)-alkoxy-(C₁-C₄)-alkoxy-(C₁-C₄)-alkyl radical, aryl radical, heteroaryl radical, (C₇-C₁₁)-aralkyl radical, or a radical of the formula Z



where

E is a heteroaryl radical, a (C₃-C₈)-cycloalkyl radical, or a phenyl radical of the formula F



v is 0-6,

w is 0 or 1,

t is 0-3, and

R⁷, R⁸, R⁹, R¹⁰, and R¹¹ are identical or different and are hydrogen, halogen, cyano, nitro, trifluoromethyl, (C₁-C₆)-alkyl, (C₃-C₈)-cycloalkyl, (C₁-C₆)-alkoxy, $-\text{O-[CH}_2\text{]}_x\text{-C}_f\text{H}_{(2f+1-g)}\text{-F}_g$, $-\text{OCF}_2\text{-Cl}$, $-\text{O-CF}_2\text{-CHFCl}$, (C₁-C₆)-alkylmercapto, (C₁-C₆)-hydroxyalkyl, (C₁-C₆)-alkoxy-(C₁-C₆)-alkoxy, (C₁-C₆)-alkoxy-(C₁-C₆)-alkyl, (C₁-C₆)-alkylsulfinyl, (C₁-C₆)-alkylsulfonyl, (C₁-C₆)-alkylcarbonyl, (C₁-C₈)-alkoxycarbonyl, carbamoyl, N-(C₁-C₈)-alkylcarbamoyl, N,N-di-(C₁-C₈)-alkylcarbamoyl, or (C₇-C₁₁)-aralkylcarbamoyl, optionally substituted by fluorine, chlorine, bromine, trifluoromethyl, (C₁-C₆)-alkoxy, N-(C₃-C₈)-cycloalkylcarbamoyl, N-(C₃-C₈)-cycloalkyl-(C₁-C₄)-alkylcarbamoyl, (C₁-C₆)-alkylcarbonyloxy, phenyl, benzyl, phenoxy, benzyloxy, NR^YR^Z wherein R^Y and R^Z are independently selected from hydrogen, (C₁-C₁₂)-alkyl, (C₁-C₈)-alkoxy-(C₁-C₈)-alkyl,

(C₇-C₁₂)-aralkoxy-(C₁-C₈)-alkyl, (C₆-C₁₂)-aryloxy-(C₁-C₈)-alkyl, (C₃-C₁₀)-cycloalkyl, (C₃-C₁₂)-alkenyl, (C₃-C₁₂)-alkynyl, (C₆-C₁₂)-aryl, (C₇-C₁₁)-aralkyl, (C₁-C₁₂)-alkoxy, (C₇-C₁₂)aralkoxy, (C₁-C₁₂)-alkylcarbonyl, (C₃-C₈)-cycloalkylcarbonyl, (C₆-C₁₂)arylcarbonyl, (C₇-C₁₆)-aralkylcarbonyl; or further wherein R^y and R^z together are -[CH₂]_n, in which a CH₂ group can be replaced by O, S, N-(C₁-C₄)-alkylcarbonylimino, or N-(C₁-C₄)-alkoxycarbonylimino; phenylmercapto, phenylsulfonyl, phenylsulfinyl, sulfamoyl, N-(C₁-C₈)-alkylsulfamoyl, or N, N-di-(C₁-C₈)-alkylsulfamoyl; or alternatively R⁷ and R⁸, R⁸ and R⁹, R⁹ and R¹⁰, or R¹⁰ and R¹¹, together are a chain selected from -[CH₂]_n- or -CH=CH-CH=CH-, where a CH₂ group of the chain is optionally replaced by O, S, SO, SO₂, or NR^y; and n is 3, 4, or 5; and if E is a heteroaryl radical, said radical can carry 1-3 substituents selected from those defined for R⁷-R¹¹, or if E is a cycloalkyl radical, the radical can carry one substituent selected from those defined for R⁷-R¹¹;

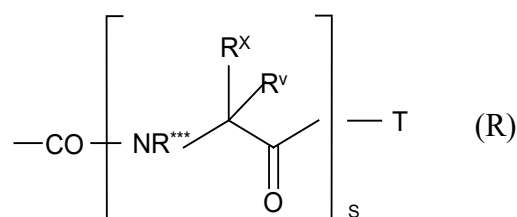
or where, if Q is NR', R⁴ is alternatively R'', where R' and R'' are identical or different and are hydrogen, (C₆-C₁₂)-aryl, (C₇-C₁₁)-aralkyl, (C₁-C₈)-alkyl, (C₁-C₈)-alkoxy-(C₁-C₈)-alkyl, (C₇-C₁₂)-aralkoxy-(C₁-C₈)-alkyl, (C₆-C₁₂)-aryloxy-(C₁-C₈)-alkyl, (C₁-C₁₀)-alkylcarbonyl, optionally substituted (C₇-C₁₆)-aralkylcarbonyl, or optionally substituted C₆-C₁₂)-arylcarbonyl; or R' and R'' together are -[CH₂]_n, in which a CH₂ group can be replaced by O, S, N-acylimino, or N-(C₁-C₁₀)-alkoxycarbonylimino, and h is 3 to 7.

Y is N or CR³;

R¹, R² and R³ are identical or different and are hydrogen, hydroxyl, halogen, cyano, trifluoromethyl, nitro, carboxyl, (C₁-C₂₀)-alkyl, (C₃-C₈)-cycloalkyl, (C₃-C₈)cycloalkyl-(C₁-C₁₂)-alkyl, (C₃-C₈)-cycloalkoxy, (C₃-C₈)-cycloalkyl-(C₁-C₁₂)-alkoxy, (C₃-C₈)-cycloalkyloxy-(C₁-C₁₂)-alkyl, (C₃-C₈)-cycloalkyloxy-(C₁-C₁₂)-alkoxy, (C₃-C₈)-cycloalkyl-(C₁-C₈)-alkyl-(C₁-C₆)-alkoxy, (C₃-C₈)-cycloalkyl-(C₁-C₈)-alkoxy-(C₁-C₆)-alkyl, (C₃-C₈)-cycloalkyloxy-(C₁-C₈)-alkoxy-(C₁-C₆)-alkyl, (C₃-C₈)-cycloalkoxy-(C₁-C₈)-alkoxy-(C₁-C₈)-alkoxy, (C₆-C₁₂)-aryl, (C₇-C₁₆)-aralkyl, (C₇-C₁₆)-aralkenyl, (C₇-C₁₆)-aralkynyl, (C₂-

C₂₀)-alkenyl, (C₂-C₂₀)-alkynyl, (C₁-C₂₀)-alkoxy, (C₂-C₂₀)-alkenyloxy, (C₂-C₂₀)-alkynyloxy, retinyloxy, (C₁-C₂₀)-alkoxy-(C₁-C₁₂)-alkyl, (C₁-C₁₂)-alkoxy-(C₁-C₁₂)-alkoxy, (C₁-C₁₂)-alkoxy-(C₁-C₈)-alkoxy-(C₁-C₈)-alkyl, (C₆-C₁₂)-aryloxy, (C₇-C₁₆)-aralkyloxy, (C₆-C₁₂)-aryloxy-(C₁-C₆)-alkoxy, (C₇-C₁₆)-aralkoxy-(C₁-C₆)-alkoxy, (C₁-C₁₆)-hydroxyalkyl, (C₆-C₁₆)-aryloxy-(C₁-C₈)-alkyl, (C₇-C₁₆)-aralkoxy-(C₁-C₈)-alkyl, (C₆-C₁₂)-aryloxy-(C₁-C₈)-alkoxy-(C₁-C₆)-alkyl, (C₇-C₁₂)-aralkyloxy-(C₁-C₈)-alkoxy-(C₁-C₆)-alkyl, (C₂-C₂₀)-alkenyloxy-(C₁-C₆)-alkyl, (C₂-C₂₀)-alkynyloxy-(C₁-C₆)-alkyl, retinyloxy-(C₁-C₆)-alkyl, -O-[CH₂]_xCfH_(2f+1-g)F_g, -OCF₂Cl, -OCF₂-CHFCl, (C₁-C₂₀)-alkylcarbonyl, (C₃-C₈)-cycloalkylcarbonyl, (C₆-C₁₂)-arylcarbonyl, (C₇-C₁₆)-aralkylcarbonyl, cinnamoyl, (C₂-C₂₀)-alkenylcarbonyl, (C₂-C₂₀)-alkynylcarbonyl, (C₁-C₂₀)-alkoxycarbonyl, (C₁-C₁₂)-alkoxy-(C₁-C₁₂)-alkoxycarbonyl, (C₆-C₁₂)-aryloxycarbonyl, (C₇-C₁₆)-aralkoxycarbonyl, (C₃-C₈)-cycloalkoxycarbonyl, (C₂-C₂₀)-alkenyloxycarbonyl, retinyloxycarbonyl, (C₂-C₂₀)-alkynyloxycarbonyl, (C₆-C₁₂)-aryloxy-(C₁-C₆)-alkoxycarbonyl, (C₇-C₁₆)-aralkoxy-(C₁-C₆)-alkoxycarbonyl, (C₃-C₈)-cycloalkyl-(C₁-C₆)-alkoxycarbonyl, (C₃-C₈)-cycloalkoxy-(C₁-C₆)-alkoxycarbonyl, (C₁-C₁₂)-alkylcarbonyloxy, (C₃-C₈)-cycloalkylcarbonyloxy, (C₆-C₁₂)-arylcarbonyloxy, (C₇-C₁₆)-aralkylcarbonyloxy, cinnamoyloxy, (C₂-C₁₂)-alkenylcarbonyloxy, (C₂-C₁₂)-alkynylcarbonyloxy, (C₁-C₁₂)-alkoxycarbonyloxy, (C₁-C₁₂)-alkoxy-(C₁-C₁₂)-alkoxycarbonyloxy, (C₆-C₁₂)-aryloxycarbonyloxy, (C₇-C₁₆)-aralkyloxycarbonyloxy, (C₃-C₈)-cycloalkoxycarbonyloxy, (C₂-C₁₂)-alkenyloxycarbonyloxy, (C₂-C₁₂)-alkynyloxycarbonyloxy, carbamoyl, N-(C₁-C₁₂)-alkylcarbamoyl, N,N-di-(C₁-C₁₂)-alkylcarbamoyl, N-(C₃-C₈)-cycloalkylcarbamoyl, N,N-dicyclo-(C₃-C₈)-alkylcarbamoyl, N-(C₁-C₁₀)-alkyl-N-(C₃-C₈)-cycloalkylcarbamoyl, N-((C₃-C₈)-cycloalkyl-(C₁-C₆)-alkyl)-carbamoyl, N-(C₁-C₆)-alkyl-N-((C₃-C₈)-cycloalkyl-(C₁-C₆)-alkyl)-carbamoyl, N-(+)-dehydroabietylcarbamoyl, N-(C₁-C₆)-alkyl-N-(+)-dehydroabietylcarbamoyl, N-(C₆-C₁₂)-arylcarbamoyl, N-(C₇-C₁₆)-aralkylcarbamoyl, N-(C₁-C₁₀)-alkyl-N-(C₆-C₁₆)-arylcarbamoyl, N-(C₁-C₁₀)-alkyl-N-(C₇-C₁₆)-aralkylcarbamoyl, N-((C₁-C₁₈)-alkoxy-(C₁-C₁₀)-alkyl)-carbamoyl, N-((C₆-C₁₆)-aryloxy-(C₁-C₁₀)-alkyl)-carbamoyl, N-((C₇-C₁₆)-aralkyloxy-(C₁-C₁₀)-alkyl)-carbamoyl, N-(C₁-C₁₀)-alkyl-N-((C₁-

C₁₀)-alkoxy-(C₁-C₁₀)-alkyl)-carbamoyl, N-(C₁-C₁₀)-alkyl-N-((C₆-C₁₂)-aryloxy-(C₁-C₁₀)-alkyl)-carbamoyl, N-(C₁-C₁₀)-alkyl-N-((C₇-C₁₆)-aralkyloxy-(C₁-C₁₀)-alkyl)-carbamoyl; CON(CH₂)_h, in which a CH₂ group can be replaced by O, S, N-(C₁-C₈)-alkylimino, N-(C₃-C₈)-cycloalkylimino, N-(C₃-C₈)-cycloalkyl-(C₁-C₄)-alkylimino, N-(C₆-C₁₂)-arylimino, N-(C₇-C₁₆)-aralkylimino, N-(C₁-C₄)-alkoxy-(C₁-C₆)-alkylimino, and h is from 3 to 7; a carbamoyl radical of the formula R



in which

R^x and R^v are each independently selected from hydrogen, (C₁-C₆)-alkyl, (C₃-C₇)-cycloalkyl, aryl, or the substituent of an α-carbon of an α-amino acid, to which the L- and D-amino acids belong,

s is 1-5,

T is OH, or NR^{*}R^{**}, and R^{*}, R^{**} and R^{***} are identical or different and are selected from hydrogen, (C₆-C₁₂)-aryl, (C₇-C₁₁)-aralkyl, (C₁-C₈)-alkyl, (C₃-C₈)-cycloalkyl, (+)-dehydroabietyl, (C₁-C₈)-alkoxy-(C₁-C₈)-alkyl, (C₇-C₁₂)-aralkoxy-(C₁-C₈)-alkyl, (C₆-C₁₂)-aryloxy-(C₁-C₈)-alkyl, (C₁-C₁₀)-alkanoyl, optionally substituted (C₇-C₁₆)-aralkanoyl, optionally substituted (C₆-C₁₂)-aroyl; or R^{*} and R^{**} together are -[CH₂]_h, in which a CH₂ group can be replaced by O, S, SO, SO₂, N-acylamino, N-(C₁-C₁₀)-alkoxycarbonylimino, N-(C₁-C₈)-alkylimino, N-(C₃-C₈)-cycloalkylimino, N-(C₃-C₈)-cycloalkyl-(C₁-C₄)-alkylimino, N-(C₆-C₁₂)-arylimino, N-(C₇-C₁₆)-aralkylimino, N-(C₁-C₄)-alkoxy-(C₁-C₆)-alkylimino, and h is from 3 to 7;

carbamoyloxy, N-(C₁-C₁₂)-alkylcarbamoyloxy, N,N-di-(C₁-C₁₂)-alkylcarbamoyloxy, N-(C₃-C₈)-cycloalkylcarbamoyloxy, N-(C₆-C₁₂)-arylcarbamoyloxy, N-(C₇-C₁₆)-

aralkylcarbamoxyloxy, N-(C₁-C₁₀)-alkyl-N-(C₆-C₁₂)-arylcarbamoxyloxy, N-(C₁-C₁₀)-alkyl-N-(C₇-C₁₆)-aralkylcarbamoxyloxy, N-((C₁-C₁₀)-alkyl)-carbamoxyloxy, N-((C₆-C₁₂)-aryloxy-(C₁-C₁₀)-alkyl)-carbamoxyloxy, N-((C₇-C₁₆)-aralkyloxy-(C₁-C₁₀)-alkyl)-carbamoxyloxy, N-(C₁-C₁₀)-alkyl-N-((C₁-C₁₀)-alkoxy-(C₁-C₁₀)-alkyl)-carbamoxyloxy, N-(C₁-C₁₀)-alkyl-N-((C₆-C₁₂)-aryloxy-(C₁-C₁₀)-alkyl)-carbamoxyloxy, N-(C₁-C₁₀)-alkyl-N-((C₇-C₁₆)-aralkyloxy-(C₁-C₁₀)-alkyl)-carbamoxyloxyamino, (C₁-C₁₂)-alkylamino, di-(C₁-C₁₂)-alkylamino, (C₃-C₈)-cycloalkylamino, (C₃-C₁₂)-alkenylamino, (C₃-C₁₂)-alkynylamino, N-(C₆-C₁₂)-arylamino, N-(C₇-C₁₁)-aralkylamino, N-alkyl-aralkylamino, N-alkyl-arylamino, (C₁-C₁₂)-alkoxyamino, (C₁-C₁₂)-alkoxy-N-(C₁-C₁₀)-alkylamino, (C₁-C₁₂)-alkanoylamino, (C₃-C₈)-cycloalkanoylamino, (C₆-C₁₂)-aroylamino, (C₇-C₁₆)-aralkanoylamino, (C₁-C₁₂)-alkanoyl-N-(C₁-C₁₀)-alkylamino, (C₃-C₈)-cycloalkanoyl-N-(C₁-C₁₀)-alkylamino, (C₆-C₁₂)-aroyl-N-(C₁-C₁₀)-alkylamino, (C₇-C₁₁)-aralkanoyl-N-(C₁-C₁₀)-alkylamino, (C₁-C₁₂)-alkanoylamino-(C₁-C₈)-alkyl, (C₃-C₈)-cycloalkanoylamino-(C₁-C₈)-alkyl, (C₆-C₁₂)-aroylamino-(C₁-C₈)-alkyl, (C₇-C₁₆)-aralkanoylamino-(C₁-C₈)-alkyl, amino-(C₁-C₁₀)-alkyl, N-(C₁-C₁₀)-alkylamino-(C₁-C₁₀)-alkyl, N,N-di(C₁-C₁₀)-alkylamino-(C₁-C₁₀)-alkyl, (C₃-C₈)-cycloalkylamino(C₁-C₁₀)-alkyl, (C₁-C₂₀)-alkylmercapto, (C₁-C₂₀)-alkylsulfinyl, (C₁-C₂₀)-alkylsulfonyl, (C₆-C₁₂)-arylmercapto, (C₆-C₁₂)-arylsulfinyl, (C₆-C₁₂)-arylsulfonyl, (C₇-C₁₆)-aralkylmercapto, (C₇-C₁₆)-aralkylsulfinyl, (C₇-C₁₆)-aralkylsulfonyl, (C₁-C₁₂)-alkylmercapto-(C₁-C₆)-alkyl, (C₁-C₁₂)-alkylsulfinyl-(C₁-C₆)-alkyl, (C₁-C₁₂)-alkylsulfonyl-(C₁-C₆)-alkyl, (C₆-C₁₂)-arylmercapto-(C₁-C₆)-alkyl, (C₆-C₁₂)-arylsulfinyl-(C₁-C₆)-alkyl, (C₆-C₁₂)-arylsulfonyl-(C₁-C₆)-alkyl, (C₇-C₁₆)-aralkylmercapto-(C₁-C₆)-alkyl, (C₇-C₁₆)-aralkylsulfinyl-(C₁-C₆)-alkyl, (C₇-C₁₆)-aralkylsulfonyl-(C₁-C₆)-alkyl, sulfamoyl, N-(C₁-C₁₀)-alkylsulfamoyl, N,N-di-(C₁-C₁₀)-alkylsulfamoyl, (C₃-C₈)-cycloalkylsulfamoyl, N-(C₆-C₁₂)-arylsulfamoyl, N-(C₇-C₁₆)-aralkylsulfamoyl, N-(C₁-C₁₀)-alkyl-N-(C₆-C₁₂)-arylsulfamoyl, N-(C₁-C₁₀)-alkyl-N-(C₇-C₁₆)-aralkylsulfamoyl, (C₁-C₁₀)-alkylsulfonamido, N-((C₁-C₁₀)-alkyl)-(C₁-C₁₀)-alkylsulfonamido, (C₇-C₁₆)-aralkylsulfonamido, and N-((C₁-C₁₀)-alkyl)-(C₇-C₁₆)-aralkylsulfonamido; where an aryl radical may be substituted by 1 to 5 substituents

selected from hydroxyl, halogen, cyano, trifluoromethyl, nitro, carboxyl, (C₂-C₁₆)-alkyl, (C₃-C₈)-cycloalkyl, (C₃-C₈)-cycloalkyl-(C₁-C₁₂)-alkyl, (C₃-C₈)-cycloalkoxy, (C₃-C₈)-cycloalkyl-(C₁-C₁₂)-alkoxy, (C₃-C₈)-cycloalkoxy-(C₁-C₁₂)-alkyl, (C₃-C₈)-cycloalkoxy-(C₁-C₁₂)-alkoxy, (C₃-C₈)-cycloalkyl-(C₁-C₈)-alkyl-(C₁-C₆)-alkoxy, (C₃-C₈)-cycloalkyl-(C₁-C₈)-alkoxy-(C₁-C₆)-alkyl, (C₃-C₈)-cycloalkoxy-(C₁-C₈)-alkoxy-(C₁-C₆)-alkyl, (C₃-C₈)-cycloalkoxy-(C₁-C₈)-alkoxy-(C₁-C₈)-alkoxy, (C₆-C₁₂)-aryl, (C₇-C₁₆)-aralkyl, (C₂-C₁₆)-alkenyl, (C₂-C₁₂)-alkynyl, (C₁-C₁₆)-alkoxy, (C₁-C₁₆)-alkenyloxy, (C₁-C₁₂)-alkoxy-(C₁-C₁₂)-alkyl, (C₁-C₁₂)-alkoxy-(C₁-C₁₂)-alkoxy, (C₁-C₁₂)-alkoxy-(C₁-C₈)-alkoxy-(C₁-C₈)-alkyl, (C₆-C₁₂)-aryloxy, (C₇-C₁₆)-aralkyloxy, (C₆-C₁₂)-aryloxy-(C₁-C₆)-alkoxy, (C₇-C₁₆)-aralkoxy-(C₁-C₆)-alkoxy, (C₁-C₈)-hydroxyalkyl, (C₆-C₁₆)-aryloxy-(C₁-C₈)-alkyl, (C₇-C₁₆)-aralkoxy-(C₁-C₈)-alkyl, (C₆-C₁₂)-aryloxy-(C₁-C₈)-alkoxy-(C₁-C₆)-alkyl, (C₇-C₁₂)-aralkyloxy-(C₁-C₈)-alkoxy-(C₁-C₆)-alkyl, -O-[CH₂]_xC_fH_(2f+1-g)F_g, -OCF₂Cl, -OCF₂-CHFCl, (C₁-C₁₂)-alkylcarbonyl, (C₃-C₈)-cycloalkylcarbonyl, (C₆-C₁₂)-arylcarbonyl, (C₇-C₁₆)-aralkylcarbonyl, (C₁-C₁₂)-alkoxycarbonyl, (C₁-C₁₂)-alkoxy-(C₁-C₁₂)-alkoxycarbonyl, (C₆-C₁₂)-aryloxycarbonyl, (C₇-C₁₆)-aralkoxycarbonyl, (C₃-C₈)-cycloalkoxycarbonyl, (C₂-C₁₂)-alkenyloxycarbonyl, (C₂-C₁₂)-alkynyloxycarbonyl, (C₆-C₁₂)-aryloxy-(C₁-C₆)-alkoxycarbonyl, (C₇-C₁₆)-aralkoxy-(C₁-C₆)-alkoxycarbonyl, (C₃-C₈)-cycloalkyl-(C₁-C₆)-alkoxycarbonyl, (C₃-C₈)-cycloalkoxy-(C₁-C₆)-alkoxycarbonyl, (C₁-C₁₂)-alkylcarbonyloxy, (C₃-C₈)-cycloalkylcarbonyloxy, (C₆-C₁₂)-arylcarbonyloxy, (C₇-C₁₆)-aralkylcarbonyloxy, cinnamoyloxy, (C₂-C₁₂)-alkenylcarbonyloxy, (C₂-C₁₂)-alkynylcarbonyloxy, (C₁-C₁₂)-alkoxycarbonyloxy, (C₁-C₁₂)-alkoxy-(C₁-C₁₂)-alkoxycarbonyloxy, (C₆-C₁₂)-aryloxycarbonyloxy, (C₇-C₁₆)-aralkyloxycarbonyloxy, (C₃-C₈)-cycloalkoxycarbonyloxy, (C₂-C₁₂)-alkenyloxycarbonyloxy, (C₂-C₁₂)-alkynyloxycarbonyloxy, carbamoyl, N-(C₁-C₁₂)-alkylcarbamoyl, N,N-di(C₁-C₁₂)-alkylcarbamoyl, N-(C₃-C₈)-cycloalkylcarbamoyl, N,N-dicyclo-(C₃-C₈)-alkylcarbamoyl, N-(C₁-C₁₀)-alkyl-N-(C₃-C₈)-cycloalkylcarbamoyl, N-((C₃-C₈)-cycloalkyl-(C₁-C₆)-alkyl)carbamoyl, N-(C₁-C₆)-alkyl-N-((C₃-C₈)-cycloalkyl-(C₁-C₆)-alkyl)carbamoyl, N-(+)-dehydroabietylcarbamoyl, N-(C₁-C₆)-alkyl-N-(+)-dehydroabietylcarbamoyl, N-(C₆-C₁₂)-

arylcarbamoyl, N-(C₇-C₁₆)-aralkylcarbamoyl, N-(C₁-C₁₀)-alkyl-N-(C₆-C₁₆)-
arylcarbamoyl, N-(C₁-C₁₀)-alkyl-N-(C₇-C₁₆)-aralkylcarbamoyl, N-((C₁-C₁₆)-alkoxy-(C₁-
C₁₀)-alkyl)carbamoyl, N-((C₆-C₁₆)-aryloxy-(C₁-C₁₀)-alkyl)carbamoyl, N-((C₇-C₁₆)-
aralkyloxy-(C₁-C₁₀)-alkyl)carbamoyl, N-(C₁-C₁₀)-alkyl-N-((C₁-C₁₀)-alkoxy-(C₁-C₁₀)-
alkyl)carbamoyl, N-(C₁-C₁₀)-alkyl-N-((C₆-C₁₂)-aryloxy-(C₁-C₁₀)-alkyl)carbamoyl, N-(C₁-
C₁₀)-alkyl-N-((C₇-C₁₆)-aralkyloxy-(C₁-C₁₀)-alkyl)-carbamoyl, CON(CH₂)_h, in which a
CH₂ group can be replaced by, O, S, N-(C₁-C₈)-alkylimino, N-(C₃-C₈)-cycloalkylimino,
N-(C₃-C₈)-cycloalkyl-(C₁-C₄)-alkylimino, N-(C₆-C₁₂)-arylimino, N-(C₇-C₁₆)-aralkylimino,
N-(C₁-C₄)-alkoxy-(C₁-C₆)-alkylimino, and h is from 3 to 7; carbamoyloxy, N-(C₁-C₁₂)-
alkylcarbamoyloxy, N,N-di-(C₁-C₁₂)-alkylcarbamoyloxy, N-(C₃-C₈)-
cycloalkylcarbamoyloxy, N-(C₆-C₁₆)-arylcarbamoyloxy, N-(C₇-C₁₆)-
aralkylcarbamoyloxy, N-(C₁-C₁₀)-alkyl-N-(C₆-C₁₂)-arylcarbamoyloxy, N-(C₁-C₁₀)-alkyl-
N-(C₇-C₁₆)-aralkylcarbamoyloxy, N-((C₁-C₁₀)-alkyl)carbamoyloxy, N-((C₆-C₁₂)-aryloxy-
(C₁-C₁₀)-alkyl)carbamoyloxy, N-((C₇-C₁₆)-aralkyloxy-(C₁-C₁₀)-alkyl)carbamoyloxy, N-
(C₁-C₁₀)-alkyl-N-((C₁-C₁₀)-alkoxy-(C₁-C₁₀)-alkyl)carbamoyloxy, N-(C₁-C₁₀)-alkyl-N-
(C₆-C₁₂)-aryloxy-(C₁-C₁₀)-alkyl)carbamoyloxy, N-(C₁-C₁₀)-alkyl-N-((C₇-C₁₆)-
aralkyloxy-(C₁-C₁₀)-alkyl)carbamoyloxy, amino, (C₁-C₁₂)-alkylamino, di-(C₁-C₁₂)-
alkylamino, (C₃-C₈)-cycloalkylamino, (C₃-C₁₂)-alkenylamino, (C₃-C₁₂)-alkynylamino,
N-(C₆-C₁₂)-arylamino, N-(C₇-C₁₁)-aralkylamino, N-alkyl-aralkylamino, N-alkyl-
arylamino, (C₁-C₁₂)-alkoxyamino, (C₁-C₁₂)-alkoxy-N-(C₁-C₁₀)-alkylamino, (C₁-C₁₂)-
alkanoylamino, (C₃-C₈)-cycloalkanoylamino, (C₆-C₁₂)-aroylamino, (C₇-C₁₆)-
aralkanoylamino, (C₁-C₁₂)-alkanoyl-N-(C₁-C₁₀)-alkylamino, (C₃-C₈)-cycloalkanoyl-N-
(C₁-C₁₀)-alkylamino, (C₆-C₁₂)-aroyl-N-(C₁-C₁₀)-alkylamino, (C₇-C₁₁)-aralkanoyl-N-(C₁-
C₁₀)-alkylamino, (C₁-C₁₂)-alkanoylamino-(C₁-C₈)-alkyl, (C₃-C₈)-cycloalkanoylamino-
(C₁-C₈)-alkyl, (C₆-C₁₂)-aroylamino-(C₁-C₈)-alkyl, (C₇-C₁₆)-aralkanoylamino-(C₁-C₈)-
alkyl, amino-(C₁-C₁₀)-alkyl, N-(C₁-C₁₀)-alkylamino-(C₁-C₁₀)-alkyl, N,N-di-(C₁-C₁₀)-
alkylamino-(C₁-C₁₀)-alkyl, (C₃-C₈)-cycloalkylamino-(C₁-C₁₀)-alkyl, (C₁-C₁₂)-
alkylmercapto, (C₁-C₁₂)-alkylsulfinyl, (C₁-C₁₂)-alkylsulfonyl, (C₆-C₁₆)-arylmercapto,

(C₆-C₁₆)-arylsulfinyl, (C₆-C₁₆)-arylsulfonyl, (C₇-C₁₆)-aralkylmercapto, (C₇-C₁₆)-aralkylsulfinyl, or (C₇-C₁₆)-aralkylsulfonyl;

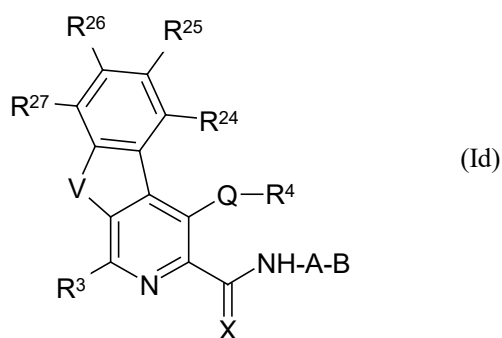
or wherein R¹ and R², or R² and R³ form a chain [CH₂]_o, which is saturated or unsaturated by a C=C double bond, in which 1 or 2 CH₂ groups are optionally replaced by O, S, SO, SO₂, or NR', and R' is hydrogen, (C₆-C₁₂)-aryl, (C₁-C₈)-alkyl, (C₁-C₈)-alkoxy-(C₁-C₈)-alkyl, (C₇-C₁₂)-aralkoxy-(C₁-C₈)-alkyl, (C₆-C₁₂)-aryloxy-(C₁-C₈)-alkyl, (C₁-C₁₀)-alkanoyl, optionally substituted (C₇-C₁₆)-aralkanoyl, or optionally substituted (C₆-C₁₂)-aroyl; and o is 3, 4 or 5;

or wherein the radicals R¹ and R², or R² and R³, together with the pyridine or pyridazine carrying them, form a 5,6,7,8-tetrahydroisoquinoline ring, a 5,6,7,8-tetrahydroquinoline ring, or a 5,6,7,8-tetrahydrocinnoline ring;

or wherein R¹ and R², or R² and R³ form a carbocyclic or heterocyclic 5- or 6-membered aromatic ring;

or where R¹ and R², or R² and R³, together with the pyridine or pyridazine carrying them, form an optionally substituted heterocyclic ring system selected from thienopyridines, furanopyridines, pyridopyridines, pyrimidinopyridines, imidazopyridines, thiazolopyridines, oxazolopyridines, quinoline, isoquinoline, and cinnoline;

or wherein the radicals R¹ and R², together with the pyridine carrying them, form a compound of Formula Id:



where V is S, O, or NR^k, and R^k is selected from hydrogen, (C₁-C₆)-alkyl, aryl, or benzyl; where an aryl radical may be optionally substituted by 1 to 5 substituents as defined above; and

R²⁴, R²⁵, R²⁶, and R²⁷ in each case independently of each other have the meaning of R¹, R² and R³;

f is 1 to 8;

g is 0 or 1 to (2f+1);

x is 0 to 3; and

h is 3 to 7;

or a physiologically active salt derived therefrom;

wherein the subject has a percent transferrin saturation of less than 20%.

2. The compound of claim 1 for the use of that claim, wherein the subject has a percent transferrin saturation of less than 16% in adults.

2-3. The compound for use according to claim 1, wherein the compound is for increasing the amount of iron available to make new red blood cells.

3-4. The compound for use according to any one of claims 1-3 or claim 2, wherein the anemia of chronic disease is associated with a chronic disorder selected from the group consisting of rheumatoid arthritis, rheumatic fever, inflammatory bowel disease, systemic lupus erythematosus, vasculitis, a neoplastic disorder, chronic infection and chronic inflammation.

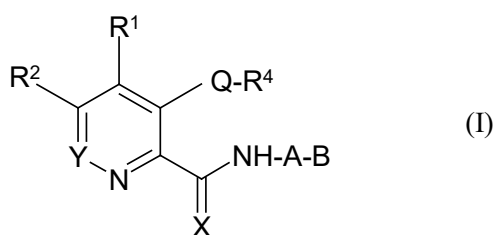
4-5. The compound for use according to any of claims 1-~~3-4~~, wherein the subject has increased production of inflammatory cytokines.

5-6. The compound for use according to claim 4-5, wherein the inflammatory cytokines comprise tumor necrosis factor- α (TNF- α), interleukin-1 β (IL-1 β) and interferon- γ (IFN- γ).

7. The compound for use according to any of claims 1 and 2, wherein the compound is for increasing serum iron or increasing transferrin saturation in the subject.

8. The compound for use according to any of claims 1 and 2, wherein the compound is for increasing mean corpuscular volume.

6-9. A compound of formula (I) that stabilizes HIF α for use in treating anemia that is refractory to treatment with exogenously administered erythropoietin (EPO) in a subject:



wherein A, B, Q, R¹, R², R⁴, Y, and X are as defined in claim 1.

7-10. The compound for use according to claim 6-9, wherein the anemia is caused by a chronic inflammatory or autoimmune disorder.

8-11. The compound for use according to claim 7-10, wherein the disorder is selected from the group consisting of chronic bacterial endocarditis, osteomyelitis, rheumatoid arthritis, rheumatic fever, Crohn's disease, and ulcerative colitis.

9-12. The compound for use according to any of claims 6-8-9-11, wherein the compound is for enhancing EPO responsiveness of the bone marrow.

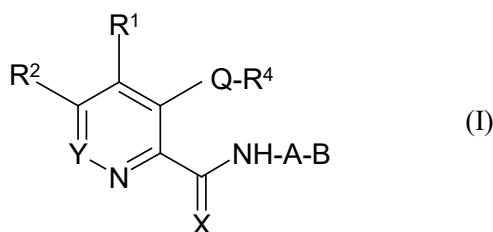
4013. The compound for use according to any of claims ~~6-8-9-11~~, wherein the compound is for inhibiting TNF α or IL-1 β suppression of EPO.

4114. The compound for use according to any of claims ~~6-8-9-11~~, wherein the compound is for enhancing responsiveness of hematopoietic precursors to EPO.

15. The compound for use according to claim 9, wherein the compound is for increasing serum iron or increasing transferrin saturation in the subject.

16. The compound for use according to claim 9, wherein the compound is for increasing mean corpuscular volume.

4217. A compound of formula (I) that stabilizes HIF α for use in treating or preventing microcytosis in microcytic anemia in a subject:



wherein A, B, Q, R¹, R², R⁴, Y, and X are as defined in claim 1.

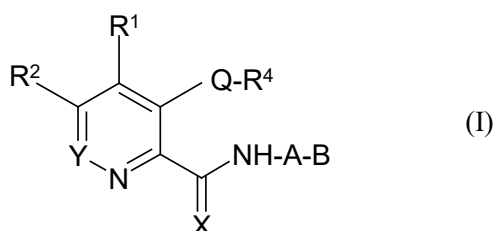
4318. The compound for use according to claim ~~42-17~~, wherein the microcytosis is associated with a disorder selected from the group consisting of ~~chronic disease,~~ ~~anemia of chronic disease,~~ iron deficiency, functional iron deficiency, and anemia of iron deficiency.

4419. The compound for use according to claim ~~43-17~~, wherein the ~~disorder~~ microcytosis is associated with anemia of chronic disease.

20. The compound for use according to claim 17, wherein the compound is for increasing serum iron or increasing transferrin saturation in the subject.

21. The compound for use according to claim 17, wherein the compound is for increasing mean corpuscular volume.

45 22A. A compound of formula (I) that stabilizes HIF α for use in treating functional iron deficiency in a subject, and wherein the functional iron deficiency is associated with anemia:



wherein A, B, Q, R¹, R², R⁴, Y, and X are as defined in claim 1.

46 23A. The compound for use according to claim 45 22, wherein the iron deficiency is functional iron deficiency; is associated with anemia; is associated with a disorder selected from the group consisting of inflammation, infection, immunodeficiency disorder, and neoplastic disorders; or is associated with a disorder selected from the group consisting of anemia of chronic disease, iron deficiency anemia (IDA), and microcytic anemia.

47 24. The compound for use according to claim 45 22 or claim 46 23, wherein the subject has a serum ferritin level of below 50 ng/ml or above 200ng/ml or, when the subject is an adult, a percentage transferrin saturation of less than 16%.

~~18. The compound for use according to any of claims 15-17, wherein the subject has iron deficiency.~~

~~19 25. The compound for use according to claim 18, wherein the subject has functional iron deficiency.~~

20 26A. The compound for use according to claim 49 24, wherein the subject displays greater than 5% hypochromic red cells.

~~21~~ 27A. The compound for use according to ~~any of claims 18-20~~ 26, wherein the compound is for ~~increasing reticulocytes; increasing hematocrit; increasing hemoglobin; increasing red blood cell count; increasing mean corpuscular volume; increasing mean corpuscular hemoglobin; increasing serum iron; or increasing transferrin saturation in the subject.~~

28 28A. The compound for use according to claim 22, 23 or 26, wherein the compound is for increasing mean corpuscular volume.

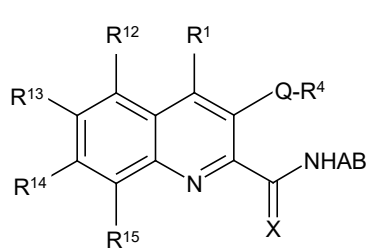
~~22~~ 29. The compound for use according to any of the preceding claims, wherein the compound is for increasing the production of a factor required for iron uptake, transport, and utilization in a subject.

~~23~~ 30. The compound for use according to claim ~~22~~ 29, wherein the factor is selected from the group consisting of erythroid aminolevulinate synthase, transferrin, transferrin receptor and ceruloplasmin.

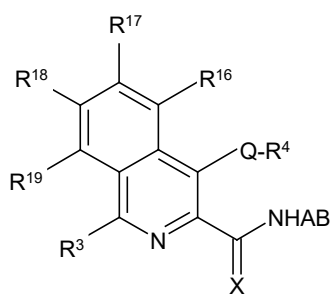
~~24~~ 31A. The compound for use according to any of ~~the preceding claims 1, 2, 7, 8, 9, 15, 16, 17, 20, 21, 22,~~ 27, and 28, wherein the compound is for decreasing hepcidin expression in a subject.

~~25~~ 32. The compound for use according to claim ~~24~~ 31, wherein the compound is for increasing intestinal iron absorption and reducing hypoferremia.

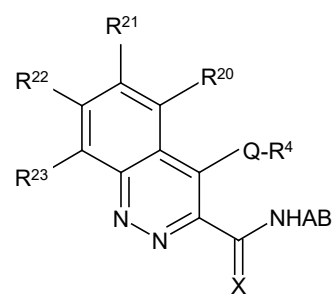
~~26~~ 33. The compound for use according to any of the preceding claims, wherein R¹ and R², or R² and R³, together with the pyridine or pyridazine carrying them, form an optionally substituted quinoline, isoquinoline or cinnoline satisfying formulae Ia, Ib and Ic:



(Ia)



(Ib)



(Ic)

and the substituents R¹² to R²³ in each case independently of each other have the meaning of R¹, R² and R³.

34A. The compound for use according to any of claims 1, 2, 7-9, 15-17, 20-23, 27, 28, 31, and 32, wherein the compound is a structural mimetic of 2-oxoglutarate.

35A. The compound for use according to any of claims 1, 2, 7-9, 15-17, 20-23, 27, 28, 31, and 32, wherein

A is C₁-alkylene;

B is -CO₂H;

Q is O;

R⁴ is hydrogen;

X is O;

Y is CR³;

and R¹, R² and R³ are as defined in claim 1;

including physiologically active salts derived therefrom.

27, 36A. The compound for use according to any of the preceding claims, wherein the compound is [(1-Chloro-4-hydroxy-isoquinoline-3-carbonyl)-amino]-acetic acid.

~~28~~ 37. The compound for use according to any of claims 1-~~26~~ 33, wherein the compound is [(4-Hydroxy-7-phenoxy-isoquinoline-3-carbonyl)-amino]-acetic acid.

~~29~~ 38. The compound for use according to any of claims 1-~~26~~ 33, wherein the compound is [(4-Hydroxy-7-phenylsulfanyl-isoquinoline-3-carbonyl)-amino]-acetic acid.

~~30~~ 39. The compound for use according to any of the preceding claims, wherein the subject is a human.

40A. The compound for use according to any of claims 1, 2, 7-9, 15-17, 20-~~23~~, 27, 28, 31, 32, 34, and 35, wherein the compound is for increasing mean corpuscular volume.