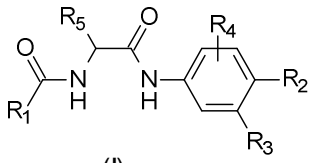
CLAIMS

1. A compound according to formula (I)



(I)

wherein

R_1 is selected from the group consisting of 5-or 6-membered heteroaryl, 9- or 10-membered bicyclic heteroaryl, phenyl, $(C_1\text{-}C_6)$alkoxy, $(C_3\text{-}C_7)$cycloalkoxy, $(C_1\text{-}C_6)$alkyl, phenyl-$(C_1\text{-}C_4)$alkyl, $(C_3\text{-}C_7)$cycloalkyl, 4-6-membered heterocycloalkyl and $-NR_cR_d$, wherein said 5-or 6-membered heteroaryl, 9- or 10-membered bicyclic heteroaryl, phenyl, $(C_1\text{-}C_6)$alkoxy, $(C_3\text{-}C_7)$cycloalkoxy, $(C_1\text{-}C_6)$alkyl, phenyl-$(C_1\text{-}C_4)$alkyl, $(C_3\text{-}C_7)$cycloalkyl and 4-6-membered heterocycloalkyl is optionally substituted with one or more substituents independently selected from R_a;

R_a represents deuterium, halogen, hydroxy, $-NR_cR_d$, $(C_1\text{-}C_6)$alkyl, $(C_1\text{-}C_6)$alkylcarbonyl, $(C_3\text{-}C_7)$cycloalkyl, phenyl,5- or 6-membered heteroaryl or 4-6-membered heterocycloalkyl, wherein said $(C_1\text{-}C_6)$alkyl, $(C_1\text{-}C_6)$alkylcarbonyl, $(C_3\text{-}C_7)$cycloalkyl, phenyl, 5- or 6-membered heteroaryl or 4-6-membered heterocycloalkyl is optionally substituted with one or more substituents independently selected from deuterium, halogen, hydroxy, cyano, $(C_1\text{-}C_4)$alkyl, $(C_3\text{-}C_7)$cycloalkyl, $(C_1\text{-}C_4)$alkoxy, $-SO_2\text{-}(C_1\text{-}C_4)$alkyl and $-NR_cR_d$;

R_2 is selected from the group consisting of 5- or 6-membered heteroaryl, wherein said 5- or 6-membered heteroaryl is optionally substituted with one or more substituents independently selected from R_b, wherein said 5- or 6-membered heteroaryl may optionally contain -CO- as a ring member and wherein when said 5 membered heteroaryl contains nitrogen as a ring atom said nitrogen may optionally be substituted with a substituent selected from R_8;

R_b represents deuterium, halogen, cyano, hydroxy, $-NR_cR_d$, $(C_1\text{-}C_6)$alkyl, $(C_1\text{-}C_6)$alkoxy, $(C_1\text{-}C_6)$alkyl-CO-O-$(CH_2)_n$- or $(C_3\text{-}C_7)$cycloalkyl, wherein n is 1-4, and wherein said $(C_1\text{-}C_6)$alkyl, $(C_1\text{-}C_6)$alkoxy or $(C_3\text{-}C_7)$cycloalkyl is optionally substituted with one or more

substituents independently selected from deuterium, halogen, cyano, hydroxy, $-NR_cR_d$ and (C_1-C_4)alkoxy;

R_c and R_d each independently are selected from the group consisting of hydrogen and (C_1-C_6)alkyl, or R_c and R_d together form pyrrolidinyl or piperidinyl, wherein said (C_1-C_6)alkyl, pyrrolidinyl or piperidinyl is optionally substituted with one or more substituents independently selected from halogen, cyano and hydroxy;

R_8 is selected from the group consisting of $-L-PO(OH)_2$ and $-CHR_gO-(CO-A-NR_h)_m-CO-A-NR_hR_i$,

L is selected from the group consisting of a bond or $-CHR_gO-$,

m is 0 or 1;

wherein each $-CO-A-NR_h-$ independently represent an amino acid residue wherein the amino acid residue is selected from the natural amino acids either in D or L-form or as mixtures of the D and L form, and wherein said amino acid residue may be substituted on the α-amino group with a substituent R_h;

R_g, R_h, and R_i are independently selected from hydrogen and (C_1-C_6)alkyl;

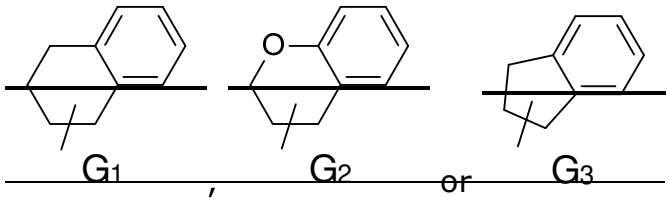
R_3 is selected from the group consisting of hydrogen, deuterium, hydroxy and halogen;

R_4 is selected from the group consisting of hydrogen, deuterium and halogen;

R_5 is $-CHR_6R_7$, and wherein R_6 and R_7 each independently represents (C_3-C_7)cycloalkyl, wherein said (C_3-C_7)cycloalkyl is optionally substituted with one or more substituents independently selected from halogen, cyano, hydroxy and (C_1-C_4)alkyl;

~~R_5 is selected from the group consisting of $-CHR_6R_7$, (C_3-C_{10})cycloalkyl and G, wherein said (C_3-C_{10})cycloalkyl and G are optionally substituted with one or more substituents independently selected from deuterium, halogen, cyano, hydroxy, (C_1-C_4)alkyl and halo(C_1-C_4)alkyl;~~

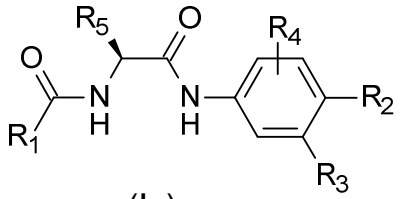
~~G represents~~



~~R_6 and R_7 each independently represents hydrogen, phenyl, (C_1-C_6)alkyl, or (C_3-C_7)cycloalkyl, wherein said phenyl, (C_1-C_6)alkyl or (C_3-C_7)cycloalkyl is optionally substituted with one or more substituents independently selected from halogen, cyano, hydroxy and (C_1-C_4)alkyl; with the proviso that at least one of R_6 and R_7 are different from hydrogen;~~

or pharmaceutically acceptable salts thereof.

2. The compound according to claim 1 having the general formula (Ia)



(Ia)

wherein the substituents are as defined in in claim 1, or pharmaceutically acceptable salts thereof.

3. The compound according to any of claims 1-2, wherein R_1 is selected from 5-membered heteroaryl, 9-membered bicyclic heteroaryl, (C_3-C_7)cycloalkyl, 4-6-membered heterocycloalkyl, (C_1-C_6)alkyl and (C_1-C_6)alkoxy, wherein said 5-membered heteroaryl, 9-membered bicyclic heteroaryl, (C_3-C_7)cycloalkyl, 4-6-membered heterocycloalkyl, (C_1-C_6)alkyl and (C_1-C_6)alkoxy is optionally substituted with one or more substituents independently selected from R_a.

4. The compound according to any of claims 1-3, wherein R_2 is selected from the group consisting of 5-membered heteroaryl, wherein the 5- membered heteroaryl is optionally substituted with one or more substituents independently selected from R_b.

5. The compound according to any of claims 1-3, wherein R_2 is selected from the group consisting of 5-membered heteroaryl, wherein said 5- membered heteroaryl contain a

nitrogen ring atom substituted by a substituent selected from R_8 and the other ring atoms of said 5-membered heteroaryl is optionally substituted with one or more substituents independently selected from R_b.

6. The compound according to claim 4 wherein R_2 is selected from pyrazolyl and imidazolyl, wherein said pyrazolyl or imidazolyl is optionally substituted with one or more substituents independently selected from R_b.

7. The compound according to claim 6 wherein R_2 is pyrazol-4-yl or imidazole-4-yl, wherein said pyrazol-4-yl or imidazol-4-yl is optionally substituted with one or more substituents independently selected from $(C_1\text{-}C_6)$alkyl.

8. The compound according to claim 5 wherein R_2 is selected from pyrazolyl and imidazolyl, wherein said pyrazolyl or imidazolyl contain a nitrogen ring atom substituted by a substituent selected from R_8 and the other ring atoms of said 5-membered heteroaryl is optionally substituted with one or more substituents independently selected from R_b.

9. The compound according to claim 8 wherein R_2 is selected from pyrazol-4-yl or imidazole-4-yl, wherein said pyrazol-4-yl or imidazol-4-yl contain a nitrogen ring atom substituted by a substituent selected from R_8 and the other ring atoms of said pyrazol-4-yl or imidazole-4-yl is optionally substituted with one or more substituents independently selected from $(C_1\text{-}C_6)$alkyl.

10. The compound according to any one of claims 1-3, 5 and 8-9 wherein R_8 is selected from the group consisting of

-L-PO(OH)_2 and $\text{-CHR}_g\text{O-(CO-A-NR}_h\text{)}_m\text{-CO-A-NR}_h\text{R}_i$,

wherein L is selected from the group consisting of a bond or $\text{-CHR}_g\text{O-}$,

m is 0 or 1 and $\text{-CO-A-NR}_h\text{-}$ represents an amino acid residue selected from

$\text{-CO-CH}_2\text{-NR}_h\text{-}$,
$\text{-CO-CH(CH}_3\text{)-NR}_h\text{-}$,
$\text{-CO-CH(CH}_2\text{OH)-NR}_h\text{-}$,
$\text{-CO-CH(CH}_2\text{SH)-NR}_h\text{-}$,
$\text{-CO-CH(CH(CH}_3\text{)(OH))-NR}_h\text{-}$,

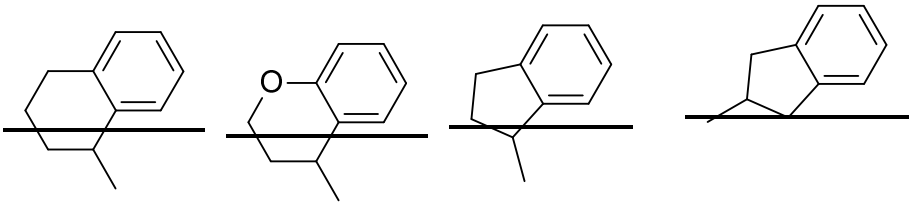
-CO-CH($CH(CH_3)_2$)-NR_h-,
-CO-CH($CH_2CH(CH_3)_2$)-NR_h-,
-CO-CH($CH(CH_3)(CH_2CH_3)$)-NR_h-,
-CO-CH(CH_2CH_2-S-CH_3)-NR_h- ,
-CO-CH(CH_2-phenyl)-NR_h-,
-CO-CH(CH_2(4-hydroxyphenyl)-NR_h-,
-CO-CH(CH_2-COOH)-NR_h-,
-CO-CH(CH_2-CH_2-COOH)-NR_h-,
-CO-CH(CH_2-CH_2-$CONH_2$)-NR_h-,
-CO-CH(CH_2-$CONH_2$)-NR_h-,
-CO-CH($(CH_2)_4$ –NH_2)-NR_h-,
-CO-CH($(CH_2)_3$ –NH-C(NH)(NH_2))-NR_h-,
-CO-CH-(CH_2 –(4-imidazolyl))-NR_h- and
-CO-CH-(CH_2 –(3-indolyl))-NR_h.

and R_g, R_h, and R_i are independently selected from hydrogen and (C_1-C_6)alkyl.

11. The compound according to any of claims 1-3, 5 and 8-9 wherein R_8 is -CH_2-$PO(OH)_2$.

~~12. The compound according to any one of the claims 1-11, wherein R_5 is selected from cyclohexyl, cycloheptyl, cyclooctanyl, adamantyl, spiro[2.3]hexanyl, bicyclo[3,1,0]hexanyl, bicyclo[4,1,0]heptanyl and bicyclo[2,2,2]octanyl or spiro[2.5]octanyl, wherein said cyclohexyl, cycloheptyl, cyclooctanyl, adamantyl, spiro[2.3]hexanyl, bicyclo[3,1,0]hexanyl, bicyclo[4,1,0]heptanyl and bicyclo[2,2,2]octanyl or spiro[2.5]octanyl is optionally substituted with one or more substituents independently selected from deuterium, halogen, cyano, hydroxy, (C_1-C_4)alkyl and halo(C_1-C_4)alkyl.~~

~~13. The compound according to any one of the claims 1-11, wherein R_5 is selected from G, wherein G represents~~



G_{1a}, G_{2a}, G_{3a} or G_{3b}

~~wherein said G is optionally substituted with one or more substituents independently selected from deuterium, halogen, cyano, hydroxy, (C_1-C_4)alkyl and halo(C_1-C_4)alkyl.~~

~~14. The compound according to anyone of the claims 1-13, wherein R_5 is selected from CHR_6R_7, and wherein R_6 and R_7 each independently represents hydrogen, phenyl, cyclopropyl, cyclobutyl, cyclopentyl, cyclohexyl, methyl or ethyl, wherein said phenyl, cyclopropyl, cyclobutyl, cyclopentyl, cyclohexyl, methyl or ethyl, is optionally substituted with one or more substituents independently selected from halogen, cyano, (C_1-C_4)alkyl; with the proviso that at least one of R_6 and R_7 are different from hydrogen.~~

~~15. The compound according to anyone of claims 1-13, wherein R_5 is selected from CHR_6R_7, and wherein R_6 and R_7 each independently represents (C_3-C_7)cycloalkyl, wherein said (C_3-C_7)cycloalkyl is optionally substituted with one or more substituents independently selected from halogen, cyano, hydroxy and (C_1-C_4)alkyl.~~

12~~6~~. A compound according to claim 1 selected from
N-[(1S)-1-(dicyclopropylmethyl)-2-[4-(3,5-dimethyl-1H-pyrazol-4-yl)anilino]-2-oxo-ethyl]-2-isopropyl-pyrazole-3-carboxamide,
N-[(1S)-1-(dicyclopropylmethyl)-2-[4-(3,5-dimethyl-1H-pyrazol-4-yl)anilino]-2-oxo-ethyl]-2-ethyl-pyrazole-3-carboxamide,
N-[(1S)-1-(Dicyclopropylmethyl)-2-[4-(3,5-dimethyl-1H-pyrazol-4-yl)anilino]-2-oxo-ethyl]-2-[(1S)-2-hydroxy-1-methyl-ethyl]pyrazole-3-carboxamide,
N-[(1S)-1-(dicyclopropylmethyl)-2-[4-(3,5-dimethyl-1H-pyrazol-4-yl)anilino]-2-oxo-ethyl]-2-(3-hydroxypropyl)pyrazole-3-carboxamide,
N-[(1S)-1-(dicyclopropylmethyl)-2-[4-(3,5-dimethyl-1H-pyrazol-4-yl)anilino]-2-oxo-ethyl]-2-propyl-pyrazole-3-carboxamide,
N-[(1S)-1-(dicyclopropylmethyl)-2-[4-(3,5-dimethyl-1H-pyrazol-4-yl)-3-fluoro-anilino]-2-oxo-ethyl]-2-isopropyl-pyrazole-3-carboxamide,
N-[(1S)-1-(dicyclopropylmethyl)-2-[4-(3,5-dimethyl-1H-pyrazol-4-yl)-3-fluoro-anilino]-2-oxo-ethyl]-2-ethyl-pyrazole-3-carboxamide,
N-[(1S)-1-(dicyclopropylmethyl)-2-[4-(3,5-dimethyl-1H-pyrazol-4-yl)-3-fluoro-anilino]-2-oxo-ethyl]-2-[(1S)-2-hydroxy-1-methyl-ethyl]pyrazole-3-carboxamide,
N-[(1S)-1-(dicyclopropylmethyl)-2-[4-(3,5-dimethyl-1H-pyrazol-4-yl)anilino]-2-oxo-ethyl]-2-(4,4,4-trifluoro-3-hydroxy-butyl)pyrazole-3-carboxamide,
N-[(1S)-1-[di(cyclobutyl)methyl]-2-[4-(3,5-dimethyl-1H-pyrazol-4-yl)anilino]-2-oxo-ethyl]-2-(3-hydroxypropyl)pyrazole-3-carboxamide,
~~Trans N-[(1S)-2-[4-(3,5-dimethyl-1H-pyrazol-4-yl)anilino]-1-(4-methylcyclohexyl)-2-oxo-ethyl]-2-ethyl-pyrazole-3-carboxamide,~~

~~Trans N-[(1S)-2-[4-(3,5-dimethyl-1H-pyrazol-4-yl)anilino]-1-(4-methylcyclohexyl)-2-oxo-ethyl]-2-isopropyl-pyrazole-3-carboxamide,~~

N-[(1S)-1-(Dicyclopropylmethyl)-2-[4-[5-(hydroxymethyl)-3-methyl-1H-pyrazol-4-yl]anilino]-2-oxo-ethyl]-2-isopropyl-pyrazole-3-carboxamide,

~~N-[(1S)-2-[4-(3,5-dimethyl-1H-pyrazol-4-yl)-3-hydroxy-anilino]-1-(trans-4-methylcyclohexyl)-2-oxo-ethyl]-2-isopropyl-pyrazole-3-carboxamide,~~

N-[(1S)-1-(Dicyclopropylmethyl)-2-[4-(3,5-dimethyl-1H-pyrazol-4-yl)-3-hydroxy-anilino]-2-oxo-ethyl]-2-isopropyl-pyrazole-3-carboxamide,

N-[(1S)-2,2-dicyclopropyl-1-[[4-(3-cyclopropyl-5-methyl-1H-pyrazol-4-yl)phenyl]carbamoyl]ethyl]-2-isopropyl-pyrazole-3-carboxamide,

N-[(1S)-1-(dicyclopropylmethyl)-2-[4-(3,5-diethyl-1H-pyrazol-4-yl)anilino]-2-oxo-ethyl]-2-[(1S)-2-hydroxy-1-methyl-ethyl]pyrazole-3-carboxamide, and

N-[(1S)-1-[di(cyclobutyl)methyl]-2-[4-(3,5-dimethyl-1H-pyrazol-4-yl)anilino]-2-oxo-ethyl]-2-(2-hydroxy-1-methyl-ethyl)pyrazole-3-carboxamide ~~and~~

~~N-[1-cyclooctyl-2-[4-(3,5-dimethyl-1H-pyrazol-4-yl)anilino]-2-oxo-ethyl]-2-(3-hydroxybutyl)pyrazole-3-carboxamide, or pharmaceutically acceptable salts thereof~~.

13~~7~~. A compound according to claim 1 selected from

[4-[4-[[(2S)-3,3-dicyclopropyl-2-[(2-isopropylpyrazole-3-carbonyl)amino]propanoyl]amino]phenyl]-3,5-dimethyl-pyrazol-1-yl]methyl dihydrogen phosphate,

~~[4-[4-[[(2S)-2-cyclohexyl-2-[(2-methylpyrazole-3-carbonyl)amino]acetyl]amino]phenyl]-3,5-dimethyl-pyrazol-1-yl]methyl phosphate,~~

~~[3,5-Dimethyl-4-[4-[[(2S)-2-[(2-methylpyrazole-3-carbonyl)amino]-3,3-diphenyl-propanoyl]amino]phenyl]pyrazol-1-yl]methyl dihydrogen phosphate,~~

[4-[4-[[(2S)-3,3-dicyclopropyl-2-[(2-ethylpyrazole-3-carbonyl)amino]propanoyl]amino]phenyl]-3,5-dimethyl-pyrazol-1-yl]methyl dihydrogen phosphate,

[4-[4-[[(2S)-3,3-dicyclopropyl-2-[[2-(2-hydroxy-1-methyl-ethyl)pyrazole-3-carbonyl]amino]propanoyl]amino]phenyl]-3,5-dimethyl-pyrazol-1-yl]methyl dihydrogen phosphate and

[4-[4-[[(2S)-3,3-dicyclopropyl-2-[(2-isopropylpyrazole-3-carbonyl)amino]propanoyl]amino]phenyl]-3,5-dimethyl-pyrazol-1-yl]methyl (2S)-2-amino-3-methyl-butanoate

or pharmaceutically acceptable salts thereof.

14~~8~~. A compound according to claim 1 selected from

Disodium [4-[4-[[(2S)-3,3-dicyclopropyl-2-[(2-isopropylpyrazole-3-carbonyl)amino]propanoyl]amino]phenyl]-3,5-dimethyl-pyrazol-1-yl]methyl phosphate

~~Disodium [4-[4-[[(2S)-2-cyclohexyl-2-[(2-methylpyrazole-3-carbonyl)amino]acetyl]amino]phenyl]-3,5-dimethyl-pyrazol-1-yl]methyl phosphate,~~

disodium [4-[4-[[(2S)-3,3-dicyclopropyl-2-[(2-ethylpyrazole-3-carbonyl)amino]propanoyl]amino]phenyl]-3,5-dimethyl-pyrazol-1-yl]methyl phosphate, and disodium [4-[4-[[(2S)-3,3-dicyclopropyl-2-[[2-[(1S)-2-hydroxy-1-methyl-ethyl]pyrazole-3-carbonyl]amino]propanoyl]amino]phenyl]-3,5-dimethyl-pyrazol-1-yl]methyl phosphate.

15. A compound according to claim 1 selected from N-[(1S)-1-(dicyclopropylmethyl)-2-[4-(3,5-dimethyl-1H-pyrazol-4-yl)anilino]-2-oxo-ethyl]-2-isopropyl-pyrazole-3-carboxamide, and pharmaceutically acceptable salts thereof.

16. A compound according to claim 1 which is N-[(1S)-1-(dicyclopropylmethyl)-2-[4-(3,5-dimethyl-1H-pyrazol-4-yl)anilino]-2-oxo-ethyl]-2-isopropyl-pyrazole-3-carboxamide naphthalene-1,5-disulfonic acid salt.

17~~9~~. A compound according to any one of claims 1-16~~8~~ for use in therapy.

~~20. A compound according to claim 19 for use in treatment of a disease, disorder or condition, which disease, disorder or condition is responsive of modulation of IL-17.~~

18~~21~~. A compound according to claim 17~~9~~ for use in treatment of autoimmune diseases.

19~~22~~. A compound according to claim 17~~9~~ for use in treatment of psoriasis, ankylosing spondylitis, spondyloarthritis or psoriatic arthritis.

20~~3~~. A pharmaceutical composition comprising a compound according to any one of claims 1-16~~8~~ together with a pharmaceutically acceptable vehicle or excipient or pharmaceutically acceptable carrier(s).

21~~4~~. The pharmaceutical composition according to claim 20~~3~~ together with one or more other therapeutically active compound(s).