

(3-Amino-1,2,3,4-tetrahydro-9H-carbazol-9-yl)-acetic Acid Derivatives5 Field of the invention:

The present invention relates to (3-amino-1,2,3,4-tetrahydro-9H-carbazol-9-yl)-acetic acid derivatives of Formula I and their use as prostaglandin receptor modulators, most particularly as prostaglandin D₂ receptor ("DP receptor") modulators, in the treatment of various prostaglandin-mediated diseases and disorders, to pharmaceutical compositions
10 containing these compounds and to processes for their preparation. In particular, such derivatives may be used alone or in pharmaceutical compositions for the treatment of both, chronic and acute allergic/immune diseases/disorders such as allergic asthma, rhinitis, allergic rhinitis, chronic obstructive pulmonary disease (COPD), dermatitis, inflammatory bowel disease, rheumatoid arthritis, allergic nephritis, conjunctivitis, atopic dermatitis,
15 bronchial asthma, food allergy, systemic mast cell disorders, anaphylactic shock, urticaria, eczema, itching, inflammation, ischemia-reperfusion injury, cerebrovascular disorders, pleuritis, ulcerative colitis, eosinophil-related diseases, such as Churg-Strauss syndrome and sinusitis, and basophil-related diseases, such as basophilic leukemia and basophilic leukocytosis, in humans and other mammals.

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Background of the invention:

As a response to allergen exposure in allergic conditions, mast cells are activated and release chemotactic key mediators like histamine, thromboxane A₂ (TxA₂), cysteinyl leukotrienes (CysLTs) and prostaglandin D₂ (PGD₂). These mediators interact with their
25 respective receptors and cause physiological effects such as increased vascular permeability, edema, pruritus, nasal and pulmonary congestion, bronchoconstriction, and mucus secretion. An increased vascular permeability for example, allows excessive infiltration of eosinophilic and basophilic leukocytes into the tissue and thus amplifies the allergic response.

30 Current treatments of allergic diseases comprise agents that can block or otherwise interrupt such interactions, *e.g.* anti-histamines (histamine H₁ receptor antagonists), leukotriene receptor antagonists, beta-adrenergic receptor agonists, and corticosteroids. Generally,

treatments with anti-histamines and leukotriene antagonists are limited in efficacy, and long-term usage of corticosteroids is associated with unwanted side effects.

PGD₂ is an agonist known to act on two G-protein-coupled receptors, the PGD₂ receptor
5 DP1 and the recently identified CRTH2 (chemoattractant receptor-homologous molecule expressed on Th2 cells) receptor (also referred to as “DP2 receptor”).

Elevated PGD₂ levels are considered to cause inflammation actions as observed in allergic diseases such as allergic rhinitis, allergic asthma, allergic conjunctivitis, atopic dermatitis
10 and the like. Therefore, blocking the interaction of PGD₂ with its receptors is considered a useful therapeutic strategy for the treatment of such diseases.

WO 01/79169 discloses (tetrahydrocarbazol-1-yl)acetic acid derivatives as PGD₂ receptor antagonists.

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GB 2388540 (Bayer AG) discloses the use of ramatroban ((3*R*)-3-(4-fluorobenzene-sulfonamido)-1,2,3,4-tetrahydrocarbazole-9-propionic acid), a TxA₂ receptor (also referred to as “TP receptor”) antagonist with additional antagonistic activity on CRTH2, for the prophylaxis and treatment of allergic diseases, such as asthma, allergic rhinitis or allergic
20 conjunctivitis. In T. Ishizuka et al., *Cardiovascular Drug Rev.* **2004**, 22(2), 71-90 effects of ramatroban on late-phase inflammation are described. Furthermore, oral bioavailability of ramatroban and its ability to inhibit prostaglandin D₂-induced eosinophil migration *in vitro* has been reported (*Journal of Pharmacology and Experimental Therapeutics*, **305**(1), p.347-352 (2003)).

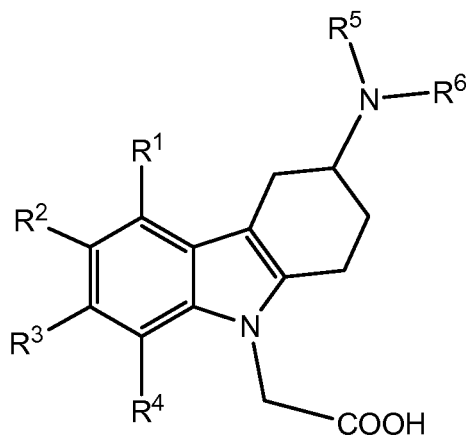
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WO 03/097598 and WO 03/097042 disclose Ramatroban analogues with CRTH2 antagonistic activity. Ulven *et al*, in *J. Med. Chem.* **2005**, 48(4), 897-900 disclose further ramatroban analogues.

30 The compounds of the invention are structurally different from corticosteroids, anti-histamines, leukotriene antagonists or beta-adrenergic agonists.

Description of the invention:

i) The present invention relates to (3-amino-1,2,3,4-tetrahydro-9*H*-carbazol-9-yl)-acetic acid compounds of the Formula I:

**I**

wherein

R^1 , R^2 , R^3 and R^4 independently represent hydrogen, C_{1-5} -alkyl, C_{1-5} -alkoxy, alkenyl (especially allyl or vinyl), halogen, nitro, cyano, halo- C_{1-6} -alkoxy, halo- C_{1-6} -alkyl, C_{1-6} -alkylsulfonyl, or formyl;

R^5 represents hydrogen, alkenyl (especially allyl or vinyl), C_{1-6} -alkyl, cycloalkyl- C_{1-4} -alkyl, C_{1-3} -alkoxy- C_{1-4} -alkyl, aryl- C_{1-4} -alkyl, or aryloxy- C_{1-4} -alkyl (especially R^5 represents hydrogen, C_{1-6} -alkyl, cycloalkyl- C_{1-4} -alkyl, C_{1-3} -alkoxy- C_{1-4} -alkyl, aryl- C_{1-4} -alkyl, or aryloxy- C_{1-4} -alkyl);

wherein aryl is unsubstituted, mono- or di-substituted with a group independently selected from C_{1-2} -alkylendioxy, C_{1-4} -alkoxy, C_{1-4} -alkyl, halogen, trifluoromethyl, and trifluoromethoxy (especially trifluoromethyl); and

R^6 represents C_{1-9} -alkylaminocarbonyl; C_{1-9} -alkylaminothiocarbonyl; C_{1-9} -alkylcarbonyl; C_{1-9} -alkoxycarbonyl; arylalkenylcarbonyl; arylaminocarbonyl; arylaminothiocarbonyl; aryl- C_{1-3} -alkoxy- C_{1-3} -alkoxycarbonyl; aryl- C_{1-3} -alkoxycarbonyl; aryl- C_{1-3} -alkylaminocarbonyl; aryl- C_{1-6} -alkylcarbonyl; aryl- C_{1-3} -alkoxy- C_{1-3} -alkylcarbonyl; arylcarbonyl; arylcarbonyl- C_{1-4} -alkylcarbonyl; aryloxy- C_{1-3} -alkylcarbonyl; arylsulfonylaminocarbonyl; cycloalkyl-

C₁₋₃-alkylcarbonyl; diaryl-C₁₋₃-alkylcarbonyl; heterocyclylcarbonyl; heteroaryl-C₁₋₃-alkylcarbonyl; heteroarylcarbonyl; aryl-C₃₋₆-cycloalkylcarbonyl; cycloalkylcarbonyl; or R⁷-C₁₋₄-alkylcarbonyl, wherein the bridging C₁₋₄-alkyl group may additionally be mono-substituted with aryl or disubstituted with hydroxy, and R⁷ represents arylaminocarbonyl, heteroarylaminocarbonyl, C₁₋₆-alkylaminocarbonyl, or aryl-C₁₋₃-alkylaminocarbonyl; wherein aryl is unsubstituted, mono- or di-substituted with a group independently selected from C₁₋₂-alkylendioxy; C₁₋₆-alkoxy; C₁₋₆-alkyl; C₁₋₆-alkylsulfonyl; phenyl which is unsubstituted, mono- or di-substituted by substituents independently selected from halogen, trifluoromethyl, methoxy and methyl; naphthyl; phenyl-C₁₋₃-alkyl, wherein the phenyl group is unsubstituted, mono- or di-substituted with substituents independently selected from halogen, trifluoromethyl, methoxy and methyl; naphthyl-C₁₋₃-alkyl; phenoxy, wherein the phenyl group is unsubstituted, mono- or di-substituted with substituents independently selected from halogen, trifluoromethyl, methoxy and methyl; naphthyloxy; halogen; hydroxy; halo-C₁₋₆-alkyl; halo-C₁₋₆-alkoxy; C₁₋₆-alkylthio; and C₁₋₄-alkoxycarbonylamino.

ii) In another embodiment, the invention relates to compounds of Formula I according to embodiment i), wherein

R⁵ represents hydrogen, alkenyl (especially allyl or vinyl), or C₁₋₆-alkyl; and

R⁶ represents C₁₋₉-alkylaminocarbonyl, C₁₋₉-alkylaminothiocarbonyl, C₁₋₉-alkylcarbonyl, C₁₋₉-alkoxycarbonyl, arylalkenylcarbonyl, arylaminocarbonyl, arylaminothiocarbonyl, aryl-C₁₋₃-alkoxy-C₁₋₃-alkoxycarbonyl, aryl-C₁₋₃-alkoxycarbonyl, aryl-C₁₋₃-alkylaminocarbonyl, aryl-C₁₋₃-alkylcarbonyl, aryl-C₁₋₃-alkoxy-C₁₋₃-alkylcarbonyl, arylcarbonyl, arylcarbonyl-C₁₋₄-alkylcarbonyl, aryloxy-C₁₋₃-alkylcarbonyl, arylsulfonylaminocarbonyl, cycloalkyl-C₁₋₃-alkylcarbonyl, diaryl-C₁₋₃-alkylcarbonyl, heterocyclylcarbonyl, heteroaryl-C₁₋₃-alkylcarbonyl, or heteroarylcarbonyl;

wherein aryl is unsubstituted, mono- or di-substituted with a group independently selected from C₁₋₂-alkylendioxy; C₁₋₆-alkoxy; C₁₋₆-alkyl; C₁₋₆-alkylsulfonyl; phenyl which is unsubstituted, mono- or di-substituted with substituents independently selected from halogen, trifluoromethyl, methoxy and methyl; naphthyl; phenyl-C₁₋₃-alkyl, wherein the phenyl group is unsubstituted, mono- or di-substituted with substituents independently selected from halogen, trifluoromethyl, methoxy and methyl; naphthyl-C₁₋₃-alkyl; phenoxy, wherein the phenyl group is unsubstituted, mono- or di-substituted with substituents

independently selected from halogen, trifluoromethyl, methoxy and methyl; naphthyloxy; halogen; hydroxy; halo-C₁₋₆-alkyl; and halo-C₁₋₆-alkoxy.

iii) A further embodiment of the invention relates to compounds of Formula I according to embodiment ii), wherein

R¹, R², R³ and R⁴ independently represent hydrogen; C₁₋₅-alkyl, especially methyl, or isopropyl; C₁₋₅-alkoxy, especially methoxy; alkenyl, especially allyl or vinyl; halogen, especially fluoro, or chloro; halo-C₁₋₆-alkyl, especially trifluoromethyl; or C₁₋₆-alkylsulfonyl, especially methanesulfonyl;

R⁵ represents hydrogen; alkenyl, especially ethenyl, or 2-propenyl; or C₁₋₆-alkyl, especially methyl, ethyl, or propyl; and

R⁶ represents C₁₋₉-alkylaminocarbonyl, such as butylaminocarbonyl; C₁₋₉-alkylcarbonyl, such as propylcarbonyl, isobutylcarbonyl, hexylcarbonyl, or nonylcarbonyl; C₁₋₉-alkoxycarbonyl, such as propoxycarbonyl, *tert*-butoxycarbonyl, or isobutoxycarbonyl; arylalkenylcarbonyl, such as naphthalenylethenylcarbonyl (especially 2-naphthalen-2-yl-ethenylcarbonyl), or phenylethenylcarbonyl; arylaminocarbonyl, such as naphthalenaminocarbonyl (especially naphthalen-1-aminocarbonyl), or phenylaminocarbonyl; aryl-C₁₋₃-alkoxy-C₁₋₃-alkoxycarbonyl, such as benzyloxyethoxycarbonyl (especially 2-benzyloxy-ethoxycarbonyl); aryl-

C₁₋₃-alkoxycarbonyl, such as benzyloxycarbonyl; aryl-C₁₋₃-alkylaminocarbonyl, such as benzylaminocarbonyl, or phenylethylaminocarbonyl; aryl-C₁₋₃-alkylcarbonyl, such as phenylmethylcarbonyl, phenylethylcarbonyl (especially 2-phenylethyl-carbonyl), or naphthalenylethylcarbonyl (especially 2-naphthalen-2-yl-ethylcarbonyl); aryl-C₁₋₃-alkoxy-C₁₋₃-alkylcarbonyl, such as benzyloxymethyl-carbonyl; arylcarbonyl, such as phenylcarbonyl; arylcarbonyl-C₁₋₄-alkylcarbonyl, such as phenylcarbonylethylcarbonyl (especially 2-phenylcarbonyl-ethylcarbonyl); aryloxy-C₁₋₃-alkylcarbonyl, such as phenoxymethylcarbonyl; arylsulfonylaminocarbonyl, such as phenylsulfonylaminocarbonyl; cycloalkyl-C₁₋₃-alkylcarbonyl, such as cyclopentylethylcarbonyl (especially 2-cyclopentylethylcarbonyl), or indanylmethylcarbonyl (especially indan-2-ylmethylcarbonyl); diaryl-C₁₋₃-alkylcarbonyl, such as 1,2-diphenylethylcarbonyl, or 2,2-diphenylethylcarbonyl; heterocyclylcarbonyl, such as dihydroindolylcarbonyl (especially 2,3-dihydro-1*H*-indole-2-carbonyl); heteroaryl-C₁₋₃-alkylcarbonyl, such as benzimidazolyl-C₁₋₃-alkylcarbonyl (especially 2-1*H*-benzimidazol-2-yl-ethylcarbonyl), or

indolyl-C₁₋₃-alkylcarbonyl, such as indolylethylcarbonyl (especially 2-1*H*-indol-3-yl-ethylcarbonyl), or thienylmethylcarbonyl (especially 2-thienylmethylcarbonyl), or pyridinylethylcarbonyl (especially 2-(pyridin-3-yl)ethylcarbonyl); or heteroarylcarbonyl, such as indolylcarbonyl (especially 1*H*-indole-2-yl-carbonyl);

5 wherein aryl (especially phenyl or naphthyl) is unsubstituted, mono- or di-substituted with (a) group(s) independently selected from C₁₋₂-alkylendioxy (especially methyendioxy), C₁₋₆-alkoxy (especially methoxy), C₁₋₆-alkyl (especially methyl, ethyl, isopropyl, or *tert*-butyl), C₁₋₆-alkylsulfonyl (especially methanesulfonyl), halogen (especially chloro, fluoro or bromo), hydroxy, and halo-C₁₋₆-alkyl (especially trifluoromethyl).

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iv) A further embodiment of the invention relates to compounds of Formula **I** according to any one of embodiments i) to iii), wherein R¹ represents hydrogen, or halogen.

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v) A further embodiment of the invention relates to compounds of Formula **I** according to any one of embodiments i) to iv), wherein R² represents hydrogen, trifluoromethyl, or halogen (especially hydrogen, or halogen).

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vi) A further embodiment of the invention relates to compounds of Formula **I** according to any one of embodiments i) to v), wherein R³ represents hydrogen, or halogen.

vii) A further embodiment of the invention relates to compounds of Formula **I** according to any one of embodiments i) to vi), wherein R⁴ represents hydrogen, alkenyl (especially allyl or vinyl), halogen (especially chloro or bromo), C₁₋₆-alkylsulfonyl (especially methanesulfonyl); especially hydrogen or halogen.

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viii) A further embodiment of the invention relates to compounds of Formula **I** according to any one of embodiments i) to vii), wherein R¹, R³ and R⁴ represent hydrogen.

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ix) A further embodiment of the invention relates to compounds of Formula **I** according to any one of embodiments i) to viii), wherein R² represents fluoro.

x) A further embodiment of the invention relates to compounds of Formula **I** according to any one of embodiments i) and iv) to ix), wherein R⁵ represents hydrogen, C₁₋₆-alkyl

(especially C₁₋₃-alkyl), cycloalkyl-C₁₋₄-alkyl (especially cyclopropylmethyl), C₁₋₃-alkoxy-C₁₋₄-alkyl (especially 2-methoxyethyl), aryl-C₁₋₄-alkyl (especially naphthylmethyl, or preferably phenyl-C₂₋₃-alkyl), or aryloxy-C₁₋₄-alkyl (especially phenoxyethyl); wherein aryl (especially phenyl) is unsubstituted (preferred), or mono- or di-substituted with a group independently selected from C₁₋₂-alkylendioxy, C₁₋₄-alkoxy, C₁₋₄-alkyl, halogen, trifluoromethyl, and trifluoromethoxy.

xi) A further embodiment of the invention relates to compounds of Formula I according to any one of embodiments i) and iv) to ix), wherein R⁵ represents hydrogen; C₁₋₃-alkyl (especially methyl); cyclopropylmethyl; 2-methoxyethyl; phenyl-C₂₋₃-alkyl; or phenoxyethyl, wherein the phenyl group is unsubstituted (preferred), or mono-substituted with a group selected from C₁₋₂-alkylendioxy, C₁₋₄-alkoxy, C₁₋₄-alkyl, halogen, trifluoromethyl, and trifluoromethoxy (especially trifluoromethyl).

xii) A further embodiment of the invention relates to compounds of Formula I according to any one of embodiments i) and iv) to ix), wherein R⁵ represents C₁₋₃-alkyl (especially methyl); cyclopropylmethyl; 2-methoxyethyl; phenyl-C₂₋₃-alkyl; or phenoxyethyl, wherein the phenyl group is unsubstituted (preferred), or mono-substituted with a group selected from C₁₋₂-alkylendioxy, C₁₋₄-alkoxy, C₁₋₄-alkyl, halogen, trifluoromethyl, and trifluoromethoxy (especially trifluoromethyl).

xiii) A further embodiment of the invention relates to compounds of Formula I according to any one of embodiments i) and iv) to ix), wherein R⁵ represents hydrogen, C₁₋₃-alkyl (especially methyl), cyclopropylmethyl, or 2-methoxyethyl; especially cyclopropylmethyl, or 2-methoxyethyl.

xiv) A further embodiment of the invention relates to compounds of Formula I according to any one of embodiments i) and iv) to ix), wherein R⁵ represents hydrogen, methyl, ethyl, or *n*-propyl.

xv) A further embodiment of the invention relates to compounds of Formula I according to any one of embodiments i) and iv) to ix), wherein R⁵ represents hydrogen.

xvi) A further embodiment of the invention relates to compounds of Formula **I** according to any one of embodiments i) and iv) to ix), wherein R⁵ represents phenyl-C₂₋₃-alkyl.

xvii) A further embodiment of the invention relates to compounds of Formula **I** according to any one of embodiments i) and iv) to xvi), wherein R⁶ represents C₁₋₉-alkylaminocarbonyl; C₁₋₉-alkylcarbonyl; C₁₋₉-alkoxycarbonyl; arylalkenylcarbonyl; arylaminocarbonyl; aryl-C₁₋₃-alkoxy-C₁₋₃-alkoxycarbonyl; aryl-C₁₋₃-alkoxycarbonyl; aryl-C₁₋₃-alkylaminocarbonyl; aryl-C₁₋₆-alkylcarbonyl; aryl-C₁₋₃-alkoxy-C₁₋₃-alkylcarbonyl; arylcarbonyl; arylcarbonyl-C₁₋₄-alkylcarbonyl; aryloxy-C₁₋₃-alkylcarbonyl; arylsulfonylaminocarbonyl; cycloalkyl-C₁₋₃-alkylcarbonyl; diaryl-C₁₋₃-alkylcarbonyl; heterocyclylcarbonyl; heteroaryl-C₁₋₃-alkylcarbonyl; heteroarylcarbonyl; aryl-C₃₋₆-cycloalkylcarbonyl; cycloalkylcarbonyl; or R⁷-C₁₋₄-alkylcarbonyl, wherein the bridging C₁₋₄-alkyl group may additionally be mono-substituted with aryl, and R⁷ represents arylaminocarbonyl, heteroarylaminocarbonyl, C₁₋₆-alkylaminocarbonyl, or aryl-C₁₋₃-alkylaminocarbonyl;
wherein aryl is unsubstituted, mono- or di-substituted with a group independently selected from C₁₋₂-alkylendioxy, C₁₋₆-alkoxy, C₁₋₆-alkyl, C₁₋₆-alkylsulfonyl, halogen, hydroxy, halo-C₁₋₆-alkyl, halo-C₁₋₆-alkoxy, C₁₋₆-alkylthio, and C₁₋₄-alkoxycarbonylamino.

xviii) A further embodiment of the invention relates to compounds of Formula **I** according to any one of embodiments i) and iv) to xvi), wherein R⁶ represents aryl-C₁₋₃-alkoxycarbonyl; aryl-C₁₋₃-alkylaminocarbonyl; aryl-C₁₋₆-alkylcarbonyl; aryl-C₁₋₃-alkoxy-C₁₋₃-alkylcarbonyl; arylcarbonyl-C₁₋₄-alkylcarbonyl; aryloxy-C₁₋₃-alkylcarbonyl; cycloalkyl-C₁₋₃-alkylcarbonyl; diaryl-C₁₋₃-alkylcarbonyl; aryl-C₃₋₆-cycloalkylcarbonyl; or R⁷-C₁₋₄-alkylcarbonyl, wherein the bridging C₁₋₄-alkyl group may additionally be mono-substituted with aryl, and R⁷ represents arylaminocarbonyl, heteroarylaminocarbonyl, C₁₋₆-alkylaminocarbonyl, or aryl-C₁₋₃-alkylaminocarbonyl;
wherein aryl is unsubstituted, mono- or di-substituted with a group independently selected from C₁₋₂-alkylendioxy, C₁₋₆-alkoxy, C₁₋₆-alkyl, C₁₋₆-alkylsulfonyl, halogen, hydroxy, halo-C₁₋₆-alkyl, halo-C₁₋₆-alkoxy, C₁₋₆-alkylthio, and C₁₋₄-alkoxycarbonylamino.

xix) A further embodiment of the invention relates to compounds of Formula **I** according to any one of embodiments i) and iv) to xvi), wherein R⁶ represents aryl-C₁₋₃-alkoxycarbonyl;

aryl-C₁₋₃-alkylaminocarbonyl; aryl-C₁₋₆-alkylcarbonyl; aryloxy-C₁₋₃-alkylcarbonyl; diaryl-C₁₋₃-alkylcarbonyl; or R⁷-C₁₋₄-alkylcarbonyl, wherein the bridging C₁₋₄-alkyl group may additionally be mono-substituted with aryl, and R⁷ represents arylaminocarbonyl, or C₁₋₆-alkylaminocarbonyl;

- 5 wherein aryl is unsubstituted, mono- or di-substituted with a group independently selected from C₁₋₂-alkylendioxy, C₁₋₆-alkoxy, C₁₋₆-alkyl, C₁₋₆-alkylsulfonyl, halogen, hydroxy, halo-C₁₋₆-alkyl, halo-C₁₋₆-alkoxy, C₁₋₆-alkylthio, and C₁₋₄-alkoxycarbonylamino.

- xx) A further embodiment of the invention relates to compounds of Formula I according to
10 any one of embodiments i) and iv) to xvi), wherein R⁶ represents aryl-C₁₋₂-alkoxycarbonyl; aryl-C₁₋₂-alkylaminocarbonyl; aryl-C₁₋₄-alkylcarbonyl; aryloxy-C₁₋₂-alkylcarbonyl; or diaryl-C₂₋₃-alkylcarbonyl; or R⁷-C₂₋₄-alkylcarbonyl, wherein the bridging C₂₋₄-alkyl group may additionally be mono-substituted with aryl, and R⁷ represents arylaminocarbonyl, or C₁₋₄-alkylaminocarbonyl;

- 15 wherein aryl is unsubstituted, mono- or di-substituted with a group independently selected from C₁₋₂-alkylendioxy, C₁₋₆-alkoxy, C₁₋₆-alkyl, C₁₋₆-alkylsulfonyl, halogen, hydroxy, trifluoromethyl, and trifluoromethoxy.

- xxi) A further embodiment of the invention relates to compounds of Formula I according to
20 any one of embodiments i) and iv) to xvi), wherein R⁶ represents aryl-C₁₋₂-alkylaminocarbonyl; wherein aryl is unsubstituted, mono- or di-substituted with a group independently selected from C₁₋₂-alkylendioxy, C₁₋₆-alkoxy, C₁₋₆-alkyl, C₁₋₆-alkylsulfonyl, halogen, hydroxy, trifluoromethyl, and trifluoromethoxy.

- 25 xxii) A further embodiment of the invention relates to compounds of Formula I according to any one of embodiments i) and iv) to xvi), wherein R⁶ represents aryl-C₁₋₂-alkoxycarbonyl; aryl-C₁₋₄-alkylcarbonyl; aryloxy-C₁₋₂-alkylcarbonyl; or diaryl-C₂₋₃-alkylcarbonyl; wherein aryl is unsubstituted, mono- or di-substituted with a group independently selected from C₁₋₂-alkylendioxy, C₁₋₆-alkoxy, C₁₋₆-alkyl, C₁₋₆-alkylsulfonyl, halogen, hydroxy,
30 trifluoromethyl, and trifluoromethoxy.

xxiii) A further embodiment of the invention relates to compounds of Formula I according to any one of embodiments i) to xxii), wherein, in case R⁶ represents a group which contains

aryl, the aryl group is phenyl which unsubstituted, or mono- or di-substituted with a group independently selected from C₁₋₄-alkoxy, C₁₋₄-alkyl, halogen, and trifluoromethyl.

xxiv) A further embodiment of the invention relates to compounds of Formula **I** according to any one of embodiments i) and iv) to xvi), wherein R⁶ represents C₁₋₄-alkylcarbonyl (especially acetyl); or aryl-C₂₋₄-alkylcarbonyl, wherein aryl is unsubstituted, mono- or di-substituted with a group independently selected from C₁₋₄-alkoxy, C₁₋₄-alkyl, halogen, and trifluoromethyl.

xxv) A further embodiment of the invention relates to compounds of Formula **I** according to any one of embodiments i) and iv) to xvi), wherein R⁶ represents aryl-C₂₋₄-alkylcarbonyl, wherein aryl is unsubstituted, mono- or di-substituted with a group independently selected from C₁₋₄-alkoxy, C₁₋₄-alkyl, halogen, and trifluoromethyl.

xxvi) A further embodiment of the invention relates to compounds of Formula **I** according to any one of embodiments i) to xxv), wherein, in case R⁶ represents a group which contains a carbonyl group and one or more aryl moieties, said group is such that it contains a bridging group between the carbonyl group and said aryl moiety (moieties) of said R⁶, wherein the carbonyl moiety and at least one of the aryl moieties are directly attached to different atoms of said bridging group.

xxvii) A further embodiment of the invention relates to compounds of Formula **I** according to any one of embodiments i) to xxv), wherein, in case R⁶ represents a group which contains a carbonyl group and exactly one aryl moiety, said group is such that it contains a bridging group between the carbonyl group and said aryl moiety of said R⁶, wherein the carbonyl moiety and the aryl moiety are directly attached to the same atom of said bridging group.

xxviii) A further embodiment of the invention relates to compounds of Formula **I** according to embodiment i), wherein

- R¹ represents hydrogen, or halogen;
R² represents hydrogen, trifluoromethyl, or halogen;
R³ represents hydrogen, or halogen;

R⁴ represents hydrogen, halogen (especially chloro or bromo), or C₁₋₆-alkylsulfonyl (especially methanesulfonyl);

R⁵ represents hydrogen, C₁₋₆-alkyl, cycloalkyl-C₁₋₄-alkyl, C₁₋₃-alkoxy-C₁₋₄-alkyl, aryl-C₁₋₄-alkyl, or aryloxy-C₁₋₄-alkyl;

5 wherein aryl is unsubstituted, mono-substituted with a group selected from trifluoromethyl; and

R⁶ represents C₁₋₉-alkylaminocarbonyl; C₁₋₉-alkylcarbonyl; C₁₋₉-alkoxycarbonyl; arylalkenylcarbonyl; arylaminocarbonyl; aryl-C₁₋₃-alkoxy-C₁₋₃-alkoxycarbonyl; aryl-C₁₋₃-alkoxycarbonyl; aryl-C₁₋₃-alkylaminocarbonyl; aryl-C₁₋₆-alkylcarbonyl; aryl-C₁₋₃-alkoxy-C₁₋₃-alkylcarbonyl; arylcarbonyl; arylcarbonyl-C₁₋₄-alkylcarbonyl; aryloxy-C₁₋₃-alkylcarbonyl; arylsulfonylaminocarbonyl; cycloalkyl-C₁₋₃-alkylcarbonyl; diaryl-C₁₋₃-alkylcarbonyl; heterocyclylcarbonyl; heteroaryl-C₁₋₃-alkylcarbonyl; heteroarylcarbonyl; aryl-C₃₋₆-cycloalkylcarbonyl; cycloalkylcarbonyl; or R⁷-C₁₋₄-alkylcarbonyl, wherein the bridging C₁₋₄-alkyl group may additionally be mono-substituted with aryl or disubstituted
10 C₁₋₃-alkylcarbonyl; arylcarbonyl; arylcarbonyl-C₁₋₄-alkylcarbonyl; aryloxy-C₁₋₃-alkylcarbonyl; arylsulfonylaminocarbonyl; cycloalkyl-C₁₋₃-alkylcarbonyl; diaryl-C₁₋₃-alkylcarbonyl; heterocyclylcarbonyl; heteroaryl-C₁₋₃-alkylcarbonyl; heteroarylcarbonyl; aryl-C₃₋₆-cycloalkylcarbonyl; cycloalkylcarbonyl; or R⁷-C₁₋₄-alkylcarbonyl, wherein the bridging C₁₋₄-alkyl group may additionally be mono-substituted with aryl or disubstituted
15 with hydroxy, and R⁷ represents arylaminocarbonyl, heteroarylaminocarbonyl, C₁₋₆-alkylaminocarbonyl, or aryl-C₁₋₃-alkylaminocarbonyl;

wherein aryl is unsubstituted, mono- or di-substituted with a group independently selected from C₁₋₂-alkylendioxy; C₁₋₆-alkoxy; C₁₋₆-alkyl; C₁₋₆-alkylsulfonyl; halogen; hydroxy; trifluoromethyl; trifluoromethoxy; C₁₋₆-alkylthio; and C₁₋₄-alkoxycarbonylamino.

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xxix) A further embodiment of the invention relates to compounds of Formula **I** according to any one of embodiments i) to xxviii), wherein the position C(3) of the tetrahydrocarbazole ring of Formula **I** is (*S*)-configured.

25 xxx) A further embodiment of the invention relates to compounds of Formula **I** according to any one of embodiments i) to xxviii), wherein the position C(3) of the tetrahydrocarbazole ring of Formula **I** is (*R*)-configured.

In another embodiment preferred compounds of Formula **I** are selected from the group
30 consisting of:

(3*S*)-[3-(3,3-diphenyl-propionylamino)-6-fluoro-1,2,3,4-tetrahydro-9*H*-carbazol-9-yl]-acetic acid;

- (3R)-{3-[2-(3-chloro-phenoxy)-acetylamino]-6-fluoro-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetic acid;
- (3S)-[6-fluoro-3-(3-phenyl-propionylamino)-1,2,3,4-tetrahydro-9H-carbazol-9-yl]-acetic acid;
- 5 (3R)-{3-[2-(4-chloro-phenoxy)-acetylamino]-6-fluoro-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetic acid;
- (3S)-{3-[3-(2-chloro-phenyl)-propionylamino]-6-fluoro-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetic acid;
- (3R)-(3-isobutoxycarbonylamino-1,2,3,4-tetrahydro-9H-carbazol-9-yl)-acetic acid;
- 10 (3R)-[6-fluoro-3-(3-phenyl-propionylamino)-1,2,3,4-tetrahydro-9H-carbazol-9-yl]-acetic acid;
- (3S)-{3-[3-(4-chloro-phenyl)-propionylamino]-6-fluoro-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetic acid;
- (3R)-(3-benzyloxycarbonylamino-6-fluoro-1,2,3,4-tetrahydro-9H-carbazol-9-yl)-acetic acid;
- 15 (3S)-(3-benzyloxycarbonylamino-6-fluoro-1,2,3,4-tetrahydro-9H-carbazol-9-yl)-acetic acid;
- and
- (3S)-{3-[2-(4-chloro-phenoxy)-acetylamino]-6-fluoro-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetic acid.
- 20 In another embodiment preferred compounds of Formula I are selected from the group consisting of:
- (3R)-{3-[2-(2-chloro-phenoxy)-acetylamino]-6-fluoro-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetic acid;
- (3S)-{3-[3-(3-chloro-phenyl)-propionylamino]-6-fluoro-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetic acid;
- 25 (3S)-[6-fluoro-3-(4-oxo-4-phenyl-butyrylamino)-1,2,3,4-tetrahydro-9H-carbazol-9-yl]-acetic acid;
- (3S)-[6-fluoro-3-(2-indan-2-yl-acetylamino)-1,2,3,4-tetrahydro-9H-carbazol-9-yl]-acetic acid;
- 30 (3S)-{3-[(2,3-dihydro-1H-indole-2-carbonyl)-amino]-6-fluoro-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetic acid;
- (3S)-(3-{[2-(4-chloro-phenyl)-acetyl]-ethyl-amino}-6-fluoro-1,2,3,4-tetrahydro-9H-carbazol-9-yl)-acetic acid;

- (3R)-(3-propoxycarbonylamino-1,2,3,4-tetrahydro-9H-carbazol-9-yl)-acetic acid;
(3R)-[6-fluoro-3-(2-*p*-tolylloxy-acetylamino)-1,2,3,4-tetrahydro-9H-carbazol-9-yl]-acetic acid;
(3S)-{6-fluoro-3-[methyl-(3-phenyl-propionyl)-amino]-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetic acid;
5 (3S)-[6-fluoro-3-(3-1*H*-indol-3-yl-propionylamino)-1,2,3,4-tetrahydro-9H-carbazol-9-yl]-acetic acid;
(3S)-[3-(3-benzo[1,3]dioxol-5-yl-propionylamino)-6-fluoro-1,2,3,4-tetrahydro-9H-carbazol-9-yl]-acetic acid;
10 (3S)-{6-fluoro-3-[ethyl-(3-phenyl-propionyl)-amino]-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetic acid;
(3S)-{3-[2-(4-chloro-phenyl)-acetylamino]-6-fluoro-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetic acid;
(3S)-[3-(2,3-diphenyl-propionylamino)-6-fluoro-1,2,3,4-tetrahydro-9H-carbazol-9-yl]-acetic acid;
15 (3R)-[6-fluoro-3-(2-phenoxy-acetylamino)-1,2,3,4-tetrahydro-9H-carbazol-9-yl]-acetic acid;
(3S)-{3-[3-(3,4-difluoro-phenyl)-propionylamino]-6-fluoro-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetic acid;
(3S)-[3-(3-phenyl-propionylamino)-1,2,3,4-tetrahydro-9H-carbazol-9-yl]-acetic acid;
20 (3R)-[3-(2-benzyloxy-acetylamino)-1,2,3,4-tetrahydro-9H-carbazol-9-yl]-acetic acid;
(3S)-{6-fluoro-3-[3-(2-methoxy-phenyl)-propionylamino]-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetic acid;
(3S)-{6-fluoro-3-[propyl-(3-phenyl-propionyl)-amino]-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetic acid;
25 (3S)-[3-(2-benzyloxy-acetylamino)-1,2,3,4-tetrahydro-9H-carbazol-9-yl]-acetic acid;
(3R)-(3-benzyloxycarbonylamino-1,2,3,4-tetrahydro-9H-carbazol-9-yl)-acetic acid;
(3R)-{6-fluoro-3-[2-(4-methoxy-phenyl)-acetylamino]-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetic acid;
(3R)-{3-[3-(4-chloro-phenyl)-propionylamino]-6-fluoro-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetic acid;
30 (3S)-{3-[4-(4-bromo-phenyl)-4-oxo-butyrylamino]-6-fluoro-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetic acid;

- (3S)-(3-{[2-(4-chloro-phenyl)-acetyl]-propyl-amino}-6-fluoro-1,2,3,4-tetrahydro-9H-carbazol-9-yl)-acetic acid;
- (3R)-(3-phenylacetyl-amino-1,2,3,4-tetrahydro-9H-carbazol-9-yl)-acetic acid;
- (3R)-{3-[3-(2-chloro-phenyl)-propionyl-amino]-6-fluoro-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetic acid;
- 5 (3S)-{6-fluoro-3-[2-(4-trifluoromethyl-phenoxy)-acetyl-amino]-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetic acid;
- (3R)-(6-fluoro-3-phenylacetyl-amino-1,2,3,4-tetrahydro-9H-carbazol-9-yl)-acetic acid;
- (3S)-{6-fluoro-3-[3-(2-hydroxy-phenyl)-propionyl-amino]-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetic acid;
- 10 (3S)-[3-(3-1H-benzoimidazol-2-yl-propionyl-amino)-6-fluoro-1,2,3,4-tetrahydro-9H-carbazol-9-yl]-acetic acid;
- (3S)-{6-fluoro-3-[3-(4-hydroxy-phenyl)-propionyl-amino]-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetic acid;
- 15 (3S)-[6-fluoro-3-(2-*p*-tolyl-oxy-acetyl-amino)-1,2,3,4-tetrahydro-9H-carbazol-9-yl]-acetic acid;
- (3R)-[6-fluoro-3-(2-*p*-tolyl-acetyl-amino)-1,2,3,4-tetrahydro-9H-carbazol-9-yl]-acetic acid;
- (3R)-{3-[3-(3-chloro-phenyl)-propionyl-amino]-6-fluoro-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetic acid;
- 20 (3R)-[3-(2-phenoxy-acetyl-amino)-1,2,3,4-tetrahydro-9H-carbazol-9-yl]-acetic acid;
- (3S)-[6-fluoro-3-(3-*p*-tolyl-propionyl-amino)-1,2,3,4-tetrahydro-9H-carbazol-9-yl]-acetic acid;
- (3S)-(3-benzyloxycarbonyl-amino-1,2,3,4-tetrahydro-9H-carbazol-9-yl)-acetic acid;
- (3S)-[6-fluoro-3-(2-*p*-tolyl-acetyl-amino)-1,2,3,4-tetrahydro-9H-carbazol-9-yl]-acetic acid;
- 25 (3S)-[3-(3-phenethyl-ureido)-1,2,3,4-tetrahydro-9H-carbazol-9-yl]-acetic acid;
- (3S)-{6-fluoro-3-[3-(3-hydroxy-phenyl)-propionyl-amino]-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetic acid;
- (3R)-[3-(2-benzyloxy-ethoxycarbonyl-amino)-1,2,3,4-tetrahydro-9H-carbazol-9-yl]-acetic acid;
- 30 (3S)-[6-fluoro-3-(3-naphthalen-2-yl-propionyl-amino)-1,2,3,4-tetrahydro-9H-carbazol-9-yl]-acetic acid;
- (3S)-{6-fluoro-3-[4-(4-methanesulfonyl-phenyl)-4-oxo-butyryl-amino]-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetic acid;

(3S)-(3-{[2-(4-chloro-phenyl)-acetyl]-methyl-amino}-6-fluoro-1,2,3,4-tetrahydro-9H-carbazol-9-yl)-acetic acid;

(3S)-[3-(3-phenylsulfonyl-ureido)-1,2,3,4-tetrahydro-9H-carbazol-9-yl]-acetic acid;

(3S)-{6-fluoro-3-[3-(4-methoxy-phenyl)-propionylamino]-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetic acid;

(3R)-[3-(3-phenyl-propionylamino)-1,2,3,4-tetrahydro-9H-carbazol-9-yl]-acetic acid;

(3R)-{3-[2-(4-chloro-phenyl)-acetyl-amino]-6-fluoro-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetic acid;

(3R)-[6-fluoro-3-(3-*p*-tolyl-propionylamino)-1,2,3,4-tetrahydro-9H-carbazol-9-yl]-acetic acid;

(3R)-{6-fluoro-3-[3-(4-methoxy-phenyl)-propionylamino]-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetic acid;

(3S)-{6-fluoro-3-[3-(4-hydroxy-3-methoxy-phenyl)-propionylamino]-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetic acid;

(3S)-{6-fluoro-3-[2-(3-trifluoromethyl-phenyl)-acetyl-amino]-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetic acid;

(3S)-{6-fluoro-3-[2-(4-methoxy-phenyl)-acetyl-amino]-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetic acid;

(3R)-{3-[2-(3-chloro-phenyl)-acetyl-amino]-6-fluoro-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetic acid;

(3S)-{6-fluoro-3-[2-(4-trifluoromethyl-phenyl)-acetyl-amino]-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetic acid;

(3R)-(3-*tert*-butoxycarbonylamino-1,2,3,4-tetrahydro-9H-carbazol-9-yl)-acetic acid;

(3R)-{3-[2-(3,4-dichloro-phenyl)-acetyl-amino]-6-fluoro-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetic acid;

(3S)-(3-isobutoxycarbonylamino-1,2,3,4-tetrahydro-9H-carbazol-9-yl)-acetic acid;

(3S)-{6-fluoro-3-[3-(3-methoxy-phenyl)-propionylamino]-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetic acid; and

(3S)-[6-fluoro-3-(2-phenoxy-acetyl-amino)-1,2,3,4-tetrahydro-9H-carbazol-9-yl]-acetic acid.

In another embodiment preferred compounds of Formula I are selected from the group consisting of:

(3R)-[3-(3-phenethyl-ureido)-1,2,3,4-tetrahydro-9H-carbazol-9-yl]-acetic acid;

- (3S)-[3-(2-benzyloxy-ethoxycarbonylamino)-1,2,3,4-tetrahydro-9H-carbazol-9-yl]-acetic acid;
- (3S)-[3-(2-phenoxy-acetylamino)-1,2,3,4-tetrahydro-9H-carbazol-9-yl]-acetic acid;
- (3S)-(3-propoxycarbonylamino-1,2,3,4-tetrahydro-9H-carbazol-9-yl)-acetic acid;
- 5 (3S)-[3-(2-thiophen-2-yl-acetylamino)-1,2,3,4-tetrahydro-9H-carbazol-9-yl]-acetic acid;
- (3S)-(3-phenylacetylamino-1,2,3,4-tetrahydro-9H-carbazol-9-yl)-acetic acid;
- (3R)-[3-(3-phenylsulfonyl-ureido)-1,2,3,4-tetrahydro-9H-carbazol-9-yl]-acetic acid;
- (3S)-[3-(3-benzyl-ureido)-1,2,3,4-tetrahydro-9H-carbazol-9-yl]-acetic acid;
- (3R)-[3-(3-naphthalen-1-yl-ureido)-1,2,3,4-tetrahydro-9H-carbazol-9-yl]-acetic acid;
- 10 (3S)-(3-decanoylamino-1,2,3,4-tetrahydro-9H-carbazol-9-yl)-acetic acid;
- (3S)-[6-fluoro-3-(3-naphthalen-2-yl-acryloylamino)-1,2,3,4-tetrahydro-9H-carbazol-9-yl]-acetic acid;
- (3S)-{3-[2-(4-*tert*-butyl-phenyl)-acetylamino]-6-fluoro-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetic acid;
- 15 (3R)-(3-benzyloxycarbonylamino-8-chloro-6-fluoro-1,2,3,4-tetrahydro-9H-carbazol-9-yl)-acetic acid;
- (3S)-(3-benzyloxycarbonylamino-8-chloro-6-fluoro-1,2,3,4-tetrahydro-9H-carbazol-9-yl)-acetic acid;
- (3S)-[6-fluoro-3-(3-pyridin-3-yl-propionylamino)-1,2,3,4-tetrahydro-9H-carbazol-9-yl]-acetic acid;
- 20 (3R)-[3-(3-benzyl-ureido)-1,2,3,4-tetrahydro-9H-carbazol-9-yl]-acetic acid;
- (3S)-[3-(3-methyl-butyrylamino)-1,2,3,4-tetrahydro-9H-carbazol-9-yl]-acetic acid;
- (3R)-{6-fluoro-3-[2-(4-trifluoromethyl-phenyl)-acetylamino]-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetic acid;
- 25 (3S)-[3-(3-phenyl-ureido)-1,2,3,4-tetrahydro-9H-carbazol-9-yl]-acetic acid;
- (3S)-[3-(3-cyclopentyl-propionylamino)-1,2,3,4-tetrahydro-9H-carbazol-9-yl]-acetic acid;
- (3R)-[3-(2-thiophen-2-yl-acetylamino)-1,2,3,4-tetrahydro-9H-carbazol-9-yl]-acetic acid;
- (3S)-(3-butyrylamino-1,2,3,4-tetrahydro-9H-carbazol-9-yl)-acetic acid;
- (3R)-(3-benzyloxycarbonylamino-8-chloro-5-fluoro-1,2,3,4-tetrahydro-9H-carbazol-9-yl)-acetic acid;
- 30 (3S)-(3-benzyloxycarbonylamino-8-chloro-5-fluoro-1,2,3,4-tetrahydro-9H-carbazol-9-yl)-acetic acid;
- (3S)-(3-heptanoylamino-1,2,3,4-tetrahydro-9H-carbazol-9-yl)-acetic acid;

(3R)-[3-(3-cyclopentyl-propionylamino)-1,2,3,4-tetrahydro-9H-carbazol-9-yl]-acetic acid;
(3R)-(3-decanoylamino-1,2,3,4-tetrahydro-9H-carbazol-9-yl)-acetic acid;
(3R)-(3-benzoylamino-1,2,3,4-tetrahydro-9H-carbazol-9-yl)-acetic acid;
(3R)-[3-(3-butyl-ureido)-1,2,3,4-tetrahydro-9H-carbazol-9-yl]-acetic acid;
5 (3S)-{6-fluoro-3-[(1H-indole-2-carbonyl)-amino]-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-
acetic acid;
(3R)-[3-(3-methyl-butyrylamino)-1,2,3,4-tetrahydro-9H-carbazol-9-yl]-acetic acid; and
(3S)-[3-(3-butyl-ureido)-1,2,3,4-tetrahydro-9H-carbazol-9-yl]-acetic acid.

10 In another embodiment preferred compounds of Formula I are selected from the group consisting of:

(3R)-[3-(3-Benzyl-ureido)-6-fluoro-1,2,3,4-tetrahydro-9H-carbazol-9-yl]-acetic acid;
(3S)-[3-(3-Benzyl-ureido)-6-fluoro-1,2,3,4-tetrahydro-9H-carbazol-9-yl]-acetic acid;
(3S)-[6-Fluoro-3-(3-phenethyl-ureido)-1,2,3,4-tetrahydro-9H-carbazol-9-yl]-acetic acid;
15 (3R)-[3-(3-Benzyl-ureido)-8-chloro-6-fluoro-1,2,3,4-tetrahydro-9H-carbazol-9-yl]-acetic
acid;
(3S)-[3-(3-Benzyl-ureido)-8-chloro-6-fluoro-1,2,3,4-tetrahydro-9H-carbazol-9-yl]-acetic
acid;
(3R)-[8-Chloro-6-fluoro-3-(3-phenethyl-ureido)-1,2,3,4-tetrahydro-9H-carbazol-9-yl]-acetic
20 acid;
(3S)-[8-Chloro-6-fluoro-3-(3-phenethyl-ureido)-1,2,3,4-tetrahydro-9H-carbazol-9-yl]-acetic
acid;
(3R)-(3-Benzyloxycarbonylamino-6-trifluoromethyl-1,2,3,4-tetrahydro-9H-carbazol-9-yl)-
acetic acid;
25 (3S)-(3-Benzyloxycarbonylamino-6-trifluoromethyl-1,2,3,4-tetrahydro-9H-carbazol-9-yl)-
acetic acid;
(3R)-(3-Benzyloxycarbonylamino-8-bromo-6-fluoro-1,2,3,4-tetrahydro-9H-carbazol-9-yl)-
acetic acid;
(3S)-(3-Benzyloxycarbonylamino-8-bromo-6-fluoro-1,2,3,4-tetrahydro-9H-carbazol-9-yl)-
30 acetic acid;
(3R)-(3-Benzyloxycarbonylamino-6-fluoro-8-vinyl-1,2,3,4-tetrahydro-9H-carbazol-9-yl)-
acetic acid;

- (3S)-(3-Benzoyloxycarbonylamino-6-fluoro-8-vinyl-1,2,3,4-tetrahydro-9H-carbazol-9-yl)-acetic acid;
- (3R)-(3-Benzoyloxycarbonylamino-6-fluoro-8-methanesulfonyl-1,2,3,4-tetrahydro-9H-carbazol-9-yl)-acetic acid;
- 5 (3S)-(3-Benzoyloxycarbonylamino-6-fluoro-8-methanesulfonyl-1,2,3,4-tetrahydro-9H-carbazol-9-yl)-acetic acid;
- (3S)-(3-Benzoyloxycarbonylamino-6-fluoro-8-methyl-1,2,3,4-tetrahydro-9H-carbazol-9-yl)-acetic acid;
- (3S)-(3-Benzoyloxycarbonylamino-7-chloro-6-fluoro-1,2,3,4-tetrahydro-9H-carbazol-9-yl)-acetic acid;
- 10 (3S)-(8-Allyl-3-benzoyloxycarbonylamino-6-fluoro-1,2,3,4-tetrahydro-9H-carbazol-9-yl)-acetic acid;
- (3R)-(3-Benzoyloxycarbonylamino-8-chloro-1,2,3,4-tetrahydro-9H-carbazol-9-yl)-acetic acid;
- 15 (3S)-{3-[3-(2,4-Dimethoxy-phenyl)-propionylamino]-6-fluoro-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetic acid;
- (3S)-[6-Fluoro-3-(3-naphthalen-1-yl-propionylamino)-1,2,3,4-tetrahydro-9H-carbazol-9-yl]-acetic acid;
- (3R)-{6-Fluoro-3-[2-(2-methoxy-phenoxy)-acetyl-amino]-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetic acid;
- 20 (3S)-{6-Fluoro-3-[2-(2-methoxy-phenoxy)-acetyl-amino]-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetic acid;
- (3R)-{6-Fluoro-3-[3-(2-methylphenyl)-propionylamino]-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetic acid;
- 25 (3S)-{6-Fluoro-3-[3-(2-methylphenyl)-propionylamino]-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetic acid;
- (3R)-{6-Fluoro-3-[3-(3-methylphenyl)-propionylamino]-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetic acid;
- (3S)-{6-Fluoro-3-[3-(3-methylphenyl)-propionylamino]-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetic acid;
- 30 (3R)-{6-Fluoro-3-[3-(3-methoxy-phenyl)-propionylamino]-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetic acid;

- (3S)-{6-Fluoro-3-[3-(3-methoxy-phenyl)-propionylamino]-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetic acid;
- (3R)-{6-Fluoro-3-[2-(3-methoxy-phenoxy)-acetylamino]-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetic acid;
- 5 (3S)-{6-Fluoro-3-[2-(3-methoxy-phenoxy)-acetylamino]-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetic acid;
- (3R)-{6-Fluoro-3-[2-(2-methylphenoxy)-acetylamino]-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetic acid;
- (3S)-{6-Fluoro-3-[2-(2-methylphenoxy)-acetylamino]-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetic acid;
- 10 (3S)-{3-[3-(2,5-Dimethoxy-phenyl)-propionylamino]-6-fluoro-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetic acid;
- (3S)-{6-Fluoro-3-[3-(4-trifluoromethyl-phenyl)-propionylamino]-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetic acid;
- 15 (3S)-{3-[3-(2,6-Dichloro-phenyl)-propionylamino]-6-fluoro-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetic acid;
- (3S)-{3-[3-(2,5-Bis-trifluoromethyl-phenyl)-propionylamino]-6-fluoro-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetic acid;
- (3S)-{6-Fluoro-3-[3-(4-methylsulfanyl-phenyl)-propionylamino]-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetic acid;
- 20 (3S)-{6-Fluoro-3-[3-(4-iodo-phenyl)-propionylamino]-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetic acid;
- (3S)-{6-Fluoro-3-[3-(4-isopropyl-phenyl)-propionylamino]-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetic acid;
- 25 (3S)-{6-Fluoro-3-[3-(3-trifluoromethyl-phenyl)-propionylamino]-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetic acid;
- (3S)-{3-[3-(2,4-Dichloro-phenyl)-propionylamino]-6-fluoro-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetic acid;
- (3S)-{6-Fluoro-3-[3-(4-fluoro-phenyl)-propionylamino]-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetic acid;
- 30 (3S)-{3-[3-(3,5-Bis-trifluoromethyl-phenyl)-propionylamino]-6-fluoro-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetic acid;

- (3S)-{3-[3-(4-Ethyl-phenyl)-propionylamino]-6-fluoro-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetic acid;
- (3S)-{6-Fluoro-3-[3-(3-iodo-phenyl)-propionylamino]-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetic acid;
- 5 (3S)-{6-Fluoro-3-[3-(4-methanesulfonyl-phenyl)-propionylamino]-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetic acid;
- (3S)-{3-[3-(2,3-Dimethoxy-phenyl)-propionylamino]-6-fluoro-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetic acid;
- (3S)-{3-[3-(2-Bromo-phenyl)-propionylamino]-6-fluoro-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetic acid;
- 10 (3S)-{6-Fluoro-3-[3-(3-trifluoromethoxy-phenyl)-propionylamino]-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetic acid;
- (3S)-{3-[3-(2,4-Dimethyl-phenyl)-propionylamino]-6-fluoro-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetic acid;
- 15 (3S)-{3-[3-(3-Bromo-phenyl)-propionylamino]-6-fluoro-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetic acid;
- (3S)-{3-[3-(3-*tert*-Butoxycarbonylamino-phenyl)-propionylamino]-6-fluoro-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetic acid;
- (3S)-{6-Fluoro-3-[(S)-3-(4-fluoro-phenyl)-2-phenyl-propionylamino]-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetic acid;
- 20 (3S)-{6-Fluoro-3-[(S)-3-(4-methoxy-phenyl)-2-phenyl-propionylamino]-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetic acid;
- (3S)-{6-Fluoro-3-[3-(2-fluoro-phenyl)-propionylamino]-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetic acid;
- 25 (3S)-(6-Fluoro-3-{[(2RS)-1,2,3,4-tetrahydro-naphthalene-2-carbonyl]-amino}-1,2,3,4-tetrahydro-9H-carbazol-9-yl)-acetic acid;
- (3S)-(6-Fluoro-3-{[(2RS)-8-methoxy-1,2,3,4-tetrahydro-naphthalene-2-carbonyl]-amino}-1,2,3,4-tetrahydro-9H-carbazol-9-yl)-acetic acid;
- (3S)-(6-Fluoro-3-{(2RS)-2-[(4-fluoro-phenyl)carbonyl]-methyl]-3-phenyl-propionylamino}-1,2,3,4-tetrahydro-9H-carbazol-9-yl)-acetic acid;
- 30 (3S)-{3-[(2RS)-2-Benzyl-3,3-dimethyl-butyrylamino]-6-fluoro-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetic acid;

- (3S)-(6-Fluoro-3-{[(2RS)-8-methoxy-1,2,3,4-tetrahydro-naphthalene-2-carbonyl]-amino}-1,2,3,4-tetrahydro-9H-carbazol-9-yl)-acetic acid;
- (3S)-{6-Fluoro-3-[3-(3-fluoro-phenyl)-propionylamino]-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetic acid;
- 5 (3S)-(6-Fluoro-3-{[(2RS)-8-methoxy-1,2,3,4-tetrahydro-naphthalene-2-carbonyl]-amino}-1,2,3,4-tetrahydro-9H-carbazol-9-yl)-acetic acid;
- (3S)-{6-Fluoro-3-[(2R)-2-methyl-3-phenyl-propionylamino]-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetic acid;
- (3S)-[3-(2,2-Dimethyl-3-phenyl-propionylamino)-6-fluoro-1,2,3,4-tetrahydro-9H-carbazol-9-yl]-acetic acid;
- 10 (3S)-[6-Fluoro-3-(3-methyl-3-phenyl-butyrylamino)-1,2,3,4-tetrahydro-9H-carbazol-9-yl]-acetic acid;
- (3S)-{6-Fluoro-3-[(3S)-3-phenyl-butyrylamino]-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetic acid;
- 15 (3S)-[3-(2-Benzoyloxy-acetylamino)-6-fluoro-1,2,3,4-tetrahydro-9H-carbazol-9-yl]-acetic acid;
- (3S)-[6-Fluoro-3-(4-phenyl-butyrylamino)-1,2,3,4-tetrahydro-9H-carbazol-9-yl]-acetic acid;
- (3S)-{3-[(2R,3R)-2,3-Dihydroxy-3-(2-methoxy-phenylcarbamoyl)-propionylamino]-6-fluoro-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetic acid;
- 20 (3R)-{8-Chloro-6-fluoro-3-[3-(2-methylphenyl)-propionylamino]-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetic acid;
- (3S)-{8-Chloro-6-fluoro-3-[3-(2-methylphenyl)-propionylamino]-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetic acid;
- (3R)-{8-Chloro-6-fluoro-3-[2-(2-methoxy-phenoxy)-acetylamino]-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetic acid;
- 25 (3S)-{8-Chloro-6-fluoro-3-[2-(2-methoxy-phenoxy)-acetylamino]-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetic acid;
- (3R)-{8-Chloro-6-fluoro-3-[3-(3-hydroxy-phenyl)-propionylamino]-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetic acid;
- 30 (3S)-{8-Chloro-6-fluoro-3-[3-(3-hydroxy-phenyl)-propionylamino]-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetic acid;
- (3R)-{8-Chloro-6-fluoro-3-[3-(3-methoxy-phenyl)-propionylamino]-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetic acid;

- (3S)-{8-Chloro-6-fluoro-3-[3-(3-methoxy-phenyl)-propionylamino]-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetic acid;
- (3R)-{8-Chloro-6-fluoro-3-[3-(3-methylphenyl)-propionylamino]-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetic acid;
- 5 (3S)-{8-Chloro-6-fluoro-3-[3-(3-methylphenyl)-propionylamino]-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetic acid;
- (3R)-{8-Chloro-6-fluoro-3-[3-(2-hydroxy-phenyl)-propionylamino]-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetic acid;
- (3S)-{8-Chloro-6-fluoro-3-[3-(2-hydroxy-phenyl)-propionylamino]-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetic acid;
- 10 (3R)-[8-Chloro-6-fluoro-3-(3-phenyl-propionylamino)-1,2,3,4-tetrahydro-9H-carbazol-9-yl]-acetic acid;
- (3S)-[8-Chloro-6-fluoro-3-(3-phenyl-propionylamino)-1,2,3,4-tetrahydro-9H-carbazol-9-yl]-acetic acid;
- 15 (3R)-{8-Chloro-6-fluoro-3-[3-(2-methoxy-phenyl)-propionylamino]-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetic acid;
- (3S)-{8-Chloro-6-fluoro-3-[3-(2-methoxy-phenyl)-propionylamino]-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetic acid;
- (3R)-{8-Chloro-3-[3-(3-chloro-phenyl)-propionylamino]-6-fluoro-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetic acid;
- 20 (3S)-{8-Chloro-3-[3-(3-chloro-phenyl)-propionylamino]-6-fluoro-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetic acid;
- (3R)-[8-Chloro-6-fluoro-3-(3-1H-indol-3-yl-propionylamino)-1,2,3,4-tetrahydro-9H-carbazol-9-yl]-acetic acid;
- 25 (3S)-[8-Chloro-6-fluoro-3-(3-1H-indol-3-yl-propionylamino)-1,2,3,4-tetrahydro-9H-carbazol-9-yl]-acetic acid;
- (3R)-{8-Chloro-3-[2-(2-chloro-phenoxy)-acetylaminio]-6-fluoro-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetic acid;
- (3S)-{8-Chloro-3-[2-(2-chloro-phenoxy)-acetylaminio]-6-fluoro-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetic acid;
- 30 (3R)-{8-Chloro-6-fluoro-3-[2-(2-methylphenyl)-oxy-acetylaminio]-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetic acid;

- (3S)-{8-Chloro-6-fluoro-3-[2-(2-methylphenyl)-oxy-acetylamino]-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetic acid;
- (3R)-[3-(3-Benzo[1,3]dioxol-5-yl-propionylamino)-8-chloro-6-fluoro-1,2,3,4-tetrahydro-9H-carbazol-9-yl]-acetic acid;
- 5 (3S)-[3-(3-Benzo[1,3]dioxol-5-yl-propionylamino)-8-chloro-6-fluoro-1,2,3,4-tetrahydro-9H-carbazol-9-yl]-acetic acid;
- (3R)-{8-Chloro-6-fluoro-3-[2-(3-methoxy-phenoxy)-acetylamino]-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetic acid;
- (3S)-{8-Chloro-6-fluoro-3-[2-(3-methoxy-phenoxy)-acetylamino]-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetic acid;
- 10 (3R)-{8-Chloro-3-[2-(3-chloro-phenoxy)-acetylamino]-6-fluoro-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetic acid;
- (3S)-{8-Chloro-3-[2-(3-chloro-phenoxy)-acetylamino]-6-fluoro-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetic acid;
- 15 (3R)-{8-Chloro-3-[3-(2-chloro-phenyl)-propionylamino]-6-fluoro-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetic acid;
- (3S)-{8-Chloro-3-[3-(2-chloro-phenyl)-propionylamino]-6-fluoro-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetic acid;
- (3R)-[8-Chloro-6-fluoro-3-(2-indan-2-yl-acetylamino)-1,2,3,4-tetrahydro-9H-carbazol-9-yl]-acetic acid;
- 20 (3S)-[8-Chloro-6-fluoro-3-(2-indan-2-yl-acetylamino)-1,2,3,4-tetrahydro-9H-carbazol-9-yl]-acetic acid;
- (3S)-[6-Fluoro-3-(1-methyl-3-phenethyl-ureido)-1,2,3,4-tetrahydro-9H-carbazol-9-yl]-acetic acid;
- 25 (3S)-{3-[3-(2-Chloro-benzyl)-1-methyl-ureido]-6-fluoro-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetic acid;
- (3S)-[3-(3-Benzyl-1-methyl-ureido)-6-fluoro-1,2,3,4-tetrahydro-9H-carbazol-9-yl]-acetic acid;
- (3S)-[3-(Benzyloxycarbonyl-methyl-amino)-6-fluoro-1,2,3,4-tetrahydro-9H-carbazol-9-yl]-acetic acid;
- 30 {(3S)-3-[(2-Chloro-benzyloxycarbonyl)-methyl-amino]-6-fluoro-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetic acid;

- (3S)-(6-Fluoro-3-{[2-(4-methoxy-phenyl)-acetyl]-methyl-amino}-1,2,3,4-tetrahydro-9H-carbazol-9-yl)-acetic acid;
- (3S)-(6-Fluoro-3-{methyl-[2-(4-methylphenyl)-acetyl]-amino}-1,2,3,4-tetrahydro-9H-carbazol-9-yl)-acetic acid;
- 5 (3S)-(6-Fluoro-3-{[2-(2-methoxy-phenyl)-acetyl]-methyl-amino}-1,2,3,4-tetrahydro-9H-carbazol-9-yl)-acetic acid;
- (3S)-{6-Fluoro-3-[(2-indan-2-yl-acetyl)-methyl-amino]-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetic acid;
- (3S)-(3-{[2-(3-Chloro-phenyl)-acetyl]-methyl-amino}-6-fluoro-1,2,3,4-tetrahydro-9H-
- 10 carbazol-9-yl)-acetic acid;
- (3S)-(6-Fluoro-3-{methyl-[2-(3-methylphenyl)-acetyl]-amino}-1,2,3,4-tetrahydro-9H-carbazol-9-yl)-acetic acid;
- (3S)-(6-Fluoro-3-{[2-(3-methoxy-phenyl)-acetyl]-methyl-amino}-1,2,3,4-tetrahydro-9H-carbazol-9-yl)-acetic acid;
- 15 (3S)-(3-{[2-(2-Chloro-phenoxy)-acetyl]-methyl-amino}-6-fluoro-1,2,3,4-tetrahydro-9H-carbazol-9-yl)-acetic acid;
- (3S)-(3-{[2-(4-Chloro-phenoxy)-acetyl]-methyl-amino}-6-fluoro-1,2,3,4-tetrahydro-9H-carbazol-9-yl)-acetic acid;
- (3S)-(6-Fluoro-3-{[3-(3-methoxy-phenyl)-propionyl]-methyl-amino}-1,2,3,4-tetrahydro-9H-
- 20 carbazol-9-yl)-acetic acid;
- (3S)-(6-Fluoro-3-{methyl-[2-(2-methylphenyl)-acetyl]-amino}-1,2,3,4-tetrahydro-9H-carbazol-9-yl)-acetic acid;
- (3S)-{3-[(3,3-Diphenyl-propionyl)-methyl-amino]-6-fluoro-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetic acid;
- 25 (3S)-(6-Fluoro-3-{[3-(2-methoxy-phenyl)-propionyl]-methyl-amino}-1,2,3,4-tetrahydro-9H-carbazol-9-yl)-acetic acid;
- (3S)-{6-Fluoro-3-[(3-1H-indol-3-yl-propionyl)-methyl-amino]-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetic acid;
- (3S)-{3-[(2-Benzylloxy-acetyl)-methyl-amino]-6-fluoro-1,2,3,4-tetrahydro-9H-carbazol-9-
- 30 yl}-acetic acid;
- (3S)-{3-[(2,3-Diphenyl-propionyl)-methyl-amino]-6-fluoro-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetic acid;

- (3S)-{6-Fluoro-3-[[3-(2-methoxy-phenyl)-propionyl]-(3-phenyl-propyl)-amino]-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetic acid;
- (3S)-{3-[Acetyl-(3-phenyl-propyl)-amino]-6-fluoro-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetic acid;
- 5 (3S)-{3-[3-Benzyl-(1-cyclopropylmethyl)-ureido]-6-fluoro-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetic acid;
- (3S)-[3-(Benzyloxycarbonyl-cyclopropylmethyl-amino)-6-fluoro-1,2,3,4-tetrahydro-9H-carbazol-9-yl]-acetic acid;
- (3S)-{3-[Cyclopropylmethyl-(3-phenyl-propionyl)-amino]-6-fluoro-1,2,3,4-tetrahydro-9H-
- 10 carbazol-9-yl}-acetic acid;
- (3S)-{3-[Cyclopropylmethyl-((S)-2-methyl-3-phenyl-propionyl)-amino]-6-fluoro-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetic acid;
- (3S)-(3-{Cyclopropylmethyl-[3-(2-methoxy-phenyl)-propionyl]-amino}-6-fluoro-1,2,3,4-tetrahydro-9H-carbazol-9-yl)-acetic acid;
- 15 (3S)-(3-{[2-(3-Chloro-phenoxy)-acetyl]-cyclopropylmethyl-amino}-6-fluoro-1,2,3,4-tetrahydro-9H-carbazol-9-yl)-acetic acid;
- (3S)-{3-[Cyclopropylmethyl-(3,3-diphenyl-propionyl)-amino]-6-fluoro-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetic acid;
- (3S)-{3-[Cyclopropylmethyl-(2-naphthalen-1-yl-acetyl)-amino]-6-fluoro-1,2,3,4-tetrahydro-
- 20 9H-carbazol-9-yl}-acetic acid;
- (3S)-(3-{Benzyloxycarbonyl-[2-(4-trifluoromethyl-phenoxy)-ethyl]-amino}-6-fluoro-1,2,3,4-tetrahydro-9H-carbazol-9-yl)-acetic acid;
- (3S)-(3-{Acetyl-[2-(4-trifluoromethyl-phenoxy)-ethyl]-amino}-6-fluoro-1,2,3,4-tetrahydro-9H-carbazol-9-yl)-acetic acid;
- 25 (3S)-(6-Fluoro-3-{propionyl-[2-(4-trifluoromethyl-phenoxy)-ethyl]-amino}-1,2,3,4-tetrahydro-9H-carbazol-9-yl)-acetic acid;
- (3S)-(6-Fluoro-3-{(3-phenyl-propionyl)-[2-(4-trifluoromethyl-phenoxy)-ethyl]-amino}-1,2,3,4-tetrahydro-9H-carbazol-9-yl)-acetic acid;
- (3S)-(6-Fluoro-3-{[3-(2-methoxy-phenyl)-propionyl]-[2-(4-trifluoromethyl-phenoxy)-ethyl]-amino}-1,2,3,4-tetrahydro-9H-carbazol-9-yl)-acetic acid;
- 30 (3S)-{6-Fluoro-3-[(2-phenoxy-ethyl)-(3-phenyl-propionyl)-amino]-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetic acid;

- (3S)-{6-Fluoro-3-[(S)-2-methyl-3-phenyl-propionyl]-(2-phenoxy-ethyl)-amino}-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetic acid;
- (3S)-{6-Fluoro-3-[[3-(2-methoxy-phenyl)-propionyl]-(2-phenoxy-ethyl)-amino]-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetic acid;
- 5 (3S)-{3-[Acetyl-(2-phenoxy-ethyl)-amino]-6-fluoro-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetic acid;
- (3S)-{3-[3-Benzyl-1-(2-methoxy-ethyl)-ureido]-6-fluoro-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetic acid;
- (3S)-{3-[Benzyloxycarbonyl-(2-methoxy-ethyl)-amino]-6-fluoro-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetic acid;
- 10 (3S)-{6-Fluoro-3-[(2-methoxy-ethyl)-(3-phenyl-propionyl)-amino]-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetic acid;
- (3S)-{6-Fluoro-3-[(2-methoxy-ethyl)-((S)-2-methyl-3-phenyl-propionyl)-amino]-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetic acid;
- 15 (3S)-(6-Fluoro-3-{(2-methoxy-ethyl)-[3-(2-methoxy-phenyl)-propionyl]-amino}-1,2,3,4-tetrahydro-9H-carbazol-9-yl)-acetic acid;
- (3S)-{3-[[2-(3-Chloro-phenoxy)-acetyl]-(2-methoxy-ethyl)-amino]-6-fluoro-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetic acid;
- (3S)-{3-[(3,3-Diphenyl-propionyl)-(2-methoxy-ethyl)-amino]-6-fluoro-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetic acid;
- 20 (3S)-{6-Fluoro-3-[(2-methoxy-ethyl)-(2-naphthalen-1-yl-acetyl)-amino]-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetic acid;
- (3S)-(6-Fluoro-3-{[(2S)-2-methyl-3-phenyl-propionyl]-phenethyl-amino}-1,2,3,4-tetrahydro-9H-carbazol-9-yl)-acetic acid;
- 25 (3S)-(6-Fluoro-3-{[3-(2-methoxy-phenyl)-propionyl]-phenethyl-amino}-1,2,3,4-tetrahydro-9H-carbazol-9-yl)-acetic acid;
- (3S)-[3-(Acetyl-phenethyl-amino)-6-fluoro-1,2,3,4-tetrahydro-9H-carbazol-9-yl]-acetic acid;
- (3S)-{6-Fluoro-3-[(2-naphthalen-1-yl-acetyl)-phenethyl-amino]-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetic acid;
- 30 (3S)-{6-Fluoro-3-[phenethyl-(3-phenyl-propionyl)-amino]-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetic acid;

- (3*S*)-[3-(3-Benzyl-1-naphthalen-1-ylmethyl-ureido)-6-fluoro-1,2,3,4-tetrahydro-9*H*-carbazol-9-yl]-acetic acid;
- (3*S*)-[3-(Benzyloxycarbonyl-naphthalen-1-ylmethyl-amino)-6-fluoro-1,2,3,4-tetrahydro-9*H*-carbazol-9-yl]-acetic acid;
- 5 (3*S*)-{6-Fluoro-3-[naphthalen-1-ylmethyl-(3-phenyl-propionyl)-amino]-1,2,3,4-tetrahydro-9*H*-carbazol-9-yl}-acetic acid;
- (3*S*)-{6-Fluoro-3-[(*S*)-2-methyl-3-phenyl-propionyl]-naphthalen-1-ylmethyl-amino]-1,2,3,4-tetrahydro-9*H*-carbazol-9-yl}-acetic acid;
- (3*S*)-(6-Fluoro-3-{[3-(2-methoxy-phenyl)-propionyl]-naphthalen-1-ylmethyl-amino}-1,2,3,4-tetrahydro-9*H*-carbazol-9-yl)-acetic acid;
- 10 (3*S*)-{3-[(3,3-Diphenyl-propionyl)-naphthalen-1-ylmethyl-amino]-6-fluoro-1,2,3,4-tetrahydro-9*H*-carbazol-9-yl}-acetic acid;
- (3*S*)-[3-(Acetyl-naphthalen-1-ylmethyl-amino)-6-fluoro-1,2,3,4-tetrahydro-9*H*-carbazol-9-yl]-acetic acid;
- 15 (3*S*)-[6-Fluoro-3-(naphthalen-1-ylmethyl-propionyl-amino)-1,2,3,4-tetrahydro-9*H*-carbazol-9-yl]-acetic acid;
- (3*S*)-{3-[(*RS*)-2-Benzyl-3-(2-methylphenyl)-carbamoyl-propionylamino]-6-fluoro-1,2,3,4-tetrahydro-9*H*-carbazol-9-yl}-acetic acid;
- (3*S*)-{3-[(*RS*)-2-Benzyl-3-(3-methoxy-phenylcarbamoyl)-propionylamino]-6-fluoro-1,2,3,4-tetrahydro-9*H*-carbazol-9-yl}-acetic acid;
- 20 (3*S*)-{3-[(*RS*)-2-Benzyl-3-(4-chloro-phenylcarbamoyl)-propionylamino]-6-fluoro-1,2,3,4-tetrahydro-9*H*-carbazol-9-yl}-acetic acid;
- (3*S*)-{3-[(*RS*)-2-Benzyl-3-(4-fluoro-benzylcarbamoyl)-propionylamino]-6-fluoro-1,2,3,4-tetrahydro-9*H*-carbazol-9-yl}-acetic acid;
- 25 [(3*S*)-3-((*RS*)-2-Benzyl-3-propylcarbamoyl-propionylamino)-6-fluoro-1,2,3,4-tetrahydro-9*H*-carbazol-9-yl]-acetic acid;
- (3*S*)-[6-Fluoro-3-(3-thiophen-2-yl-propionylamino)-1,2,3,4-tetrahydro-9*H*-carbazol-9-yl]-acetic acid;
- (3*S*)-{3-[3-(3-Chloro-isoxazol-5-yl)-propionylamino]-6-fluoro-1,2,3,4-tetrahydro-9*H*-carbazol-9-yl}-acetic acid;
- 30 (3*S*)-[6-Fluoro-3-(3-pyrimidin-2-yl-propionylamino)-1,2,3,4-tetrahydro-9*H*-carbazol-9-yl]-acetic acid;

- (3S)-{6-Fluoro-3-[3-phenyl-4-([1,3,4]thiadiazol-2-ylcarbamoyl)-butyrylamino]-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetic acid;
- (3S)-[3-(1,3-Dibenzyl-ureido)-6-fluoro-1,2,3,4-tetrahydro-9H-carbazol-9-yl]-acetic acid;
- (3S)-(3-{Acetyl-[2-(2-fluoro-phenyl)-ethyl]-amino}-6-fluoro-1,2,3,4-tetrahydro-9H-carbazol-9-yl)-acetic acid;
- 5 (3S)-(3-{Acetyl-[2-(3-fluoro-phenyl)-ethyl]-amino}-6-fluoro-1,2,3,4-tetrahydro-9H-carbazol-9-yl)-acetic acid;
- (3S)-[3-(3-Benzyl-1-cyclohexylmethyl-ureido)-6-fluoro-1,2,3,4-tetrahydro-9H-carbazol-9-yl]-acetic acid; and
- 10 (3S)-(3-{Cyclohexylmethyl-[3-(2-methoxy-phenyl)-propionyl]-amino}-6-fluoro-1,2,3,4-tetrahydro-9H-carbazol-9-yl)-acetic acid.

Unless explicitly stated otherwise, the general terms and names used hereinbefore and hereinafter preferably have within the context of this disclosure the following meanings:

- 15 Where the plural form is used for compounds, salts, pharmaceutical compositions, diseases and the like, this is intended to mean also a single compound, salt, or the like.

Any reference to a compound of Formula I is to be understood as referring also to salts (especially pharmaceutically acceptable salts) of a compound of Formula I, as appropriate and expedient.

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The term "pharmaceutically acceptable salts" refers to non-toxic, inorganic or organic acid and/or base addition salts. Reference can be made to "Salt selection for basic drugs", *Int. J. Pharm.* (1986), **33**, 201-217.

- 25 The term "bridging group" or "bridging atom" as used herein means a group or atom that is placed between two distinct moieties of the molecule.

Examples for such bridging groups are the bridging C₁₋₆-alkyl group in an aryl-C₁₋₆-alkylcarbonyl group which is placed between the aryl and the carbonyl moiety; the bridging C₁₋₄-alkyl group in an aryl-C₁₋₄-alkyl group, which is placed between the aryl moiety and the parent molecular moiety; or the bridging C₁₋₄-alkyl group in an R⁷-C₁₋₄-alkylcarbonyl group which is placed between the R⁷-group and the carbonyl moiety.

30

An example for such bridging atoms is the bridging carbon atom of a methylene (-CH₂-) group in a benzyloxy or benzylamino group, which is placed between the phenyl ring and the oxygen atom, or the phenyl ring and the nitrogen atom, respectively.

- 5 The term "alkyl" as used herein, alone or in any combination, refers to a saturated aliphatic group including a straight or branched hydrocarbon chain containing the indicated number of carbon atoms, for example C₁₋₉-alkyl, i.e. an alkyl having 1-9 carbon atoms. Representative examples of alkyl groups include, but are not limited to, methyl, ethyl, *n*-propyl, *iso*-propyl, *n*-butyl, *tert*-butyl, *iso*-butyl (or also referred to as "2-methylpropyl"),
10 *n*-pentyl (also referred to as "*n*-amyl"), *iso*-pentyl (also referred to as "*iso*-amyl"), *n*-hexyl, *n*-heptyl, and *n*-octyl. Preferred are methyl, ethyl, *n*-propyl, *iso*-propyl, *n*-butyl, and *iso*-butyl. Most preferred are methyl, ethyl, *n*-propyl, and *iso*-propyl.

- A bridging C₁₋₆-alkyl group as used in "aryl-C₁₋₆-alkylcarbonyl" as defined for R⁶ preferably
15 means a C₂₋₄-alkyl group, whereby the aryl moiety and the carbonyl moiety are preferably attached to two different carbon atoms of the bridging C₂₋₄-alkyl group. Preferred examples of bridging C₁₋₆-alkyl groups as used in R⁶ being aryl-C₁₋₆-alkylcarbonyl are ethane-1,2-diyl, propane-1,2-diyl, propane-1,3-diyl, and 2-methyl-propane-1,2-diyl.

- In another embodiment a bridging C₁₋₆-alkyl group as used in "aryl-C₁₋₆-alkylcarbonyl" as
20 defined for R⁶ means the respective C₁₋₆-alkyl group, whereby the aryl moiety and the carbonyl moiety preferably are attached to the same carbon atom of the bridging C₁₋₆-alkyl group. Examples of such bridging C₁₋₆-alkyl groups as used in R⁶ being aryl-C₁₋₆-alkylcarbonyl are a methylene group (preferred) and ethane-1,1-diyl.

- A bridging C₁₋₃-alkyl group as used in "diaryl-C₁₋₃-alkylcarbonyl" as defined for R⁶
25 preferably means a C₂₋₃-alkyl group, whereby the carbonyl moiety and at least one of the aryl groups are preferably attached to two different carbon atoms of the bridging C₂₋₃-alkyl group. Preferred examples of such bridging C₁₋₃-alkyl groups as used in R⁶ being diaryl-C₁₋₃-alkylcarbonyl are ethane-1,2,2-triyl, and ethane-1,1,2-triyl.

- A bridging C₁₋₄-alkyl group as used in "R⁷-C₁₋₄-alkylcarbonyl, wherein the bridging
30 C₁₋₄-alkyl group may additionally be mono-substituted with aryl" as defined for R⁶ preferably means a C₂₋₄-alkyl group (particularly, if the additional aryl substituent is present, it means propane-1,2,3-triyl) whereby the group R⁷, the carbonyl moiety, and the aryl substituent (if present) preferably are attached to two (three, if the additional aryl substituent

is present) different carbon atoms of the bridging C₂₋₄-alkyl group. Examples of bridging C₁₋₄-alkyl groups as used in R⁶ being "R⁷-C₁₋₄-alkylcarbonyl, wherein the bridging C₁₋₄-alkyl group may additionally be mono-substituted with aryl" are ethane-1,2-diyl, propane-1,2-diyl, propane-1,3-diyl, 2-phenyl-propane-1,3-diyl, and 1-phenyl-propane-2,3-diyl; preferred are 2-phenyl-propane-1,3-diyl, and 1-phenyl-propane-2,3-diyl, especially 1-phenyl-propane-2,3-diyl.

An example of a bridging C₁₋₄-alkyl group as used in R⁶ being "R⁷-C₁₋₄-alkylcarbonyl, wherein the bridging C₁₋₄-alkyl group may additionally be disubstituted with hydroxy" is 1,2-dihydroxyethane-1,2-diyl.

The term "alkenyl" as used herein, alone or in any combination, refers to a straight or branched hydrocarbon chain containing 2-7, preferably 2-4, carbon atoms with at least one carbon-carbon double bond (R_aR_bC=CR_cR_d). R_a-R_d refer to substituents, each individually and independently selected from hydrogen and alkyl. Representative examples of alkenyl include, but are not limited to, ethenyl (also referred to as "vinyl"), 2-propenyl (also referred to as "allyl"), 2-methyl-2-propenyl, 3-butenyl, 4-pentenyl, and 5-hexenyl, especially ethenyl or 2-propenyl.

The term "C₁₋₂-alkylendioxy" as used herein, alone or in any combination, refers to an -O(CH₂)_nO- group, wherein n is 1 or 2, and wherein the oxygen atoms are attached to two adjacent carbon atoms of the parent molecular moiety, preferably the two adjacent carbon atoms of a phenyl ring.

The term "alkoxy" as used herein, alone or in any combination, refers to an alkyl group attached to the parent molecular moiety through an oxygen bridge. Representative examples of alkoxy include, but are not limited to, methoxy, ethoxy, propoxy, 2-propoxy, butoxy, *tert*-butoxy, pentoxy, and hexyloxy, especially methoxy.

The term "alkoxycarbonyl", as used herein, alone or in any combination, refers to an alkoxy group attached to the parent molecular moiety through a carbonyl group. Representative examples of alkoxycarbonyl include, but are not limited to, methoxycarbonyl, ethoxycarbonyl, *n*-propoxycarbonyl, and *iso*-butoxycarbonyl, especially methoxy. R⁶ representing alkoxycarbonyl preferably means *n*-propoxycarbonyl, and *iso*-butoxycarbonyl.

The term "alkylcarbonyl" as used herein, alone or in any combination, refers to an alkyl group attached to the parent molecular moiety through a carbonyl group. Representative examples of alkylcarbonyl include, but are not limited to, acetyl, 1-oxopropyl, 2,2-dimethyl-1-oxopropyl, 1-oxobutyl, and 1-oxopentyl. Further examples are 1-oxo-2-methyl-butyl, and 3,3-dimethyl-1-oxopropyl. Preferred are acetyl, 1-oxopropyl, 1-oxobutyl, 1-oxo-2-methyl-butyl, and 3,3-dimethyl-1-oxopropyl.

The term "alkylsulfonyl", as used herein, alone or in any combination, refers to an alkyl group attached to the parent molecular moiety through a sulfonyl group. Representative examples of alkylsulfonyl include, but are not limited to, methanesulfonyl and ethanesulfonyl, preferably methanesulfonyl.

The term "aminocarbonyl" (also referred to as "carbamoyl") as used herein, alone or in any combination, refers to an amino group attached to the parent molecular moiety through a carbonyl group.

The term "aryl" or "aryl group", as used herein, alone or in any combination, refers to an aromatic carbocyclic group from 6 to 14 carbon atoms having a single ring or multiple condensed rings, and preferably refers to a phenyl or naphthyl, very preferably to a phenyl group. An aryl group is preferably unsubstituted. In another embodiment the aryl group may be substituted as specifically described in the embodiments of the present invention. If an aryl group is mono- or di-substituted, preferred but not limiting examples are 4-trifluoromethyl-phenyl, 3-trifluoromethyl-phenyl, 2,5-bis-trifluoromethyl-phenyl, 3,5-bis-trifluoromethyl-phenyl, 3-trifluoromethoxy-phenyl, 4-chlorophenyl, 3-chlorophenyl, 2-chlorophenyl, 2,6-dichlorophenyl, 2,4-dichlorophenyl, 4-methylphenyl, 3-methylphenyl, 2-methylphenyl, 2,4-dimethylphenyl, 4-ethylphenyl, 4-isopropylphenyl, 4-*tert.*-butylphenyl, 4-fluorophenyl, 3-fluorophenyl, 2-fluorophenyl, 3,4-difluorophenyl, 4-iodophenyl, 3-bromophenyl, 2-bromophenyl, 4-methoxyphenyl, 3-methoxyphenyl, 2-methoxyphenyl, 2,3-dimethoxyphenyl, 2,4-dimethoxyphenyl, 2,5-dimethoxyphenyl, 4-hydroxyphenyl, 3-hydroxyphenyl, 2-hydroxyphenyl, 4-methylthio-phenyl, 4-methanesulfonyl-phenyl, and 3-*tert.*-butoxycarbonylamino-phenyl.

The term "arylalkenyl", as used herein, alone or in any combination, refers to an aryl group attached to the parent molecular moiety through an alkenyl group. Representative examples of arylalkenyl include, but are not limited to, 2-phenylethenyl, 3-phenylpropen-2-yl, and 2-naphth-2-ylethenyl.

5

The term "aryloxy", as used herein, alone or in any combination, refers to an aryl group attached to the parent molecular moiety through an oxygen bridge.

10

The term "arylsulfonyl", as used herein, alone or in any combination, refers to an aryl group attached to the parent molecular moiety through a sulfonyl group.

The term "carbonyl", as used herein, alone or in any combination, refers to a -C(O)- group.

15

The term "thiocarbonyl", as used herein, alone or in any combination, refers to a -C(S)- group.

The term "carboxy", as used herein, alone or in any combination, refers to a -CO₂H group.

20

The term "cyano", as used herein, alone or in any combination, refers to a -C≡N group.

The term "cycloalkyl", as used herein, alone or in any combination, refers to a saturated cyclic hydrocarbon moiety containing 3-10 carbon atoms (for example C₃₋₆-cycloalkyl means a cycloalkyl having 3 to 6 carbon atoms), preferably a cyclopentyl or cyclohexyl radical, whereby said radicals, especially the cyclopentyl radical, may be substituted with an annellated benzene ring. In another embodiment said benzene ring may be mono-, or di-substituted, wherein the substituent(s) are independently selected from C₁₋₄-alkyl, C₁₋₄-alkoxy, and halogen (especially C₁₋₄-alkoxy). In case the cycloalkyl group is used as a bridging group as for example in an "aryl-C₃₋₆-cycloalkylcarbonyl" group as defined for R⁶, it is preferably a cyclopropane-diyl, cyclopentane-diyl or cyclohexane-diyl radical (especially cyclopropane-1,2-diyl) said radical being preferably unsubstituted.

30

The term "formyl", as used herein, alone or in any combination, refers to a -C(O)H group.

The term "halo" or "halogen", as used herein, alone or in any combination, refers to fluorine, bromine, chlorine, or iodine, and unless specifically indicated otherwise, it refers to especially fluorine or chlorine.

- 5 The term "haloalkyl", as used herein, alone or in any combination, refers to an alkyl group having at least one hydrogen atom replaced with a halogen atom. Representative examples of haloalkyl include, but are not limited to, chloromethyl, 2-fluoroethyl, trifluoromethyl, pentafluoroethyl, and 2-chloro-3-fluoropentyl, preferably trifluoromethyl.
- 10 The term "haloalkoxy", as used herein, alone or in any combination, refers to an alkoxy group having at least one hydrogen atom replaced with a halogen atom. Representative examples of haloalkoxy include, but are not limited to, chloromethoxy, 2-fluoroethoxy, trifluoromethoxy, and pentafluoroethoxy, preferably trifluoromethoxy.
- 15 The term "heterocyclyl", as used herein, alone or in any combination, refers to a monocyclic, bicyclic or polycyclic non-aromatic ring system containing up to 15 ring atoms (preferably 5 to 10 ring atoms), at least one of these being a heteroatom, preferably one to three heteroatoms, independently selected from nitrogen, oxygen or sulfur, preferably nitrogen. This ring system may be saturated, partially saturated, or unsaturated, and
- 20 preferably contains one or two ring heteroatoms selected from nitrogen. Representative examples of heterocyclyl include, but are not limited to, dihydroindolyl (especially dihydroindol-2-yl) and chromane (especially chroman-3-yl).

- The term "heteroaryl", as used herein, alone or in any combination, has the meaning as
- 25 defined for heterocyclyl above, with the difference that the ring system is aromatic.

- The term "heteroarylalkyl", as used herein, alone or in any combination, refers to a heteroaryl group attached to the parent molecular moiety through an alkyl group. Representative examples of heteroarylalkyl include, but are not limited to, thienylalkyl
- 30 (especially thien-2-ylalkyl), isoxazolylalkyl (especially 3-chloro-isoxazole-5-ylalkyl), pyridylalkyl (especially pyridine-3-ylalkyl), pyrimidylalkyl (especially pyrimidine-2-ylalkyl), indolylalkyl (especially indol-3-ylalkyl), and benzoimidazolylalkyl (especially

benzoimidazol-2-ylalkyl).

The term "heteroarylcarbonyl", as used herein, alone or in any combination, refers to a heteroaryl group attached to the parent molecular moiety through a carbonyl group. A
5 representative example of heteroarylcarbonyl includes, but is not limited to, indolylcarbonyl (especially indol-2-ylcarbonyl).

The term "heteroarylamino", as used herein, alone or in any combination, refers to a heteroaryl group attached to the parent molecular moiety through an amino group. A
10 representative example of heteroarylamino includes, thiadiazolylamino (especially 1,3,4-thiadiazol-2-yl-amino).

The term "heterocyclylcarbonyl", as used herein, alone or in any combination, refers to a heterocyclyl group attached to the parent molecular moiety through a carbonyl group. A
15 representative example of heterocyclylcarbonyl includes, dihydroindolylcarbonyl (especially dihydroindol-2-ylcarbonyl) and chromanecarbonyl (especially chroman-3-ylcarbonyl).

The term "hydroxy" or "hydroxyl" as used herein, alone or in any combination, refers to an
20 -OH group

The term "nitro", as used herein, alone or in any combination, refers to a -NO₂ group.

The term "oxo", as used herein, alone or in any combination, refers to an =O group.
25

The term "oxy", as used herein, alone or in any combination, refers to an -O- group.

The terms "sulfonyl", as used herein, alone or in any combination, refer to an -S(O)₂- group.

30 The term "acyl" as used herein refers to groups containing a carbonyl group that is linked to a carbon atom such as C₁₋₉-alkylcarbonyl, arylalkenylcarbonyl, aryl-C₁₋₆-alkylcarbonyl, aryl-C₁₋₃-alkoxy-C₁₋₃-alkylcarbonyl, arylcarbonyl, arylcarbonyl-C₁₋₄-alkylcarbonyl, aryloxy-C₁₋₃-alkylcarbonyl, cycloalkyl-C₁₋₃-alkylcarbonyl, diaryl-C₁₋₃-alkylcarbonyl,

heterocyclylcarbonyl, heteroaryl-C₁₋₃-alkylcarbonyl, heteroarylcarbonyl, aryl-C₃₋₆-cycloalkylcarbonyl, cycloalkylcarbonyl, or R⁷-C₁₋₄-alkylcarbonyl groups as used in R⁶ of Formula I.

In analogy, the term "acylamino" as used herein refers to an acyl group as described before that is linked to the parent molecular moiety through a nitrogen atom.

The term "ureido" as used herein refers to groups such as C₁₋₉-alkylaminocarbonyl, arylaminocarbonyl, or aryl-C₁₋₃-alkylaminocarbonyl that are linked to the parent molecular moiety through a nitrogen atom.

The term "oxycarbonylamino" as used herein refers to groups such as C₁₋₉-alkoxycarbonyl, aryl-C₁₋₃-alkoxycarbonyl, or aryl-C₁₋₃-alkoxy-C₁₋₃-alkoxycarbonyl that are linked to the parent molecular moiety through a nitrogen atom.

The compounds of Formula I may contain one or more stereogenic or asymmetric centers, such as one or more asymmetric carbon atoms. Substituents at a double bond or a ring may be present in cis- (= Z-) or trans (= E-) form unless indicated otherwise. The compounds of Formula I may thus be present as mixtures of stereoisomers or preferably as pure stereoisomers. Mixtures of stereoisomers may be separated in a manner known to a person skilled in the art.

The compounds of the present invention have useful, in particular pharmacologically useful, properties. They bind to the CRTH2 receptor and thus modulate the effects of endogenous PGD₂. The compounds according to Formula I may be used for the preparation of a medicament, and are suitable, for the prevention and/or treatment of diseases selected from the group consisting of chronic and acute allergic/immune diseases/disorders, comprising allergic asthma, rhinitis, allergic rhinitis, chronic obstructive pulmonary disease (COPD), dermatitis, inflammatory bowel disease, rheumatoid arthritis, allergic nephritis, conjunctivitis, atopic dermatitis, bronchial asthma, food allergy, systemic mast cell disorders, anaphylactic shock, urticaria, eczema, itching, inflammation, ischemia-reperfusion injury, cerebrovascular disorders, pleuritis, ulcerative colitis, eosinophil-related diseases comprising Churg-Strauss syndrome and sinusitis, and basophil-related diseases, comprising basophilic leukemia and basophilic leukocytosis, in humans and other mammals.

A compound of Formula I or a pharmaceutical composition comprising a compound of Formula I may be used for the preparation of a medicament, and is suitable, for the prevention and/or treatment of diseases selected from the group consisting of both chronic and acute allergic/immune diseases/disorders such as those mentioned in the paragraph
5 before, such as especially allergic asthma, rhinitis, allergic rhinitis, COPD, dermatitis, inflammatory bowel disease, and rheumatoid arthritis.

In another aspect, the compounds of Formula I may be used as standard or reference compounds in tests or assays involving the modulation of the CRTH2 receptor. Such
10 compounds could be made commercially available for use as a reference, quality standard or control, for example in pharmaceutical research when developing new assays or protocols related to CRTH2 receptor activity.

As mentioned earlier, compounds of Formula I modulate the PGD₂ activation of the CRTH2
15 receptor. The biological effect of such compounds may be tested in a variety of *in vitro*, *ex vivo* and *in vivo* assays. The ability of the compounds of Formula I to bind to the CRTH2 receptor may be measured by methods similar to those described in the literature (Arimura A. *et al.*, *J. Pharmacol. Exp. Ther.* **2001**, 298(2), 411-419; and Sawyer N. *et al.*, *Br. J. Pharmacol.* **2002**, 137, 1163-1172, respectively) and by the assays described below in the
20 experimental part.

A functional assay with cells expressing the human CRTH2 (hCRTH2) receptor may be used to detect changes in the levels of intracellular calcium concentration following compound treatment. After addition of the compound, the cells are challenged with PGD₂.
25 In a Fluorescent Imaging Plate Reader (FLIPRTM, Molecular Devices, Sunnyvale, California), fluorescence emission is recorded during both additions, emission peak values above base level after PGD₂ addition are exported, and normalized to low controls (no PGD₂) and high controls (no active compound). The relative values of the remaining activity are used to determine IC₅₀ values by curve fitting the data to a single site to a four-
30 parameter logistic sigmoid dose response curve of the equation $(A + ((B - A) / (1 + ((C/x)^D))))$.

The ability of the compounds to modulate PGD₂ induced changes of intracellular calcium

levels *via* CRTH2 receptor activation may be measured by methods known to one skilled in the art or by the assay described below in the experimental part.

The present invention relates also to pharmaceutical compositions comprising a compound
5 of Formula **I**, or a pharmaceutically acceptable salt thereof, and a pharmaceutically acceptable carrier; to the use of such pharmaceutical compositions for the therapeutic, in a broader aspect of the invention also prophylactic, treatment of the diseases/disorders mentioned herein; to the compounds of Formula **I**, or pharmaceutically acceptable salts thereof, for use as a medicament; and to the use of a compound of Formula **I**, or a
10 pharmaceutically acceptable salt thereof, for the preparation of a pharmaceutical composition for the prevention and/or treatment of the diseases/disorders mentioned herein.

The pharmaceutical compositions according to the invention are those for enteral administration, such as nasal, buccal, rectal, dermal or, especially oral administration, and
15 for parenteral administration, such as intramuscular, intravenous or subcutaneous, intrasternal, intravitreal, injection or infusion, to warm-blooded animals, especially humans. Such compositions comprise an effective dose of the pharmaceutically active ingredient, alone or together with a pharmaceutically acceptable carrier. The dosage of the active ingredient depends on the species of warm-blooded animal, the body weight, the age and the
20 individual conditions, individual pharmacokinetic data, the disease/disorder to be treated and the mode of administration.

The production of the pharmaceutical compositions can be effected in a manner which will be familiar to any person skilled in the art (see for example Mark Gibson, Editor,
25 Pharmaceutical Preformulation and Formulation, IHS Health Group, Englewood, CO, USA, 2001; Remington, *The Science and Practice of Pharmacy*, 20th Edition, Philadelphia College of Pharmacy and Science) by bringing the described compounds of Formula **I** or their pharmaceutically acceptable salts, optionally in combination with other therapeutically valuable substances, into a galenical administration form together with suitable, non-toxic,
30 inert, therapeutically compatible solid or liquid carrier materials and, if desired, usual pharmaceutical adjuvants.

In one embodiment, the invention also relates to a method for the prevention or treatment of diseases/disorders that respond to an inhibition of the CRTH2 receptor in particular to a method for the prevention or treatment of the diseases/disorders mentioned herein, said methods comprising administering to a patient a pharmaceutically active amount of a compound of Formula I, or a pharmaceutically acceptable salt thereof.

A further aspect of the invention is a process for the preparation of compounds of Formula I. Compounds according to Formula I of the present invention can be prepared according to the sequence of reactions outlined in the schemes below wherein R^1 , R^2 , R^3 , R^4 , R^5 , R^6 and R^7 are as defined for Formula I. Other abbreviations used are defined in the experimental section. In some instances the generic groups R^1 , R^2 , R^3 , R^4 , R^5 , R^6 and R^7 might be incompatible with the assembly illustrated in the schemes below and, therefore, will require the use of protecting groups (PG). For example it may be necessary to protect reactive functional groups such as hydroxy, amino, imino, thio or carboxy groups, where these are desired in the final product, to avoid their unwanted participation in the reactions. The use of protecting groups is well known in the art (see for example "Protective Groups in Organic Synthesis", T.W. Greene, P.G.M. Wuts, Wiley-Interscience, 1999). It will be assumed that such protecting groups are as necessary in place. In the following description, for example, PG, when used as amino-protecting group, preferably refers to a group such as *tert*-butoxycarbonyl, benzyloxycarbonyl, or allyloxycarbonyl, most preferably *tert*-butoxycarbonyl. Further, L refers to a leaving group, such as activated (for examples as mesylate, active ester etc.) or non-activated hydroxy, or halo, in particular chloro or bromo. Further, R and R' independently refer to a C₁₋₄-alkyl group, preferably ethyl or *tert*-butyl, whereby when R' is present R is preferably ethyl and R' is preferably *tert*-butyl.

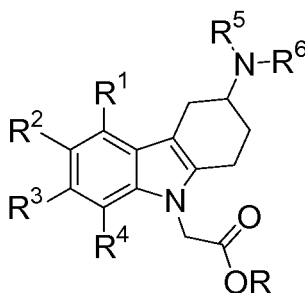
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In general, all chemical transformations can be performed according to well-known standard methodologies as described in the literature, for example those described by Larock R. C. in "Comprehensive organic transformations: a guide to functional group preparations", VCH publishers, 1999, or as described in the procedures below. The compounds obtained may also be converted into pharmaceutically acceptable salts thereof in a manner known *per se*.

30

Generally, compounds of Formula I are obtained from an ester of Structure 1, wherein R represents C₁₋₄-alkyl, preferably ethyl, or *tert*-butyl, by hydrolysis of the ester group using

routine procedures, for example stirring an intermediate of Structure **1** with aq. lithium, sodium or potassium hydroxide in an organic co-solvent such as an alcohol, like MeOH or EtOH; THF; acetone; MeCN; or TFA, respectively.



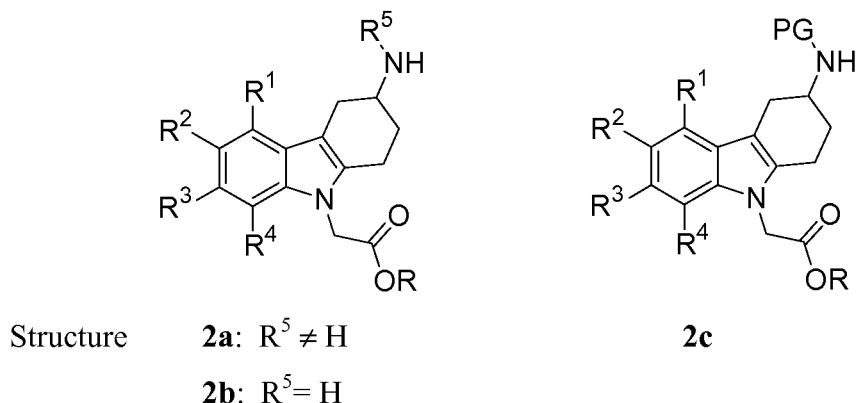
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Structure 1, wherein R represents C₁₋₄-alkyl

An intermediate of Structure **1** is obtained by reacting an intermediate of Structure **2a** or **2b**, or a salt thereof, such as the hydrochloride salt, with a reagent of Formula L-R⁶, wherein R⁶ is as defined for Formula **I** and L is a leaving group as defined before. R⁶ transferring reagent of Structure L-R⁶ may be a chloroformate; or an acyl halide, preferably an acid chloride, or acid bromide, used as such; or generated *in situ* from the corresponding commercially available or well known carboxylic acid with an activating reagent, such as a halogenating reagent under conditions known to a skilled person, preferably by means of oxalyl chloride or phosphorous oxychloride; or an acyl anhydride, transferring R⁶ in the presence of a base, such as Et₃N, DIEA, *N*-ethyl-morpholine, *N*-methylpiperidine, or pyridine, in a suitable solvent, such as THF, or DCM.

In another aspect, an intermediate of Structure **2a** or **2b** is condensed with a commercially available or well known carboxylic acid in the presence of a coupling reagent, such as DCC, diisopropylcarbodiimide, HATU and the like, in the presence of a base described
20 hereinabove, to form an intermediate of Structure **1**.

In a further aspect, an intermediate of Structure **2a** or **2b** is reacted with a commercially available isocyanate or isothiocyanate in the presence of a base to form an intermediate of Structure **1**.



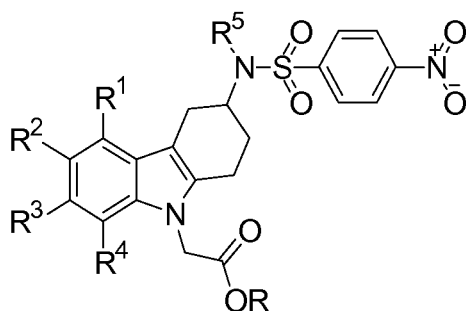
5 In a specific case, intermediates of Structure **1**, wherein R^4 represents an C_{1-5} -alkyl, allyl, vinyl, or a methanesulfonyl group, is obtained by reacting intermediates of Structure **2c** wherein R^4 represents halogen, preferably I or Br, or a methanesulfonyloxy, or a toluenesulfonyloxy group, with reagents such as tetramethyltin, allyltributyltin, a complex of vinylboronic anhydride and pyridine together with a base, such as K_2CO_3 , in the presence of a palladium catalyst such as *tetrakis*(triphenylphosphine)palladium(0), or the like, or sodium methanesulfinate in the presence of copper (I) iodide, respectively, in a polar aprotic solvent such as DMF, or DME, or NMP, at a temperature between 60°C and 130°C.

15 A substituent R^5 in an intermediate of Structure **2a** is obtained by reacting an intermediate of Structure **2b** with the respective aldehyde in a solvent such as DCM or the like in presence of a reducing agent, such as sodium triacetoxyborohydride, and a base, such as DIEA.

20 Alternatively, an intermediate of Structure **2a**, wherein R^5 is not hydrogen, is obtained from an intermediate of Structure **2b** via a sulfonamide of Structure **3a**. First, an intermediate of Structure **2b** is reacted with *p*-nitrobenzenesulfonyl chloride in a solvent such as DCM, THF or another suitable organic solvent, in the presence of a base, such as DIEA, with or without a catalytic amount of *N,N*-dimethyl-aminopyridine, to afford the desired sulfonamide of Structure **3a**. In a second step, in order to afford a sulfonamide of Structure **3b**, the sulfonamide of Structure **3a** is easily alkylated with the respective commercially available or well known alkylating agent R^5-L , with K_2CO_3 or any other suitable base, in an organic solvent, such as toluene, preferably in the presence of a phase transfer agent, such as tetrabutylammonium bromide in accordance to a procedure described in the literature (C. Peña *et al.*, *Tetrahedron Lett.* **2005**, 46, 2783-2787). Specifically, a methyl group is

introduced by reaction of a sulfonamide of Structure **3a** either with methyl iodide or with diazomethane dissolved in diethylether.

Subsequently, the sulfonamide of Structure **3b** is treated in a typical procedure according to S.C. Miller and coworker (*J. Am. Chem. Soc.* **1997**, *119*, 2301-2302) with a thiol, such as thiophenol, or thioacetic acid, in the presence of a base, such as DBU or the like, in a suitable organic solvent, such as DMF, to remove the sulfonamido group, furnishing an intermediate of Structure **2a**.

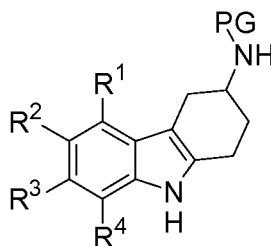


Structure **3a**, wherein R^5 represents H
3b, wherein $R^5 \neq H$

An intermediate of Structure **2b** is obtained after removal of the protective group (PG) from an intermediate of Structure **2c**, applying reaction conditions known to a skilled person. Preferably, the PG is a group such as *tert*-butoxycarbonyl, benzyloxycarbonyl, or allyloxycarbonyl, most preferably *tert*-butoxycarbonyl.

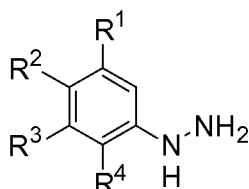
An intermediate of Structure **2c** is generated by reacting an intermediate of Structure **4** with a compound of Formula $L-CH_2CO_2R$ wherein R and L are as defined before, in the presence of a base, such as cesium carbonate, sodium hydride, potassium *tert*-butanolate or the like, in a suitable solvent, such as acetone, MeCN, THF or dioxane. Suitable L is a leaving group such as halo, in particular bromo or chloro; mesyloxy or tosyloxy. Preferably, the compound of Formula $L-CH_2CO_2R$ is ethyl bromoacetate.

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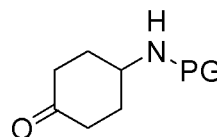


Structure 4

An intermediate of Structure 4, with PG as described hereinabove, is obtained in a Fischer-type indole synthesis according to the literature (J. D. Ha *et al.*, *Bulletin of the Korean Soc. Chem.* **2004**, 25, 1784-1790): reaction of a commercially available or well known hydrazine of Structure 5 (either as a free base or as a salt) and a cyclohexanone of Structure 6, which is commercially available or whose synthesis is as described in the above mentioned literature, furnishes the desired intermediate of Structure 4 as a racemate.



Structure 5

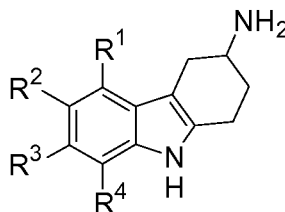


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In another aspect, an intermediate of Structure 4 is obtained through protection of the amino group in a tetrahydrocarbazol-3-ylamine of Structure 7 with a hereinabove described PG applying methods known to a skilled person.

15



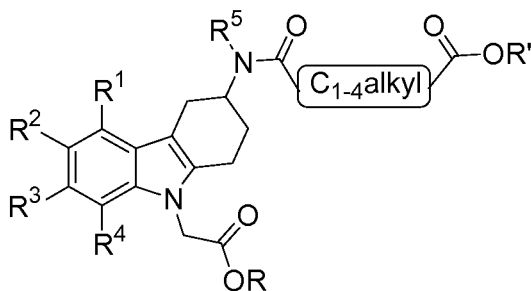
Structure 7

Both, the (*R*)- and the (*S*)-enantiomer of starting tetrahydrocarbazol-3-ylamine of Structure 7 are obtained in a stereospecific reaction following a procedure described in literature (Rosentreter U. *et al.*, *Arzneim.-Forsch.* **1989**, 39(12), 1519-1521; and EP 0242518).

20

A synthesis of racemic ethyl (3*RS*)-(3-amino-1,2,3,4-tetrahydro-9*H*-carbazol-9-yl)-acetate hydrochloride is described in the literature (Ulven, T.; Kostenis, E. *J. Med. Chem.* **2005**, 48, 897-900).

- 5 A stereoselective synthesis of methyl (3*R*)-(3-*tert*-butoxycarbonylamino-1,2,3,4-tetrahydro-9*H*-carbazol-9-yl)-acetate is described in WO 03/097598.



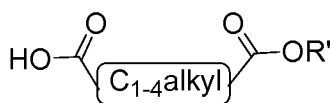
Structure **8a**, wherein R' represents H and R represents C₁₋₄-alkyl
8b, wherein R' and R independently represent C₁₋₄-alkyl

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In a particular case, a compound of Structure **1**, wherein R⁶ represents "R⁷-C₁₋₄-alkylcarbonyl, wherein the bridging C₁₋₄-alkyl group may additionally be mono-substituted with aryl, and R⁷ represents arylaminocarbonyl, heteroarylaminocarbonyl, C₁₋₆-alkylaminocarbonyl, or aryl-C₁₋₃-alkylaminocarbonyl", is obtained by reaction of the
 15 respective compound of Structure **8a** with the respective amine, in the presence of a coupling reagent, such as DCC, diisopropylcarbodiimide, HATU or the like, in the presence Et₃N, DIEA, or the like, in a solvent such as DCM or DMF.

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A compound of Structure **8a** wherein the bridging C₁₋₄-alkyl group may additionally be mono-substituted with aryl is obtained by treating a respective compound of Structure **8b**, wherein R' represents C₁₋₄-alkyl, preferentially *tert*-butyl, as a protecting group, with reaction with TFA in DCM or hydrochloric acid in an organic solvent, such as dioxane, diethylether, AcOEt, or the like, at room temperature.



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Structure **9**, wherein R' represents C₁₋₄-alkyl

A compound of Structure **8b**, is obtained by reacting a compound of Structure **2a** or **2b** with the corresponding compound of Structure **9**, wherein the bridging C₁₋₄-alkyl group may additionally be mono-substituted with aryl, which are commercially available or synthesized according to well known methods such as enolate alkylation (see for example: J. Org. Chem. **1986**, 51(6), 938-940), in the presence of a coupling reagent, such as DCC, diisopropylcarbodiimide, HATU, or the like, in the presence of a base such as Et₃N, DIEA, or the like, in a solvent such as DCM or DMF.

Whenever the compounds of Formula I are obtained in the form of mixtures of enantiomers, the enantiomers can be separated using methods known to the one skilled in the art: e.g. by formation and separation of diastereomeric salts or by HPLC over a chiral stationary phase such as a Regis Whelk-O1(R,R) (10 µm) column, a Daicel ChiralCel OD-H (5-10 µm) column, or a Daicel ChiralPak IA (10 µm) or AD-H (5 µm) column. Typical conditions of chiral HPLC are an isocratic mixture of eluent A (EtOH, in presence or absence of an amine such as Et₃N, diethylamine) and eluent B (hexane), at a flow rate of 0.8 to 150 mL/min.

Experimental section:Abbreviations (as used herein):

	AcOEt	Ethyl acetate
	AcOH	Acetic acid
5	aq.	aqueous
	Bdg	Binding
	BSA	Bovine Serum Albumin
	CC	Column chromatography on silica gel
	DBU	1,8-Diazabicyclo[5.4.0]undec-7-ene
10	DCC	1,3-Dicyclohexylcarbodiimide
	DCM	Dichloromethane
	DIEA	<i>N,N</i> -Diisopropylethylamine
	DMAP	<i>N,N</i> -Dimethyl-4-aminopyridine
	DME	Dimethoxyethane
15	DMF	Dimethylformamide
	DMSO	Dimethylsulfoxide
	EDTA	Ethylene Diamine Tetraacetic Acid
	ESI-MS	Electrospray Ionization Mass Spectroscopy
	Et ₃ N	Triethylamine
20	FC	Flash chromatography on silica gel
	h	hour(s)
	HATU	<i>O</i> -(7-Aza-1 <i>H</i> -benzotriazole-1-yl)-1,1,3,3-tetramethyluronium hexafluorophosphate
	HPLC	High Performance Liquid Chromatography
25	l	liter(s)
	LC-MS	Liquid Chromatography – Mass Spectroscopy
	Me	Methyl
	MeCN	Acetonitrile
	MeI	Methyl iodide
30	MeOH	Methanol
	mesyl	Methanesulfonyl
	Meth.	Method
	min	minute(s)

	MS	Mass Spectroscopy
	MW	Molecular Weight
	N	Normality of solution
	NaBH(OAc) ₃	Sodium triacetoxyborohydride
5	NMP	<i>N</i> -Methylpyrrolidinone
	org.	organic
	PBS	Phosphate Buffered Saline
	PG	Protecting Group
	PGD ₂	Prostaglandin D ₂
10	PMSF	Phenylmethylsulfonyl fluoride
	rt	room temperature
	s	second(s)
	sat.	saturated
	subst.	substituted
15	TFA	Trifluoroacetic acid
	THF	Tetrahydrofuran
	tlc	thin layer chromatography
	tosyl	Toluenesulfonyl
	t _R	retention time
20	Tris	Tris-(hydroxymethyl)aminomethane buffer

Chemistry

General remarks

25 All solvents and reagents are used as obtained from commercial sources unless otherwise indicated.

Temperatures are indicated in degrees Celsius (°C). Unless otherwise indicated, the reactions take place at room temperature (rt).

In mixtures, relations of parts of solvent or eluent or reagent mixtures in liquid form are given as volume relations (v/v), unless indicated otherwise.

30 Analytical HPLC conditions as used in the Examples below:

HPLC/MS analyses are performed on a Waters 2795 Alliance HPLC instrument, equipped with a Waters 996 Photodiode Array Detector and a Micromass ZQTM Waters mass spectrometer (electron spray ionization), detection at 200-400 nm (LC-1 and LC-2), or on a Agilent 1100 system, equipped with a Dionex P580 binary pump, a Dionex PDA-100
5 Photodiode Array Detector and a Finnigan AQA mass spectrometer (LC-3).

The LC retention times are obtained using the following elution conditions:

- LC-1: Analytical HPLC on a XterraTM MS C18 column (4.6x50 mm, 5 μ m, Waters); Linear gradient of water/ 0.06% formic acid (A) and MeCN/ 0.06% formic acid (B) from 5% to 95% B over 1 min; flow rate 3 ml/min, detection at 215 nm.

10

- LC-2: Analytical HPLC on a Zorbax[®] SB-AQ column (4.6x50 mm, 5 μ m, Agilent); Linear gradient of water/ 0.06% formic acid (A) and MeCN/ 0.06% formic acid (B) from 5% to 95% B over 1 min; flow rate 3 ml/min, detection at 215 nm.

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- LC-3: Analytical HPLC on a Zorbax[®] SB-AQ column (4.6x50 mm, 5 μ m, Agilent); Linear gradient of water/ 0.05% TFA (A) and MeCN (B) from 5% to 95% B over 1 min; flow rate 4.5 ml/min, detection at 215 nm.

Preparative HPLC/MS purifications are performed on a Waters HPLC system, equipped with a Waters 600 controller, a Waters 2767 sample manager, a Waters 996 Photodiode
20 Array Detector, and a Micromass ZQTM Waters mass spectrometer (electron spray ionization), detection at 200-400 nm, using a Zorbax[®] PrepHT SB.Aq (5 μ m, 21.2x50 mm) or a Phenomenex[®] Gemini column (10 μ m, 21.2x50 mm), with a linear gradient of water/ 0.02% formic acid (A) and MeCN/ 0.02% formic acid (B) over 5 min; flow rate 4 ml/min, detection at 215 nm.

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¹H NMR spectra are recorded either on a Varian Mercury 300VX FT-NMR spectrometer or on a Bruker Advance II 400 spectrometer. Chemical shifts (δ) are reported in parts per million (ppm) relative to proton resonances resulting from incomplete deuteration of the NMR solvent, *e.g.* for dimethylsulfoxide δ (H) 2.49 ppm, for chloroform δ (H) 7.24 ppm, and the abbreviations *s*, *d*, *t*, *q*, *m* and *br* refer to singlet, doublet, triplet, quartet, multiplet, and
30 broad, respectively.

Synthesis of Compounds of Formula I:

The following examples illustrate the preparation of pharmacologically active compounds of the invention but do not at all limit the scope thereof. First the synthesis of Example compounds is described, followed by the description of the synthesis of intermediates and starting materials. Whenever used in the experimental part, generic Structures **1** to **9** refer to the Structures described in preceeding general description of the preparation of compounds of Formula **I**.

General method for saponification of intermediates of Structure 1:

- 10 Aq. 1N LiOH or 1N NaOH (1 ml, 1 mmol) is added to a stirred solution of the appropriate compound of Structure **1** (0.105 mmol) in THF (1 ml) and the resulting biphasic mixture is continued to stir overnight. DCM (2 ml) and AcOH (1 ml), or 2N HCl, are added to the reaction mixture. The aq. layer, obtained after phase separation, is extracted three times with DCM (1 ml). The combined org. phases are washed with brine and dried over Na₂SO₄ and
 15 the solvent is evaporated. Purification is performed by CC with a 1:1 mixture of AcOEt/heptane containing 1% AcOH, or by preparative HPLC to give the desired compound of Formula **I** in 6 to 98% yield.

Listed in Table 1 below are examples of compounds of Formula **I**, prepared according to the above-mentioned method with the corresponding compound of Structure **1** as starting material.

Table 1

Example	Compound of Formula I	Formula MW	t _R [min]	MS
			LC-MS Method	Data m/z [M+H] ⁺
1	(3 <i>R</i>)-[3-(3-Butyl-ureido)-1,2,3,4-tetrahydro-9 <i>H</i> -carbazol-9-yl]-acetic acid	C ₁₉ H ₂₅ N ₃ O ₃ 343.426	1.01 LC-1	344.08
2	(3 <i>R</i>)-[3-(3-Benzyl-ureido)-1,2,3,4-tetrahydro-9 <i>H</i> -carbazol-9-yl]-acetic acid	C ₂₂ H ₂₃ N ₃ O ₃ 377.443	1.15 LC-1	378.04
3	(3 <i>R</i>)-[3-(3-Phenethyl-ureido)-1,2,3,4-tetrahydro-9 <i>H</i> -carbazol-9-yl]-acetic acid	C ₂₃ H ₂₅ N ₃ O ₃ 391.47	1.32 LC-1	392.05

4	(3 <i>R</i>)-[3-(3-Naphthalen-1-yl-ureido)-1,2,3,4-tetrahydro-9 <i>H</i> -carbazol-9-yl]-acetic acid	C25H23N3O3 413.476	1.7 LC-1	413.97
5	(3 <i>R</i>)-[3-(3-Phenylsulfonyl-ureido)-1,2,3,4-tetrahydro-9 <i>H</i> -carbazol-9-yl]-acetic acid	C21H21N3O5S 427.48	1.13 LC-1	[M+Na] ⁺ 449.90
6	(3 <i>R</i>)-[3-(<i>tert</i> -Butoxycarbonylamino-1,2,3,4-tetrahydro-9 <i>H</i> -carbazol-9-yl)-acetic acid	C19H24N2O4 344.10	1.05 LC-1	[M+Na] ⁺ 367.07
7	(3 <i>R</i>)-[3-(Propoxycarbonylamino-1,2,3,4-tetrahydro-9 <i>H</i> -carbazol-9-yl)-acetic acid	C18H22N2O4 330.383	1.35 LC-1	331.03
8	(3 <i>R</i>)-[3-(Isobutoxycarbonylamino-1,2,3,4-tetrahydro-9 <i>H</i> -carbazol-9-yl)-acetic acid	C19H24N2O4 344.41	1.69 LC-1	345.03
9	(3 <i>R</i>)-[3-(Benzyloxycarbonylamino-1,2,3,4-tetrahydro-9 <i>H</i> -carbazol-9-yl)-acetic acid	C22H22N2O4 378.427	1.82 LC-1	[M+Na] ⁺ 400.96
10	(3 <i>R</i>)-[3-(2-Benzyloxy-ethoxycarbonylamino)-1,2,3,4-tetrahydro-9 <i>H</i> -carbazol-9-yl]-acetic acid	C24H26N2O5 422.479	1.77 LC-1	[M+Na] ⁺ 444.94
11	(3 <i>R</i>)-[3-(Benzoylamino-1,2,3,4-tetrahydro-9 <i>H</i> -carbazol-9-yl)-acetic acid	C21H20N2O3 348.401	1.00 LC-2	349.00
12	(3 <i>R</i>)-[3-(2-Phenoxy-acetylamino)-1,2,3,4-tetrahydro-9 <i>H</i> -carbazol-9-yl]-acetic acid	C22H22N2O4 378.427	1.43 LC-1	379.04
13	(3 <i>R</i>)-[3-(Phenylacetylamino-1,2,3,4-tetrahydro-9 <i>H</i> -carbazol-9-yl)-acetic acid	C22H22N2O3 362.428	1.21 LC-1	363.02
14	(3 <i>R</i>)-[3-(2-Thiophen-2-yl-acetylamino)-1,2,3,4-tetrahydro-9 <i>H</i> -carbazol-9-yl]-acetic acid	C20H20N2O3S 368.456	1.11 LC-1	368.96
15	(3 <i>R</i>)-[3-(3-Phenyl-propionylamino)-1,2,3,4-tetrahydro-9 <i>H</i> -carbazol-9-yl]-acetic acid	C23H24N2O3 376.455	1.36 LC-1	377.04
16	(3 <i>R</i>)-[3-(2-Benzyloxy-acetylamino)-1,2,3,4-tetrahydro-9 <i>H</i> -carbazol-9-yl]-acetic acid	C23H24N2O4 392.454	1.44 LC-1	392.98
17	(3 <i>R</i>)-[3-(3-Methyl-butrylamino)-1,2,3,4-tetrahydro-9 <i>H</i> -carbazol-9-yl]-acetic acid	C19H24N2O3 328.411	0.97 LC-1	329.08
18	(3 <i>R</i>)-[3-(3-Cyclopentyl-propionylamino)-1,2,3,4-tetrahydro-9 <i>H</i> -carbazol-9-yl]-acetic acid	C22H28N2O3 368.475	1.77 LC-1	369.07

19	(3 <i>R</i>)-(3-Decanoylamino-1,2,3,4-tetrahydro-9 <i>H</i> -carbazol-9-yl)-acetic acid	C24H34N2O3 398.545	2.77 LC-1	399.10
20	(3 <i>S</i>)-[3-(3-Butyl-ureido)-1,2,3,4-tetrahydro-9 <i>H</i> -carbazol-9-yl]-acetic acid	C19H25N3O3 343.426	0.98 LC-2	344.18
21	(3 <i>S</i>)-[3-(3-Benzyl-ureido)-1,2,3,4-tetrahydro-9 <i>H</i> -carbazol-9-yl]-acetic acid	C22H23N3O3 377.443	0.99 LC-2	378.18
22	(3 <i>S</i>)-[3-(3-Phenethyl-ureido)-1,2,3,4-tetrahydro-9 <i>H</i> -carbazol-9-yl]-acetic acid	C23H25N3O3 391.47	1.01 LC-2	392.17
23	(3 <i>S</i>)-[3-(3-Phenylsulfonyl-ureido)-1,2,3,4-tetrahydro-9 <i>H</i> -carbazol-9-yl]-acetic acid	C21H21N3O5S 427.48	0.99 LC-2	428.05
24	(3 <i>S</i>)-[3-(3-Phenyl-ureido)-1,2,3,4-tetrahydro-9 <i>H</i> -carbazol-9-yl]-acetic acid	C21H21N3O3 363.416	1.00 LC-2	364.13
25	(3 <i>S</i>)-(3-Propoxycarbonylamino-1,2,3,4-tetrahydro-9 <i>H</i> -carbazol-9-yl)-acetic acid	C18H22N2O4 330.383	1.01 LC-2	331.17
26	(3 <i>S</i>)-(3-Isobutoxycarbonylamino-1,2,3,4-tetrahydro-9 <i>H</i> -carbazol-9-yl)-acetic acid	C19H24N2O4 344.41	1.04 LC-2	345.15
27	(3 <i>S</i>)-(3-Benzoyloxycarbonylamino-1,2,3,4-tetrahydro-9 <i>H</i> -carbazol-9-yl)-acetic acid	C22H22N2O4 378.427	1.06 LC-2	379.15
28	(3 <i>S</i>)-[3-(2-Benzoyloxy-ethoxycarbonylamino)-1,2,3,4-tetrahydro-9 <i>H</i> -carbazol-9-yl]-acetic acid	C24H26N2O5 422.479	1.06 LC-2	423.20
29	(3 <i>S</i>)-[3-(2-Phenoxy-acetylamino)-1,2,3,4-tetrahydro-9 <i>H</i> -carbazol-9-yl]-acetic acid	C22H22N2O4 378.427	1.02 LC-2	379.08
30	(3 <i>S</i>)-(3-Phenylacetylamino-1,2,3,4-tetrahydro-9 <i>H</i> -carbazol-9-yl)-acetic acid	C22H22N2O3 362.428	1.00 LC-2	363.16
31	(3 <i>S</i>)-[3-(2-Thiophen-2-yl-acetylamino)-1,2,3,4-tetrahydro-9 <i>H</i> -carbazol-9-yl]-acetic acid	C20H20N2O3S 368.456	0.99 LC-2	369.11
32	(3 <i>S</i>)-[3-(3-Phenyl-propionylamino)-1,2,3,4-tetrahydro-9 <i>H</i> -carbazol-9-yl]-acetic acid	C23H24N2O3 376.455	1.02 LC-2	377.08
33	(3 <i>S</i>)-[3-(2-Benzoyloxy-acetylamino)-1,2,3,4-tetrahydro-9 <i>H</i> -carbazol-9-yl]-acetic acid	C23H24N2O4 392.454	1.03 LC-2	393.14
34	(3 <i>S</i>)-[3-(3-Methyl-butyrylamino)-1,2,3,4-tetrahydro-9 <i>H</i> -carbazol-9-yl]-acetic acid	C19H24N2O3 328.411	0.97 LC-2	329.16

35	(3S)-[3-(3-Cyclopentyl-propionylamino)-1,2,3,4-tetrahydro-9H-carbazol-9-yl]-acetic acid	C22H28N2O3 368.475	1.01 LC-2	369.18
36	(3S)-(3-Decanoylamino-1,2,3,4-tetrahydro-9H-carbazol-9-yl)-acetic acid	C24H34N2O3 398.545	1.16 LC-2	398.82
37	(3S)-(3-Butyrylamino-1,2,3,4-tetrahydro-9H-carbazol-9-yl)-acetic acid	C18H22N2O3 314.384	0.94 LC-2	315.18
38	(3S)-(3-Heptanoylamino-1,2,3,4-tetrahydro-9H-carbazol-9-yl)-acetic acid	C21H28N2O3 356.464	1.06 LC-2	357.20
39	(3R)-[6-Fluoro-3-(2-phenoxy-acetyl-amino)-1,2,3,4-tetrahydro-9H-carbazol-9-yl]-acetic acid	C22H21N2O4F 396.417	1.04 LC-2	397.16
40	(3R)-(6-Fluoro-3-phenylacetyl-amino-1,2,3,4-tetrahydro-9H-carbazol-9-yl)-acetic acid	C22H21N2O3F 380.418	1.01 LC-2	381.16
41	(3R)-[6-Fluoro-3-(3-phenyl-propionyl-amino)-1,2,3,4-tetrahydro-9H-carbazol-9-yl]-acetic acid	C23H23N2O3F 394.445	1.03 LC-2	395.22
42	(3R)-{3-[2-(4-Chloro-phenyl)-acetyl-amino]-6-fluoro-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetic acid	C22H20N2O3ClF 414.863	1.05 LC-2	415.16
43	(3R)-{6-Fluoro-3-[2-(4-methoxy-phenyl)-acetyl-amino]-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetic acid	C23H23N2O4F 410.444	1.01 LC-2	411.22
44	(3R)-[6-Fluoro-3-(2-p-tolyl-acetyl-amino)-1,2,3,4-tetrahydro-9H-carbazol-9-yl]-acetic acid	C23H23N2O3F 394.445	1.04 LC-2	395.22
45	(3R)-{3-[2-(3,4-Dichloro-phenyl)-acetyl-amino]-6-fluoro-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetic acid	C22H19N2O3Cl2F 449.308	1.09 LC-2	447.16
46	(3R)-{3-[2-(3-Chloro-phenyl)-acetyl-amino]-6-fluoro-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetic acid	C22H20N2O3ClF 414.863	1.06 LC-2	415.16
47	(3R)-{6-Fluoro-3-[2-(4-trifluoromethyl-phenyl)-acetyl-amino]-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetic acid	C23H20N2O3F4 448.415	1.08 LC-2	449.17

48	(3 <i>R</i>)-{3-[2-(4-Chloro-phenoxy)-acetylamino]-6-fluoro-1,2,3,4-tetrahydro-9 <i>H</i> -carbazol-9-yl]-acetic acid	C22H20N2O4ClF 430.862	1.08 LC-2	431.16
49	(3 <i>R</i>)-[6-Fluoro-3-(2- <i>p</i> -tolylloxy-acetylamino)-1,2,3,4-tetrahydro-9 <i>H</i> -carbazol-9-yl]-acetic acid	C23H23N2O4F 410.444	1.08 LC-2	411.22
50	(3 <i>R</i>)-{3-[2-(2-Chloro-phenoxy)-acetylamino]-6-fluoro-1,2,3,4-tetrahydro-9 <i>H</i> -carbazol-9-yl]-acetic acid	C22H20N2O4ClF 430.862	1.07 LC-2	431.16
51	(3 <i>R</i>)-{3-[2-(3-Chloro-phenoxy)-acetylamino]-6-fluoro-1,2,3,4-tetrahydro-9 <i>H</i> -carbazol-9-yl]-acetic acid	C22H20N2O4ClF 430.862	1.08 LC-2	431.16
52	(3 <i>R</i>)-{6-Fluoro-3-[3-(4-methoxy-phenyl)-propionylamino]-1,2,3,4-tetrahydro-9 <i>H</i> -carbazol-9-yl}-acetic acid	C24H25N2O4F 424.471	1.03 LC-2	425.28
53	(3 <i>R</i>)-[6-Fluoro-3-(3- <i>p</i> -tolyl-propionylamino)-1,2,3,4-tetrahydro-9 <i>H</i> -carbazol-9-yl]-acetic acid	C24H25N2O3F 408.472	1.06 LC-2	409.21
54	(3 <i>R</i>)-{3-[3-(4-Chloro-phenyl)-propionylamino]-6-fluoro-1,2,3,4-tetrahydro-9 <i>H</i> -carbazol-9-yl]-acetic acid	C23H22N2O3ClF 428.89	1.07 LC-2	429.15
55	(3 <i>R</i>)-{3-[3-(2-Chloro-phenyl)-propionylamino]-6-fluoro-1,2,3,4-tetrahydro-9 <i>H</i> -carbazol-9-yl]-acetic acid	C23H22N2O3ClF 428.89	1.07 LC-2	429.15
56	(3 <i>R</i>)-{3-[3-(3-Chloro-phenyl)-propionylamino]-6-fluoro-1,2,3,4-tetrahydro-9 <i>H</i> -carbazol-9-yl]-acetic acid	C23H22N2O3ClF 428.89	1.07 LC-2	429.15
57	(3 <i>S</i>)-{3-[2-(4-Chloro-phenyl)-acetylamino]-6-fluoro-1,2,3,4-tetrahydro-9 <i>H</i> -carbazol-9-yl]-acetic acid	C22H20N2O3ClF 414.863	1.05 LC-2	415.23
58	(3 <i>S</i>)-{6-Fluoro-3-[2-(4-methoxy-phenyl)-acetylamino]-1,2,3,4-tetrahydro-9 <i>H</i> -carbazol-9-yl}-acetic acid	C23H23N2O4F 410.444	1.01 LC-2	411.22
59	(3 <i>S</i>)-[6-Fluoro-3-(2- <i>p</i> -tolyl-acetylamino)-1,2,3,4-tetrahydro-9 <i>H</i> -carbazol-9-yl]-acetic acid	C23H23N2O3F 394.445	1.01 LC-2	395.15

60	(3S)-[6-Fluoro-3-(2-phenoxy-acetylamino)-1,2,3,4-tetrahydro-9H-carbazol-9-yl]-acetic acid	C22H21N2O4F 396.417	1.04 LC-2	397.23
61	(3S)-[6-Fluoro-3-(3-phenyl-propionylamino)-1,2,3,4-tetrahydro-9H-carbazol-9-yl]-acetic acid	C23H23N2O3F 394.445	1.03 LC-2	395.22
62	(3S)-{3-[2-(4-Chloro-phenoxy)-acetylamino]-6-fluoro-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetic acid	C22H20N2O4ClF 430.862	1.08 LC-2	431.16
63	(3S)-[6-Fluoro-3-(2-p-tolyloxy-acetylamino)-1,2,3,4-tetrahydro-9H-carbazol-9-yl]-acetic acid	C23H23N2O4F 410.444	1.07 LC-2	411.22
64	(3S)-{6-Fluoro-3-[3-(4-methoxy-phenyl)-propionylamino]-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetic acid	C24H25N2O4F 424.471	1.03 LC-2	425.21
65	(3S)-[6-Fluoro-3-(3-p-tolyl-propionylamino)-1,2,3,4-tetrahydro-9H-carbazol-9-yl]-acetic acid	C24H25N2O3F 408.472	1.06 LC-2	409.21
66	(3S)-{3-[3-(4-Chloro-phenyl)-propionylamino]-6-fluoro-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetic acid	C23H22N2O3ClF 428.89	1.07 LC-2	429.15
67	(3S)-{3-[3-(2-Chloro-phenyl)-propionylamino]-6-fluoro-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetic acid	C23H22N2O3ClF 428.89	1.07 LC-2	429.15
68	(3S)-{3-[3-(3-Chloro-phenyl)-propionylamino]-6-fluoro-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetic acid	C23H22N2O3ClF 428.89	1.07 LC-2	429.15
69	(3S)-{3-[3-(3,4-Difluoro-phenyl)-propionylamino]-6-fluoro-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetic acid	C23H21N2O3F3 430.425	1.05 LC-2	431.26
70	(3S)-{6-Fluoro-3-[3-(3-methoxy-phenyl)-propionylamino]-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetic acid	C24H25N2O4F 424.471	1.03 LC-2	425.21
71	(3S)-{6-Fluoro-3-[3-(2-methoxy-phenyl)-propionylamino]-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetic acid	C24H25N2O4F 424.471	1.04 LC-2	425.21

72	(3S)-[3-(2,3-Diphenyl-propionylamino)-6-fluoro-1,2,3,4-tetrahydro-9 <i>H</i> -carbazol-9-yl]-acetic acid	C29H27N2O3F 470.542	1.12 LC-2	471.27
73	(3S)-[3-(3,3-Diphenyl-propionylamino)-6-fluoro-1,2,3,4-tetrahydro-9 <i>H</i> -carbazol-9-yl]-acetic acid	C29H27N2O3F 470.542	1.1 LC-2	471.20
74	(3S)-{3-[4-(4-Bromo-phenyl)-4-oxo-butyrylamino]-6-fluoro-1,2,3,4-tetrahydro-9 <i>H</i> -carbazol-9-yl}-acetic acid	C24H22N2O4BrF 501.351	1.07 LC-2	503.06
75	(3S)-[6-Fluoro-3-(4-oxo-4-phenyl-butyrylamino)-1,2,3,4-tetrahydro-9 <i>H</i> -carbazol-9-yl]-acetic acid	C24H23N2O4F 422.455	1.02 LC-2	423.20
76	(3S)-{6-Fluoro-3-[4-(4-methanesulfonyl-phenyl)-4-oxo-butyrylamino]-1,2,3,4-tetrahydro-9 <i>H</i> -carbazol-9-yl}-acetic acid	C25H25N2O6FS 500.545	0.97 LC-2	501.19
77	(3S)-[6-Fluoro-3-(2-indan-2-yl-acetylamino)-1,2,3,4-tetrahydro-9 <i>H</i> -carbazol-9-yl]-acetic acid	C25H25N2O3F 420.483	1.07 LC-2	421.19
78	(3S)-{6-Fluoro-3-[3-(4-hydroxy-3-methoxy-phenyl)-propionylamino]-1,2,3,4-tetrahydro-9 <i>H</i> -carbazol-9-yl}-acetic acid	C24H25N2O5F 440.47	0.98 LC-2	441.00
79	(3S)-{6-Fluoro-3-[3-(4-hydroxy-phenyl)-propionylamino]-1,2,3,4-tetrahydro-9 <i>H</i> -carbazol-9-yl}-acetic acid	C23H23N2O4F 410.444	0.97 LC-2	411.02
80	(3S)-{6-Fluoro-3-[3-(3-hydroxy-phenyl)-propionylamino]-1,2,3,4-tetrahydro-9 <i>H</i> -carbazol-9-yl}-acetic acid	C23H23N2O4F 410.444	0.99 LC-2	411.02
81	(3S)-{6-Fluoro-3-[3-(2-hydroxy-phenyl)-propionylamino]-1,2,3,4-tetrahydro-9 <i>H</i> -carbazol-9-yl}-acetic acid	C23H23N2O4F 410.444	1.02 LC-2	411.02
82	(3S)-{3-[(2,3-Dihydro-1 <i>H</i> -indole-2-carbonyl)-amino]-6-fluoro-1,2,3,4-tetrahydro-9 <i>H</i> -carbazol-9-yl}-acetic acid	C23H22N3O3F 407.444	1.04 LC-2	408.04
83	(3S)-[6-Fluoro-3-(3-1 <i>H</i> -indol-3-yl-propionylamino)-1,2,3,4-tetrahydro-9 <i>H</i> -carbazol-9-yl]-acetic acid	C25H24N3O3F 433.482	1.04 LC-2	434.07

84	(3S)-[3-(3-1 <i>H</i> -Benzoimidazol-2-yl-propionylamino)-6-fluoro-1,2,3,4-tetrahydro-9 <i>H</i> -carbazol-9-yl]-acetic acid	C24H23N4O3F 434.47	0.79 LC-2	435.04
85	(3S)-[3-(3-Benzo[1,3]dioxol-5-yl-propionylamino)-6-fluoro-1,2,3,4-tetrahydro-9 <i>H</i> -carbazol-9-yl]-acetic acid	C24H23N2O5F 438.454	1.04 LC-2	438.99
86	(3S)-{6-Fluoro-3-[(1 <i>H</i> -indole-2-carbonyl)-amino]-1,2,3,4-tetrahydro-9 <i>H</i> -carbazol-9-yl}-acetic acid	C23H20N3O3F 405.428	1.07 LC-2	406.03
87	(3S)-[6-Fluoro-3-(3-pyridin-3-yl-propionylamino)-1,2,3,4-tetrahydro-9 <i>H</i> -carbazol-9-yl]-acetic acid	C22H22N3O3F 395.433	0.7 LC-3	396.11
88	(3S)-{3-[2-(4- <i>tert</i> -Butyl-phenyl)-acetylamino]-6-fluoro-1,2,3,4-tetrahydro-9 <i>H</i> -carbazol-9-yl}-acetic acid	C26H29N2O3F 436.525	1.02 LC-3	437.17
89	(3S)-{6-Fluoro-3-[2-(4-trifluoromethyl-phenyl)-acetylamino]-1,2,3,4-tetrahydro-9 <i>H</i> -carbazol-9-yl}-acetic acid	C23H20N2O3F4 448.415	0.98 LC-3	449.14
90	(3S)-{6-Fluoro-3-[2-(3-trifluoromethyl-phenyl)-acetylamino]-1,2,3,4-tetrahydro-9 <i>H</i> -carbazol-9-yl}-acetic acid	C23H20N2O3F4 448.415	0.98 LC-3	449.09
91	(3S)-{6-Fluoro-3-[2-(4-trifluoromethyl-phenoxy)-acetylamino]-1,2,3,4-tetrahydro-9 <i>H</i> -carbazol-9-yl}-acetic acid	C23H20N2O4F4 464.414	1.00 LC-3	465.15
92	(3S)-[6-Fluoro-3-(3-naphthalen-2-yl-acryloylamino)-1,2,3,4-tetrahydro-9 <i>H</i> -carbazol-9-yl]-acetic acid	C27H23N2O3F 442.489	1.01 LC-3	443.07
93	(3S)-[6-Fluoro-3-(3-naphthalen-2-yl-propionylamino)-1,2,3,4-tetrahydro-9 <i>H</i> -carbazol-9-yl]-acetic acid	C27H25N2O3F 444.505	0.99 LC-3	445.15
94	(3S)-{6-Fluoro-3-[methyl-(3-phenyl-propionyl)-amino]-1,2,3,4-tetrahydro-9 <i>H</i> -carbazol-9-yl}-acetic acid	C24H25N2O3F 408.472	0.98 LC-3	409.16
95	(3S)-(3-{[2-(4-Chloro-phenyl)-acetyl]-methyl-amino}-6-fluoro-1,2,3,4-tetrahydro-9 <i>H</i> -carbazol-9-yl)-acetic acid	C23H22N2O3ClF 428.89	0.99 LC-3	429.10

96	(3S)-{6-Fluoro-3-[ethyl-(3-phenyl-propionyl)-amino]-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetic acid	C ₂₅ H ₂₇ N ₂ O ₃ F 422.498	0.99 LC-3	423.10
97	(3S)-(3-{[2-(4-Chloro-phenyl)-acetyl]-ethyl-amino}-6-fluoro-1,2,3,4-tetrahydro-9H-carbazol-9-yl)-acetic acid	C ₂₄ H ₂₄ N ₂ O ₃ ClF 442.917	1.01 LC-3	443.06
98	(3S)-{6-Fluoro-3-[propyl-(3-phenyl-propionyl)-amino]-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetic acid	C ₂₆ H ₂₉ N ₂ O ₃ F 436.525	1.02 LC-3	437.20
99	(3S)-(3-{[2-(4-Chloro-phenyl)-acetyl]-propyl-amino}-6-fluoro-1,2,3,4-tetrahydro-9H-carbazol-9-yl)-acetic acid	C ₂₅ H ₂₆ N ₂ O ₃ ClF 456.943	1.03 LC-3	457.21
100	(3RS)-(3-Benzylloxycarbonylamino-6-fluoro-1,2,3,4-tetrahydro-9H-carbazol-9-yl)-acetic acid	C ₂₂ H ₂₁ N ₂ O ₄ F 396.410	0.98 LC-3	397.11
101	(3RS)-(3-Benzylloxycarbonylamino-8-chloro-6-fluoro-1,2,3,4-tetrahydro-9H-carbazol-9-yl)-acetic acid	C ₂₂ H ₂₀ N ₂ O ₄ ClF 430.862	1.01 LC-3	431.05
102	(3RS)-(3-Benzylloxycarbonylamino-8-chloro-5-fluoro-1,2,3,4-tetrahydro-9H-carbazol-9-yl)-acetic acid	C ₂₂ H ₂₀ N ₂ O ₄ ClF 430.862	1.01 LC-3	431.04

Listed in Table 1a below are further compounds of Formula I, prepared according to the abovementioned general method with the corresponding compound of Structure 1 as starting material.

5 **Table 1a**

Example	Compound of Formula I	Formula MW	t _R [min]		MS Data	
			LCMS Method	m/z [M+H] ⁺		
103	(3RS)-[3-(3-Benzyl-ureido)-6-fluoro-1,2,3,4-tetrahydro-9H-carbazol-9-yl]-acetic acid	C ₂₂ H ₂₂ N ₃ O ₃ F 395.433	0.92 LC-3	396.17		
104	(3S)-[6-Fluoro-3-(3-phenethyl-ureido)-1,2,3,4-tetrahydro-9H-carbazol-9-yl]-acetic acid	C ₂₃ H ₂₄ N ₃ O ₃ F 409.46	0.92 LC-3	410.52		

105	(3 <i>RS</i>)-[3-(3-Benzyl-ureido)-8-chloro-6-fluoro-1,2,3,4-tetrahydro-9 <i>H</i> -carbazol-9-yl]-acetic acid	C22H21N3O3ClF 429.878	0.95 LC-3	430.07
106	(3 <i>RS</i>)-[8-Chloro-6-fluoro-3-(3-phenethyl-ureido)-1,2,3,4-tetrahydro-9 <i>H</i> -carbazol-9-yl]-acetic acid	C23H23N3O3ClF 443.905	0.97 LC-3	444.07
107	(3 <i>RS</i>)-(3-Benzylloxycarbonylamino-6-trifluoromethyl-1,2,3,4-tetrahydro-9 <i>H</i> -carbazol-9-yl)-acetic acid	C23H21N2O4F3 446.424	1.02 LC-3	447.25
108	(3 <i>RS</i>)-(3-Benzylloxycarbonylamino-8-bromo-6-fluoro-1,2,3,4-tetrahydro-9 <i>H</i> -carbazol-9-yl)-acetic acid	C22H20N2O4BrF 475.313	1.02 LC-3	474.98
109	(3 <i>RS</i>)-(3-Benzylloxycarbonylamino-6-fluoro-8-vinyl-1,2,3,4-tetrahydro-9 <i>H</i> -carbazol-9-yl)-acetic acid	C24H23N2O4F 422.455	1.01 LC-3	423.15
110	(3 <i>RS</i>)-(3-Benzylloxycarbonylamino-6-fluoro-8-methanesulfonyl-1,2,3,4-tetrahydro-9 <i>H</i> -carbazol-9-yl)-acetic acid	C23H23N2O6FS 474.508	0.95 LC-3	475.15
111	(3 <i>S</i>)-(3-Benzylloxycarbonylamino-6-fluoro-8-methyl-1,2,3,4-tetrahydro-9 <i>H</i> -carbazol-9-yl)-acetic acid	C23H23N2O4F 410.444	0.99 LC-3	411.14
112	(3 <i>S</i>)-(3-Benzylloxycarbonylamino-7-chloro-6-fluoro-1,2,3,4-tetrahydro-9 <i>H</i> -carbazol-9-yl)-acetic acid	C22H20N2O4ClF 430.862	1.01 LC-3	431.16
113	(3 <i>S</i>)-(8-Allyl-3-benzylloxycarbonylamino-6-fluoro-1,2,3,4-tetrahydro-9 <i>H</i> -carbazol-9-yl)-acetic acid	C25H25N2O4F 436.482	1.02 LC-3	437.1
114	(3 <i>R</i>)-(3-Benzylloxycarbonylamino-8-chloro-1,2,3,4-tetrahydro-9 <i>H</i> -carbazol-9-yl)-acetic acid	C22H21N2O4Cl 412.872	1 LC-3	413.03
115	(3 <i>S</i>)-{3-[3-(2,4-Dimethoxy-phenyl)-propionylamino]-6-fluoro-1,2,3,4-tetrahydro-9 <i>H</i> -carbazol-9-yl}-acetic acid	C25H27N2O5F 454.496	0.95 LC-3	455.11

116	(3S)-[6-Fluoro-3-(3-naphthalen-1-yl-propionylamino)-1,2,3,4-tetrahydro-9H-carbazol-9-yl]-acetic acid	C27H25N2O3F 444.505	0.99 LC-3	445.14
117	(3RS)-{6-Fluoro-3-[2-(2-methoxyphenoxy)-acetylaminol-1,2,3,4-tetrahydro-9H-carbazol-9-yl]-acetic acid	C23H23N2O5F 426.443	0.94 LC-3	427.16
118	(3RS)-{6-Fluoro-3-[3-(2-methylphenyl)-propionylamino]-1,2,3,4-tetrahydro-9H-carbazol-9-yl]-acetic acid	C24H25N2O3F 408.472	0.97 LC-3	409.08
119	(3RS)-{6-Fluoro-3-[3-(3-methylphenyl)-propionylamino]-1,2,3,4-tetrahydro-9H-carbazol-9-yl]-acetic acid	C24H25N2O3F 408.472	0.97 LC-3	409.11
120	(3RS)-{6-Fluoro-3-[3-(3-methoxyphenyl)-propionylamino]-1,2,3,4-tetrahydro-9H-carbazol-9-yl]-acetic acid	C24H25N2O4F 424.471	0.94 LC-3	425.1
121	(3RS)-{6-Fluoro-3-[2-(3-methoxyphenoxy)-acetylaminol-1,2,3,4-tetrahydro-9H-carbazol-9-yl]-acetic acid	C23H23N2O5F 426.443	0.95 LC-3	427.12
122	(3RS)-{6-Fluoro-3-[2-(2-methylphenoxy)-acetylaminol-1,2,3,4-tetrahydro-9H-carbazol-9-yl]-acetic acid	C23H23N2O4F 410.444	0.98 LC-3	411
123	(3S)-{3-[3-(2,5-Dimethoxy-phenyl)-propionylamino]-6-fluoro-1,2,3,4-tetrahydro-9H-carbazol-9-yl]-acetic acid	C25H27N2O5F 454.496	0.94 LC-3	455.19
124	(3S)-{6-Fluoro-3-[3-(4-trifluoromethylphenyl)-propionylamino]-1,2,3,4-tetrahydro-9H-carbazol-9-yl]-acetic acid	C24H22N2O3F4 462.442	0.99 LC-3	463.15

125	(3S)-{3-[3-(2,6-Dichloro-phenyl)-propionylamino]-6-fluoro-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetic acid	C23H21N2O3Cl2F 463.335	0.99 LC-3	463.07
126	(3S)-{3-[3-(2,5-Bis-trifluoromethyl-phenyl)-propionylamino]-6-fluoro-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetic acid	C25H21N2O3F7 530.439	1.04 LC-3	530.97
127	(3S)-{6-Fluoro-3-[3-(4-methylsulfanyl-phenyl)-propionylamino]-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetic acid	C24H25N2O3FS 440.538	0.97 LC-3	441.1
128	(3S)-{6-Fluoro-3-[3-(4-iodo-phenyl)-propionylamino]-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetic acid	C23H22N2O3FI 520.337	0.99 LC-3	521.03
129	(3S)-{6-Fluoro-3-[3-(4-isopropyl-phenyl)-propionylamino]-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetic acid	C26H29N2O3F 436.525	1.01 LC-3	437.17
130	(3S)-{6-Fluoro-3-[3-(3-trifluoromethyl-phenyl)-propionylamino]-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetic acid	C24H22N2O3F4 462.442	0.99 LC-3	463.13
131	(3S)-{3-[3-(2,4-Dichloro-phenyl)-propionylamino]-6-fluoro-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetic acid	C23H21N2O3Cl2F 463.335	1.01 LC-3	463.08
132	(3S)-{6-Fluoro-3-[3-(4-fluoro-phenyl)-propionylamino]-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetic acid	C23H22N2O3F2 412.435	0.95 LC-3	413.08
133	(3S)-{3-[3-(3,5-Bis-trifluoromethyl-phenyl)-propionylamino]-6-fluoro-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetic acid	C25H21N2O3F7 530.439	1.03 LC-3	530.99
134	(3S)-{3-[3-(4-Ethyl-phenyl)-propionylamino]-6-fluoro-1,2,3,4-	C25H27N2O3F 422.498	0.99 LC-3	423.12

	tetrahydro-9 <i>H</i> -carbazol-9-yl}-acetic acid			
135	(3 <i>S</i>)-{6-Fluoro-3-[3-(3-iodo-phenyl)-propionylamino]-1,2,3,4-tetrahydro-9 <i>H</i> -carbazol-9-yl}-acetic acid	C23H22N2O3FI 520.337	0.97 LC-3	521.41
136	(3 <i>S</i>)-{6-Fluoro-3-[3-(4-methanesulfonyl-phenyl)-propionylamino]-1,2,3,4-tetrahydro-9 <i>H</i> -carbazol-9-yl}-acetic acid	C24H25N2O5FS 472.536	0.87 LC-3	473.12
137	(3 <i>S</i>)-{3-[3-(2,3-Dimethoxy-phenyl)-propionylamino]-6-fluoro-1,2,3,4-tetrahydro-9 <i>H</i> -carbazol-9-yl}-acetic acid	C25H27N2O5F 454.496	0.94 LC-3	455.16
138	(3 <i>S</i>)-{3-[3-(2-Bromo-phenyl)-propionylamino]-6-fluoro-1,2,3,4-tetrahydro-9 <i>H</i> -carbazol-9-yl}-acetic acid	C23H22N2O3BrF 473.341	0.98 LC-3	474.97
139	(3 <i>S</i>)-{6-Fluoro-3-[3-(3-trifluoromethoxy-phenyl)-propionylamino]-1,2,3,4-tetrahydro-9 <i>H</i> -carbazol-9-yl}-acetic acid	C24H22N2O4F4 478.441	1 LC-3	479.11
140	(3 <i>S</i>)-{3-[3-(2,4-Dimethyl-phenyl)-propionylamino]-6-fluoro-1,2,3,4-tetrahydro-9 <i>H</i> -carbazol-9-yl}-acetic acid	C25H27N2O3F 422.498	0.99 LC-3	423.14
141	(3 <i>S</i>)-{3-[3-(3-Bromo-phenyl)-propionylamino]-6-fluoro-1,2,3,4-tetrahydro-9 <i>H</i> -carbazol-9-yl}-acetic acid	C23H22N2O3BrF 473.341	0.98 LC-3	474.93
142	(3 <i>S</i>)-{3-[3-(3- <i>tert</i> -Butoxycarbonylamino-phenyl)-propionylamino]-6-fluoro-1,2,3,4-tetrahydro-9 <i>H</i> -carbazol-9-yl}-acetic acid	C28H32N3O5F 509.576	0.98 LC-3	510.17
143	(3 <i>S</i>)-{6-Fluoro-3-[(<i>S</i>)-3-(4-fluoro-phenyl)-2-phenyl-propionylamino]-	C29H26N2O3F2 488.532	1.02 LC-3	489.15

	1,2,3,4-tetrahydro-9 <i>H</i> -carbazol-9-yl}- acetic acid			
144	(3 <i>S</i>)-{6-Fluoro-3-[(<i>S</i>)-3-(4-methoxy- phenyl)-2-phenyl-propionylamino]- 1,2,3,4-tetrahydro-9 <i>H</i> -carbazol-9-yl}- acetic acid	C30H29N2O4F 500.568	1.01 LC-3	501.16
145	(3 <i>S</i>)-{6-Fluoro-3-[3-(2-fluoro-phenyl)- propionylamino]-1,2,3,4-tetrahydro- 9 <i>H</i> -carbazol-9-yl}-acetic acid	C23H22N2O3F2 412.435	0.95 LC-3	413.09
146	(3 <i>S</i>)-(6-Fluoro-3-[(<i>2RS</i>)-1,2,3,4- tetrahydro-naphthalene-2-carbonyl]- amino)-1,2,3,4-tetrahydro-9 <i>H</i> - carbazol-9-yl)-acetic acid	C25H25N2O3F 420.483	0.98 LC-3	421.11
147	(3 <i>S</i>)-(6-Fluoro-3-[(<i>2RS</i>)-8-methoxy- 1,2,3,4-tetrahydro-naphthalene-2- carbonyl]-amino)-1,2,3,4-tetrahydro- 9 <i>H</i> -carbazol-9-yl)-acetic acid	C26H27N2O4F 450.508	0.98 LC-3	451.08
148	(3 <i>S</i>)-(6-Fluoro-3-{(<i>2RS</i>)-2-[(4-fluoro- phenylcarbonyl)-methyl]-3-phenyl- propionylamino}-1,2,3,4-tetrahydro- 9 <i>H</i> -carbazol-9-yl)-acetic acid	C31H29N3O4F2 545.584	0.98 LC-3	546.06
149	(3 <i>S</i>)-{3-[(<i>2RS</i>)-2-Benzyl-3,3- dimethyl-butyrylamino]-6-fluoro- 1,2,3,4-tetrahydro-9 <i>H</i> -carbazol-9-yl}- acetic acid	C27H31N2O3F 450.552	1.02 LC-3	451.12
150	(3 <i>S</i>)-(6-Fluoro-3-[(<i>2RS</i>)-8-methoxy- 1,2,3,4-tetrahydro-naphthalene-2- carbonyl]-amino)-1,2,3,4-tetrahydro- 9 <i>H</i> -carbazol-9-yl)-acetic acid	C24H23N2O4F 422.455	0.95 LC-3	423.11
151	(3 <i>S</i>)-{6-Fluoro-3-[3-(3-fluoro-phenyl)- propionylamino]-1,2,3,4-tetrahydro- 9 <i>H</i> -carbazol-9-yl}-acetic acid	C23H22N2O3F2 412.435	0.94 LC-3	413.08
152	(3 <i>S</i>)-(6-Fluoro-3-[(<i>2RS</i>)-8-methoxy- 1,2,3,4-tetrahydro-naphthalene-2- carbonyl]-amino)-1,2,3,4-tetrahydro- 9 <i>H</i> -carbazol-9-yl)-acetic acid	C24H23N2O3F 406.456	0.96 LC-3	407.1

153	(3S)-{6-Fluoro-3-[(2R)-2-methyl-3-phenyl-propionylamino]-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetic acid	C24H25N2O3F 408.472	0.95 LC-3	409.11
154	(3S)-[3-(2,2-Dimethyl-3-phenyl-propionylamino)-6-fluoro-1,2,3,4-tetrahydro-9H-carbazol-9-yl]-acetic acid	C25H27N2O3F 422.498	0.99 LC-3	423.19
155	(3S)-[6-Fluoro-3-(3-methyl-3-phenyl-butyrylamino)-1,2,3,4-tetrahydro-9H-carbazol-9-yl]-acetic acid	C25H27N2O3F 422.498	1 LC-3	423.2
156	(3S)-{6-Fluoro-3-[(3S)-3-phenyl-butyrylamino]-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetic acid	C24H25N2O3F 408.472	0.95 LC-3	409.2
157	(3S)-[3-(2-Benzoyloxy-acetyl-amino)-6-fluoro-1,2,3,4-tetrahydro-9H-carbazol-9-yl]-acetic acid	C23H23N2O4F 410.444	0.94 LC-3	411.06
158	(3S)-[6-Fluoro-3-(4-phenyl-butyrylamino)-1,2,3,4-tetrahydro-9H-carbazol-9-yl]-acetic acid	C24H25N2O3F 408.472	0.96 LC-3	409.16
159	(3S)-{3-[(2R,3R)-2,3-Dihydroxy-3-(2-methoxy-phenylcarbamoyl)-propionylamino]-6-fluoro-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetic acid	C25H26N3O7F 499.493	0.86 LC-3	500.19
160	(3RS)-{8-Chloro-6-fluoro-3-[3-(2-methylphenyl)-propionylamino]-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetic acid	C24H24N2O3ClF 442.917	1 LC-3	443.11
161	(3RS)-{8-Chloro-6-fluoro-3-[2-(2-methoxy-phenoxy)-acetyl-amino]-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetic acid	C23H22N2O5ClF 460.888	0.98 LC-3	461.18
162	(3RS)-{8-Chloro-6-fluoro-3-[3-(3-hydroxy-phenyl)-propionylamino]-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-	C23H22N2O4ClF 444.889	0.88 LC-3	445.32

acetic acid

163	(3 <i>RS</i>)-{8-Chloro-6-fluoro-3-[3-(3-methoxy-phenyl)-propionylamino]-1,2,3,4-tetrahydro-9 <i>H</i> -carbazol-9-yl]-acetic acid	C ₂₄ H ₂₄ N ₂ O ₄ ClF 458.916	0.98 LC-3	459.04
164	(3 <i>RS</i>)-{8-Chloro-6-fluoro-3-[3-(3-methylphenyl)-propionylamino]-1,2,3,4-tetrahydro-9 <i>H</i> -carbazol-9-yl]-acetic acid	C ₂₄ H ₂₄ N ₂ O ₃ ClF 442.917	1.01 LC-3	443.01
165	(3 <i>RS</i>)-{8-Chloro-6-fluoro-3-[3-(2-hydroxy-phenyl)-propionylamino]-1,2,3,4-tetrahydro-9 <i>H</i> -carbazol-9-yl]-acetic acid	C ₂₃ H ₂₂ N ₂ O ₄ ClF 444.889	0.92 LC-3	486.38
166	(3 <i>RS</i>)-[8-Chloro-6-fluoro-3-(3-phenyl-propionylamino)-1,2,3,4-tetrahydro-9 <i>H</i> -carbazol-9-yl]-acetic acid	C ₂₃ H ₂₂ N ₂ O ₃ ClF 428.89	0.98 LC-3	429.13
167	(3 <i>RS</i>)-{8-Chloro-6-fluoro-3-[3-(2-methoxy-phenyl)-propionylamino]-1,2,3,4-tetrahydro-9 <i>H</i> -carbazol-9-yl]-acetic acid	C ₂₄ H ₂₄ N ₂ O ₄ ClF 458.916	0.99 LC-3	459.03
168	(3 <i>RS</i>)-{8-Chloro-3-[3-(3-chloro-phenyl)-propionylamino]-6-fluoro-1,2,3,4-tetrahydro-9 <i>H</i> -carbazol-9-yl]-acetic acid	C ₂₃ H ₂₁ N ₂ O ₃ Cl ₂ F 463.335	1.01 LC-3	463.11
169	(3 <i>RS</i>)-[8-Chloro-6-fluoro-3-(3-1 <i>H</i> -indol-3-yl-propionylamino)-1,2,3,4-tetrahydro-9 <i>H</i> -carbazol-9-yl]-acetic acid	C ₂₅ H ₂₃ N ₃ O ₃ ClF 467.927	0.97 LC-3	468.11
170	(3 <i>RS</i>)-{8-Chloro-3-[2-(2-chloro-phenoxy)-acetylaminol]-6-fluoro-1,2,3,4-tetrahydro-9 <i>H</i> -carbazol-9-yl]-acetic acid	C ₂₂ H ₁₉ N ₂ O ₄ Cl ₂ F 465.307	1.01 LC-3	465.09
171	(3 <i>RS</i>)-{8-Chloro-6-fluoro-3-[2-(2-methylphenyl)-oxy-acetylaminol]-1,2,3,4-tetrahydro-9 <i>H</i> -carbazol-9-yl]-acetic acid	C ₂₃ H ₂₂ N ₂ O ₄ ClF 444.889	1.02 LC-3	445.11

acetic acid

172	(3 <i>RS</i>)-[3-(3-Benzo[1,3]dioxol-5-yl-propionylamino)-8-chloro-6-fluoro-1,2,3,4-tetrahydro-9 <i>H</i> -carbazol-9-yl]-acetic acid	C ₂₄ H ₂₂ N ₂ O ₅ ClF 472.899	0.93 LC-3	473.17
173	(3 <i>RS</i>)-{8-Chloro-6-fluoro-3-[2-(3-methoxy-phenoxy)-acetyl-amino]-1,2,3,4-tetrahydro-9 <i>H</i> -carbazol-9-yl}-acetic acid	C ₂₃ H ₂₂ N ₂ O ₅ ClF 460.888	0.99 LC-3	461.09
174	(3 <i>RS</i>)-{8-Chloro-3-[2-(3-chloro-phenoxy)-acetyl-amino]-6-fluoro-1,2,3,4-tetrahydro-9 <i>H</i> -carbazol-9-yl}-acetic acid	C ₂₂ H ₁₉ N ₂ O ₄ Cl ₂ F 465.307	1.02 LC-3	465
175	(3 <i>RS</i>)-{8-Chloro-3-[3-(2-chloro-phenyl)-propionylamino]-6-fluoro-1,2,3,4-tetrahydro-9 <i>H</i> -carbazol-9-yl}-acetic acid	C ₂₃ H ₂₁ N ₂ O ₃ Cl ₂ F 463.335	1.01 LC-3	463.07
176	(3 <i>RS</i>)-[8-Chloro-6-fluoro-3-(2-indan-2-yl-acetyl-amino)-1,2,3,4-tetrahydro-9 <i>H</i> -carbazol-9-yl]-acetic acid	C ₂₅ H ₂₄ N ₂ O ₃ ClF 454.928	1.01 LC-3	455.16
177	(3 <i>S</i>)-[6-Fluoro-3-(1-methyl-3-phenethyl-ureido)-1,2,3,4-tetrahydro-9 <i>H</i> -carbazol-9-yl]-acetic acid	C ₂₄ H ₂₆ N ₃ O ₃ F 423.486	0.98 LC-3	429.13
178	(3 <i>S</i>)-{3-[3-(2-Chloro-benzyl)-1-methyl-ureido]-6-fluoro-1,2,3,4-tetrahydro-9 <i>H</i> -carbazol-9-yl}-acetic acid	C ₂₃ H ₂₃ N ₃ O ₃ ClF 443.905	0.97 LC-3	444.16
179	(3 <i>S</i>)-[3-(3-Benzyl-1-methyl-ureido)-6-fluoro-1,2,3,4-tetrahydro-9 <i>H</i> -carbazol-9-yl]-acetic acid	C ₂₃ H ₂₄ N ₃ O ₃ F 409.46	0.94 LC-3	410.12
180	(3 <i>S</i>)-[3-(Benzyloxycarbonyl-methyl-amino)-6-fluoro-1,2,3,4-tetrahydro-9 <i>H</i> -carbazol-9-yl]-acetic acid	C ₂₃ H ₂₃ N ₂ O ₄ F 410.444	1.01 LC-3	411.07
181	{(3 <i>S</i>)-3-[(2-Chloro-benzyloxycarbonyl)-methyl-amino]-6-	C ₂₃ H ₂₂ N ₂ O ₄ ClF 444.889	1.03 LC-3	445.15

	fluoro-1,2,3,4-tetrahydro-9 <i>H</i> -carbazol-9-yl}-acetic acid			
182	(3 <i>S</i>)-(6-Fluoro-3-{[2-(4-methoxy-phenyl)-acetyl]-methyl-amino}-1,2,3,4-tetrahydro-9 <i>H</i> -carbazol-9-yl)-acetic acid	C ₂₄ H ₂₅ N ₂ O ₄ F 424.471	0.95 LC-3	425.19
183	(3 <i>S</i>)-(6-Fluoro-3-{methyl-[2-(4-methylphenyl)-acetyl]-amino}-1,2,3,4-tetrahydro-9 <i>H</i> -carbazol-9-yl)-acetic acid	C ₂₄ H ₂₅ N ₂ O ₃ F 408.472	0.98 LC-3	409.18
184	(3 <i>S</i>)-(6-Fluoro-3-{[2-(2-methoxy-phenyl)-acetyl]-methyl-amino}-1,2,3,4-tetrahydro-9 <i>H</i> -carbazol-9-yl)-acetic acid	C ₂₄ H ₂₅ N ₂ O ₄ F 424.471	0.96 LC-3	425.18
185	(3 <i>S</i>)-{6-Fluoro-3-[(2-indan-2-yl-acetyl)-methyl-amino]-1,2,3,4-tetrahydro-9 <i>H</i> -carbazol-9-yl}-acetic acid	C ₂₆ H ₂₇ N ₂ O ₃ F 434.509	1.01 LC-3	435.16
186	(3 <i>S</i>)-(3-{[2-(3-Chloro-phenyl)-acetyl]-methyl-amino}-6-fluoro-1,2,3,4-tetrahydro-9 <i>H</i> -carbazol-9-yl)-acetic acid	C ₂₃ H ₂₂ N ₂ O ₃ ClF 428.89	0.99 LC-3	429.13
187	(3 <i>S</i>)-(6-Fluoro-3-{methyl-[2-(3-methylphenyl)-acetyl]-amino}-1,2,3,4-tetrahydro-9 <i>H</i> -carbazol-9-yl)-acetic acid	C ₂₄ H ₂₅ N ₂ O ₃ F 408.472	0.98 LC-3	409.1
188	(3 <i>S</i>)-(6-Fluoro-3-{[2-(3-methoxy-phenyl)-acetyl]-methyl-amino}-1,2,3,4-tetrahydro-9 <i>H</i> -carbazol-9-yl)-acetic acid	C ₂₄ H ₂₅ N ₂ O ₄ F 424.471	0.95 LC-3	425.08
189	(3 <i>S</i>)-(3-{[2-(2-Chloro-phenoxy)-acetyl]-methyl-amino}-6-fluoro-1,2,3,4-tetrahydro-9 <i>H</i> -carbazol-9-yl)-acetic acid	C ₂₃ H ₂₂ N ₂ O ₄ ClF 444.889	0.97 LC-3	445.38
190	(3 <i>S</i>)-(3-{[2-(4-Chloro-phenoxy)-acetyl]-methyl-amino}-6-fluoro-	C ₂₃ H ₂₂ N ₂ O ₄ ClF 444.889	0.98 LC-3	445.39

	1,2,3,4-tetrahydro-9 <i>H</i> -carbazol-9-yl)- acetic acid			
191	(3 <i>S</i>)-(6-Fluoro-3-[[3-(3-methoxy- phenyl)-propionyl]-methyl-amino]- 1,2,3,4-tetrahydro-9 <i>H</i> -carbazol-9-yl)- acetic acid	C25H27N2O4F 438.497	0.96 LC-3	439.47
192	(3 <i>S</i>)-(6-Fluoro-3-{methyl-[2-(2- methylphenyl)-acetyl]-amino}- 1,2,3,4-tetrahydro-9 <i>H</i> -carbazol-9-yl)- acetic acid	C24H25N2O3F 408.472	0.96 LC-3	409.48
193	(3 <i>S</i>)-{3-[(3,3-Diphenyl-propionyl)- methyl-amino]-6-fluoro-1,2,3,4- tetrahydro-9 <i>H</i> -carbazol-9-yl}-acetic acid	C30H29N2O3F 484.569	1.02 LC-3	485.52
194	(3 <i>S</i>)-(6-Fluoro-3-[[3-(2-methoxy- phenyl)-propionyl]-methyl-amino]- 1,2,3,4-tetrahydro-9 <i>H</i> -carbazol-9-yl)- acetic acid	C25H27N2O4F 438.497	0.97 LC-3	439.45
195	(3 <i>S</i>)-{6-Fluoro-3-[(3-1 <i>H</i> -indol-3-yl- propionyl)-methyl-amino]-1,2,3,4- tetrahydro-9 <i>H</i> -carbazol-9-yl}-acetic acid	C26H26N3O3F 447.508	0.94 LC-3	448.44
196	(3 <i>S</i>)-{3-[(2-Benzoyloxy-acetyl)-methyl- amino]-6-fluoro-1,2,3,4-tetrahydro- 9 <i>H</i> -carbazol-9-yl}-acetic acid	C24H25N2O4F 424.471	0.94 LC-3	425.44
197	(3 <i>S</i>)-{3-[(2,3-Diphenyl-propionyl)- methyl-amino]-6-fluoro-1,2,3,4- tetrahydro-9 <i>H</i> -carbazol-9-yl}-acetic acid	C30H29N2O3F 484.569	1.04 LC-3	485.53
198	(3 <i>S</i>)-{6-Fluoro-3-[[3-(2-methoxy- phenyl)-propionyl]-(3-phenyl-propyl)- amino]-1,2,3,4-tetrahydro-9 <i>H</i> - carbazol-9-yl}-acetic acid	C33H35N2O4F 542.649	1.07 LC-3	543.18
199	(3 <i>S</i>)-{3-[Acetyl-(3-phenyl-propyl)- amino]-6-fluoro-1,2,3,4-tetrahydro- 9 <i>H</i> -carbazol-9-yl}-acetic acid	C25H27N2O3F 422.498	1.01 LC-3	423.14

200	(3S)-{3-[3-Benzyl-(1-cyclopropylmethyl)-ureido]-6-fluoro-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetic acid	C26H28N3O3F 449.524	0.99 LC-3	450.2
201	(3S)-[3-(Benzyloxycarbonyl-cyclopropylmethyl-amino)-6-fluoro-1,2,3,4-tetrahydro-9H-carbazol-9-yl]-acetic acid	C26H27N2O4F 450.508	1.05 LC-3	451.15
202	(3S)-{3-[Cyclopropylmethyl-(3-phenyl-propionyl)-amino]-6-fluoro-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetic acid	C27H29N2O3F 448.536	1.02 LC-3	449.25
203	(3S)-{3-[Cyclopropylmethyl-((S)-2-methyl-3-phenyl-propionyl)-amino]-6-fluoro-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetic acid	C28H31N2O3F 462.563	1.03 LC-3	463.27
204	(3S)-(3-{Cyclopropylmethyl-[3-(2-methoxy-phenyl)-propionyl]-amino}-6-fluoro-1,2,3,4-tetrahydro-9H-carbazol-9-yl)-acetic acid	C28H31N2O4F 478.562	1.02 LC-3	479.28
205	(3S)-(3-{[2-(3-Chloro-phenoxy)-acetyl]-cyclopropylmethyl-amino}-6-fluoro-1,2,3,4-tetrahydro-9H-carbazol-9-yl)-acetic acid	C26H26N2O4ClF 484.953	1.03 LC-3	485.2
206	(3S)-{3-[Cyclopropylmethyl-(3,3-diphenyl-propionyl)-amino]-6-fluoro-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetic acid	C33H33N2O3F 524.634	1.07 LC-3	525.26
207	(3S)-{3-[Cyclopropylmethyl-(2-naphthalen-1-yl-acetyl)-amino]-6-fluoro-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetic acid	C30H29N2O3F 484.569	1.04 LC-3	485.26
208	(3S)-(3-{Benzyloxycarbonyl-[2-(4-trifluoromethyl-phenoxy)-ethyl]-amino}-6-fluoro-1,2,3,4-tetrahydro-9H-carbazol-9-yl)-acetic acid	C31H28N2O5F4 584.564	1.15 LC-3	585.14

209	(3S)-(3-{Acetyl-[2-(4-trifluoromethyl-phenoxy)-ethyl]-amino}-6-fluoro-1,2,3,4-tetrahydro-9 <i>H</i> -carbazol-9-yl)-acetic acid	C25H24N2O4F4 492.468	1.07 LC-3	493.17
210	(3S)-(6-Fluoro-3-{propionyl-[2-(4-trifluoromethyl-phenoxy)-ethyl]-amino}-1,2,3,4-tetrahydro-9 <i>H</i> -carbazol-9-yl)-acetic acid	C26H26N2O4F4 506.494	1.08 LC-3	507.18
211	(3S)-(6-Fluoro-3-{(3-phenyl-propionyl)-[2-(4-trifluoromethyl-phenoxy)-ethyl]-amino}-1,2,3,4-tetrahydro-9 <i>H</i> -carbazol-9-yl)-acetic acid	C32H30N2O4F4 582.592	1.13 LC-3	583.14
212	(3S)-(6-Fluoro-3-{[3-(2-methoxy-phenyl)-propionyl]-[2-(4-trifluoromethyl-phenoxy)-ethyl]-amino}-1,2,3,4-tetrahydro-9 <i>H</i> -carbazol-9-yl)-acetic acid	C33H32N2O5F4 612.618	1.13 LC-3	613.26
213	(3S)-(6-Fluoro-3-[(2-phenoxy-ethyl)-(3-phenyl-propionyl)-amino]-1,2,3,4-tetrahydro-9 <i>H</i> -carbazol-9-yl)-acetic acid	C31H31N2O4F 514.595	1.06 LC-3	515.17
214	(3S)-(6-Fluoro-3-(((S)-2-methyl-3-phenyl-propionyl)-(2-phenoxy-ethyl)-amino]-1,2,3,4-tetrahydro-9 <i>H</i> -carbazol-9-yl)-acetic acid	C32H33N2O4F 528.622	1.07 LC-3	529.26
215	(3S)-(6-Fluoro-3-[[3-(2-methoxy-phenyl)-propionyl]-(2-phenoxy-ethyl)-amino]-1,2,3,4-tetrahydro-9 <i>H</i> -carbazol-9-yl)-acetic acid	C32H33N2O5F 544.621	1.06 LC-3	545.25
216	(3S)-(3-[Acetyl-(2-phenoxy-ethyl)-amino]-6-fluoro-1,2,3,4-tetrahydro-9 <i>H</i> -carbazol-9-yl)-acetic acid	C24H25N2O4F 424.471	0.98 LC-3	425.19
217	(3S)-(3-[3-Benzyl-1-(2-methoxy-ethyl)-ureido]-6-fluoro-1,2,3,4-tetrahydro-9 <i>H</i> -carbazol-9-yl)-acetic acid	C25H28N3O4F 453.512	0.97 LC-3	454.26

acid

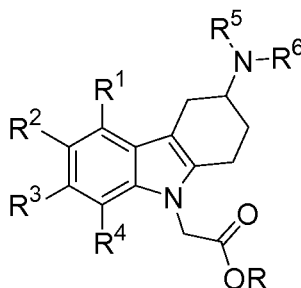
218	(3S)-{3-[Benzyloxycarbonyl-(2-methoxy-ethyl)-amino]-6-fluoro-1,2,3,4-tetrahydro-9 <i>H</i> -carbazol-9-yl}-acetic acid	C ₂₅ H ₂₇ N ₂ O ₅ F 454.496	0.97 LC-3	454.26
219	(3S)-{6-Fluoro-3-[(2-methoxy-ethyl)-(3-phenyl-propionyl)-amino]-1,2,3,4-tetrahydro-9 <i>H</i> -carbazol-9-yl}-acetic acid	C ₂₆ H ₂₉ N ₂ O ₄ F 452.524	0.98 LC-3	453.25
220	(3S)-{6-Fluoro-3-[(2-methoxy-ethyl)-((S)-2-methyl-3-phenyl-propionyl)-amino]-1,2,3,4-tetrahydro-9 <i>H</i> -carbazol-9-yl}-acetic acid	C ₂₇ H ₃₁ N ₂ O ₄ F 466.551	1 LC-3	467.18
221	(3S)-{6-Fluoro-3-[(2-methoxy-ethyl)-[3-(2-methoxy-phenyl)-propionyl]-amino]-1,2,3,4-tetrahydro-9 <i>H</i> -carbazol-9-yl}-acetic acid	C ₂₇ H ₃₁ N ₂ O ₅ F 482.55	0.98 LC-3	483.19
222	(3S)-{3-[[2-(3-Chloro-phenoxy)-acetyl]-(2-methoxy-ethyl)-amino]-6-fluoro-1,2,3,4-tetrahydro-9 <i>H</i> -carbazol-9-yl}-acetic acid	C ₂₅ H ₂₆ N ₂ O ₅ ClF 488.941	1 LC-3	489.17
223	(3S)-{3-[(3,3-Diphenyl-propionyl)-(2-methoxy-ethyl)-amino]-6-fluoro-1,2,3,4-tetrahydro-9 <i>H</i> -carbazol-9-yl}-acetic acid	C ₃₂ H ₃₃ N ₂ O ₄ F 528.622	1.04 LC-3	529.28
224	(3S)-{6-Fluoro-3-[(2-methoxy-ethyl)-(2-naphthalen-1-yl-acetyl)-amino]-1,2,3,4-tetrahydro-9 <i>H</i> -carbazol-9-yl}-acetic acid	C ₂₉ H ₂₉ N ₂ O ₄ F 488.557	1.01 LC-3	489.24
225	(3S)-{6-Fluoro-3-[(2S)-2-methyl-3-phenyl-propionyl]-phenethyl-amino}-1,2,3,4-tetrahydro-9 <i>H</i> -carbazol-9-yl}-acetic acid	C ₃₂ H ₃₃ N ₂ O ₃ F 512.623	1.07 LC-3	513.27
226	(3S)-{6-Fluoro-3-[[3-(2-methoxy-phenyl)-propionyl]-phenethyl-amino]-	C ₃₂ H ₃₃ N ₂ O ₄ F 528.622	1.06 LC-3	529.27

	1,2,3,4-tetrahydro-9 <i>H</i> -carbazol-9-yl)- acetic acid			
227	(3 <i>S</i>)-[3-(Acetyl-phenethyl-amino)-6-fluoro-1,2,3,4-tetrahydro-9 <i>H</i> -carbazol-9-yl]-acetic acid	C ₂₄ H ₂₅ N ₂ O ₃ F 408.472	0.98 LC-3	409.16
228	(3 <i>S</i>)-{6-Fluoro-3-[(2-naphthalen-1-yl-acetyl)-phenethyl-amino]-1,2,3,4-tetrahydro-9 <i>H</i> -carbazol-9-yl}-acetic acid	C ₃₄ H ₃₁ N ₂ O ₃ F 534.629	1.08 LC-3	535.27
229	(3 <i>S</i>)-{6-Fluoro-3-[phenethyl-(3-phenyl-propionyl)-amino]-1,2,3,4-tetrahydro-9 <i>H</i> -carbazol-9-yl}-acetic acid	C ₃₁ H ₃₁ N ₂ O ₃ F 498.596	1.06 LC-3	499.2
230	(3 <i>S</i>)-[3-(3-Benzyl-1-naphthalen-1-ylmethyl-ureido)-6-fluoro-1,2,3,4-tetrahydro-9 <i>H</i> -carbazol-9-yl]-acetic acid	C ₃₃ H ₃₀ N ₃ O ₃ F 535.617	1.05 LC-3	536.25
231	(3 <i>S</i>)-[3-(Benzyloxycarbonyl-naphthalen-1-ylmethyl-amino)-6-fluoro-1,2,3,4-tetrahydro-9 <i>H</i> -carbazol-9-yl]-acetic acid	C ₃₃ H ₂₉ N ₂ O ₄ F 536.601	1.09 LC-3	537.24
232	(3 <i>S</i>)-{6-Fluoro-3-[naphthalen-1-ylmethyl-(3-phenyl-propionyl)-amino]-1,2,3,4-tetrahydro-9 <i>H</i> -carbazol-9-yl}-acetic acid	C ₃₄ H ₃₁ N ₂ O ₃ F 534.629	1.07 LC-3	535.25
233	(3 <i>S</i>)-{6-Fluoro-3-[(<i>S</i>)-2-methyl-3-phenyl-propionyl]-naphthalen-1-ylmethyl-amino]-1,2,3,4-tetrahydro-9 <i>H</i> -carbazol-9-yl}-acetic acid	C ₃₅ H ₃₃ N ₂ O ₃ F 548.656	1.09 LC-3	549.26
234	(3 <i>S</i>)-(6-Fluoro-3-{[3-(2-methoxy-phenyl)-propionyl]-naphthalen-1-ylmethyl-amino}-1,2,3,4-tetrahydro-9 <i>H</i> -carbazol-9-yl)-acetic acid	C ₃₅ H ₃₃ N ₂ O ₄ F 564.655	1.07 LC-3	565.26
235	(3 <i>S</i>)-{3-[(3,3-Diphenyl-propionyl)-naphthalen-1-ylmethyl-amino]-6-fluoro-1,2,3,4-tetrahydro-9 <i>H</i> -	C ₄₀ H ₃₅ N ₂ O ₃ F 610.727	1.11 LC-3	611.21

carbazol-9-yl}-acetic acid

236	(3S)-[3-(Acetyl-naphthalen-1-ylmethyl-amino)-6-fluoro-1,2,3,4-tetrahydro-9H-carbazol-9-yl]-acetic acid	C27H25N2O3F 444.505	1 LC-3	445.24
237	(3S)-[6-Fluoro-3-(naphthalen-1-ylmethyl-propionyl-amino)-1,2,3,4-tetrahydro-9H-carbazol-9-yl]-acetic acid	C28H27N2O3F 458.531	1.01 LC-3	459.15
238	(3S)-{3-[(RS)-2-Benzyl-3-(2-methylphenyl)-carbamoyl-propionylamino]-6-fluoro-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetic acid	C32H32N3O4F 541.621	0.97 LC-3	542.22
239	(3S)-{3-[(RS)-2-Benzyl-3-(3-methoxy-phenylcarbamoyl)-propionylamino]-6-fluoro-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetic acid	C32H32N3O5F 557.620	0.97 LC-3	558.24
240	(3S)-{3-[(RS)-2-Benzyl-3-(4-chloro-phenylcarbamoyl)-propionylamino]-6-fluoro-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetic acid	C31H29N3O4ClF 562.039	1.01 LC-3	562.09
241	(3S)-{3-[(RS)-2-Benzyl-3-(4-fluoro-benzylcarbamoyl)-propionylamino]-6-fluoro-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetic acid	C32H31N3O4F2 559.611	0.96 LC-3	560.21
242	[(3S)-3-((RS)-2-Benzyl-3-propylcarbamoyl-propionylamino)-6-fluoro-1,2,3,4-tetrahydro-9H-carbazol-9-yl]-acetic acid	C28H32N3O4F 493.577	0.91 LC-3	494.25
243	(3S)-[6-Fluoro-3-(3-thiophen-2-yl-propionylamino)-1,2,3,4-tetrahydro-9H-carbazol-9-yl]-acetic acid	C21H21FN2O3S 400.47	0.93 LC-3	400.61

244	(3S)-{3-[3-(3-Chloro-isoxazol-5-yl)-propionylamino]-6-fluoro-1,2,3,4-tetrahydro-9 <i>H</i> -carbazol-9-yl}-acetic acid	C20H19ClFN3O4 419.83	0.91 LC-3	420.09
245	(3S)-[6-Fluoro-3-(3-pyrimidin-2-yl-propionylamino)-1,2,3,4-tetrahydro-9 <i>H</i> -carbazol-9-yl]-acetic acid	C21H21FN4O3 396.41	0.8 LC-3	397.11
246	(3S)-{6-Fluoro-3-[3-phenyl-4-([1,3,4]thiadiazol-2-ylcarbamoyl)-butyrylamino]-1,2,3,4-tetrahydro-9 <i>H</i> -carbazol-9-yl}-acetic acid	C27H26FN5O4S 535.59	0.87 LC-3	536.14
247	(3S)-[3-(1,3-Dibenzyl-ureido)-6-fluoro-1,2,3,4-tetrahydro-9 <i>H</i> -carbazol-9-yl]-acetic acid	C29H28FN3O3 485.55	1.02 LC-3	486.22
248	(3S)-(3-{Acetyl-[2-(2-fluoro-phenyl)-ethyl]-amino}-6-fluoro-1,2,3,4-tetrahydro-9 <i>H</i> -carbazol-9-yl)-acetic acid	C24H24F2N2O3 426.46	0.99 LC-3	427.07
249	(3S)-(3-{Acetyl-[2-(3-fluoro-phenyl)-ethyl]-amino}-6-fluoro-1,2,3,4-tetrahydro-9 <i>H</i> -carbazol-9-yl)-acetic acid	C24H24F2N2O3 426.46	0.99 LC-3	427.07
250	(3S)-[3-(3-Benzyl-1-cyclohexylmethyl-ureido)-6-fluoro-1,2,3,4-tetrahydro-9 <i>H</i> -carbazol-9-yl]-acetic acid	C29H34N3O3F 491.605	1.06 LC-3	492.26
251	(3S)-(3-{Cyclohexylmethyl-[3-(2-methoxy-phenyl)-propionyl]-amino}-6-fluoro-1,2,3,4-tetrahydro-9 <i>H</i> -carbazol-9-yl)-acetic acid	C31H37N2O4F 520.643	1.10 LC-3	521.25

Synthesis of Precursors and Intermediates:**General Methods for the synthesis of intermediates of Structure 1:**

Structure 1, wherein R represents C₁₋₄-alkyl

5

1) N-Carbamoylation of an intermediate of Structure 2a or 2b:

The appropriate isocyanate (0.132 mmol) and a catalytical amount of DMAP are added to a 0°C cold solution of a hydrochloride of the appropriate intermediate of Structure 2a or 2b (0.11 mmol) and Et₃N (0.034 ml, 0.242 mmol) in DCM (2 ml). The reaction mixture is stirred at rt overnight. Then, a 1:4 mixture (1 ml) of sat. NaHCO₃ solution and H₂O is added. After phase separation, the aq. layer is extracted three times with DCM. The combined org. phases are washed with 10% citric acid. The solvent is evaporated and the pure [3-ureido-1,2,3,4-tetrahydro-9H-carbazol-9-yl]-acetate derivative of Structure 1 is obtained by preparative HPLC with 8 to 98% yield.

15

Listed in Table 2 below are ethyl [3-ureido-1,2,3,4-tetrahydro-9H-carbazol-9-yl]-acetate derivatives of Structure 1, prepared according to the above mentioned method, with the corresponding compound of Structure 2a or 2b as starting material.

Table 2

Intermediates of Structure 1:		Formula	t _R [min]	MS Data
Ethyl	[3-ureido-1,2,3,4-tetrahydro-9H-carbazol-9-yl]-acetate derivatives	MW	LC-MS Method	m/z [M+H] ⁺
Ethyl	(3R)-[3-(3-butyl-ureido)-1,2,3,4-tetrahydro-9H-carbazol-9-yl]-acetate	C ₂₁ H ₂₉ N ₃ O ₃ 371.47	1.1 LC-2	372.05
Ethyl	(3R)-[3-(3-benzyl-ureido)-1,2,3,4-tetrahydro-9H-carbazol-9-yl]-acetate	C ₂₄ H ₂₇ N ₃ O ₃ 405.496	1.99 LC-1	406.06
Ethyl	(3R)-[3-(3-phenethyl-ureido)-1,2,3,4-tetrahydro-9H-carbazol-9-yl]-	C ₂₅ H ₂₉ N ₃ O ₃ 419.523	2.15 LC-1	420.04

acetate

Ethyl (3 <i>R</i>)-[3-(3-naphthalen-1-yl-ureido)-1,2,3,4-tetrahydro-9 <i>H</i> -carbazol-9-yl]-acetate	C27H27N3O3 441.52	1.19 LC-2	441.95
Ethyl (3 <i>R</i>)-[3-(3-phenylsulfonyl-ureido)-1,2,3,4-tetrahydro-9 <i>H</i> -carbazol-9-yl]-acetate	C23H25N3O5S 455.534	1.96 LC-1	454.1
Ethyl (3 <i>S</i>)-[3-(3-butyl-ureido)-1,2,3,4-tetrahydro-9 <i>H</i> -carbazol-9-yl]-acetate	C21H29N3O3 371.479	1.08 LC-2	372.16
Ethyl (3 <i>S</i>)-[3-(3-benzyl-ureido)-1,2,3,4-tetrahydro-9 <i>H</i> -carbazol-9-yl]-acetate	C24H27N3O3 405.496	1.1 LC-2	406.16
Ethyl (3 <i>S</i>)-[3-(3-phenethyl-ureido)-1,2,3,4-tetrahydro-9 <i>H</i> -carbazol-9-yl]-acetate	C25H29N3O3 419.523	1.12 LC-2	420.15
Ethyl (3 <i>S</i>)-[3-(3-phenylsulfonyl-ureido)-1,2,3,4-tetrahydro-9 <i>H</i> -carbazol-9-yl]-acetate	C23H25N3O5S 455.534	1.09 LC-2	454.16
Ethyl (3 <i>S</i>)-[3-(3-phenyl-ureido)-1,2,3,4-tetrahydro-9 <i>H</i> -carbazol-9-yl]-acetate	C23H25N3O3 391.47	1.11 LC-2	392.17

Listed in Table 2a below are further ethyl [3-ureido-1,2,3,4-tetrahydro-9*H*-carbazol-9-yl]-acetate derivatives of Structure 1, prepared according to the above mentioned method, with the corresponding compound of Structure 2a or 2b as starting material.

Table 2a

Intermediates of Structure 1: Ethyl [3-ureido-1,2,3,4-tetrahydro-9 <i>H</i> -carbazol-9-yl]-acetate derivatives	Formula MW
Ethyl (3 <i>RS</i>)-[3-(3-benzyl-ureido)-6-fluoro-1,2,3,4-tetrahydro-9 <i>H</i> -carbazol-9-yl]-acetate	C25H28FN3O3 437.51
Ethyl (3 <i>S</i>)-[6-fluoro-3-(3-phenethyl-ureido)-1,2,3,4-tetrahydro-9 <i>H</i> -carbazol-9-yl]-acetate	C25H28N3O3F 437.51

Ethyl (3 <i>RS</i>)-[3-(3-benzyl-ureido)-8-chloro-6-fluoro-1,2,3,4-tetrahydro-9 <i>H</i> -carbazol-9-yl]-acetate	C24H25ClFN3O3 457.93
Ethyl (3 <i>RS</i>)-[8-chloro-6-fluoro-3-(3-phenethyl-ureido)-1,2,3,4-tetrahydro-9 <i>H</i> -carbazol-9-yl]-acetate	C25H27ClFN3O3 471.95
Ethyl (3 <i>S</i>)-[6-fluoro-3-(1-methyl-3-phenethyl-ureido)-1,2,3,4-tetrahydro-9 <i>H</i> -carbazol-9-yl]-acetate	C26H30FN3O3 451.53
Ethyl (3 <i>S</i>)-{3-[3-(2-chloro-benzyl)-1-methyl-ureido]-6-fluoro-1,2,3,4-tetrahydro-9 <i>H</i> -carbazol-9-yl}-acetate	C25H27ClFN3O3 471.95
Ethyl (3 <i>S</i>)-[3-(3-benzyl-1-methyl-ureido)-6-fluoro-1,2,3,4-tetrahydro-9 <i>H</i> -carbazol-9-yl]-acetate	C25H28FN3O3 437.51
Ethyl (3 <i>S</i>)-{3-[3-benzyl-(1-cyclopropylmethyl)-ureido]-6-fluoro-1,2,3,4-tetrahydro-9 <i>H</i> -carbazol-9-yl}-acetate	C28H32FN3O3 477.57
Ethyl (3 <i>S</i>)-{3-[3-benzyl-1-(2-methoxy-ethyl)-ureido]-6-fluoro-1,2,3,4-tetrahydro-9 <i>H</i> -carbazol-9-yl}-acetate	C27H32FN3O4 481.56
Ethyl (3 <i>S</i>)-[3-(3-benzyl-1-cyclohexylmethyl-ureido)-6-fluoro-1,2,3,4-tetrahydro-9 <i>H</i> -carbazol-9-yl]-acetate	C31H37N3O3F 519.655
Ethyl (3 <i>S</i>)-[3-(1,3-Dibenzyl-ureido)-6-fluoro-1,2,3,4-tetrahydro-9 <i>H</i> -carbazol-9-yl]-acetate	C29H28FN3O3 513.60

2) Reaction of intermediates of Structure **2a** or **2b** with chloroformates:

The appropriate chloroformate (neat) and a catalytical amount of DMAP is added to a 0°C cold solution of a hydrochloride of the appropriate intermediate of Structure **2a** or **2b** (0.132 mmol) and Et₃N (0.034 ml, 0.242 mmol) in DCM (2 ml). The reaction mixture is stirred at rt overnight. Then, a 1:4 mixture (1 ml) of sat. NaHCO₃ solution and H₂O is added. After

phase separation, the aq. layer is extracted three times with DCM. The combined org. phases are washed with 10% citric acid. The solvent is evaporated and the pure (3-oxycarbonylamino-1,2,3,4-tetrahydro-9*H*-carbazol-9-yl)-acetate derivative of Structure **1** is obtained by preparative HPLC with 5 to 96% yield.

5

Listed in Table 3 below are ethyl (3-oxycarbonylamino-1,2,3,4-tetrahydro-9*H*-carbazol-9-yl)-acetate derivatives of Structure **1**, prepared according to the above mentioned method, with the corresponding compound of Structure **2a** or **2b** as starting material.

Table 3

Intermediates of Structure 1:		Formula	t _R [min]	MS Data
Ethyl (3-oxycarbonylamino-1,2,3,4-tetrahydro-9 <i>H</i> -carbazol-9-yl)-acetate derivatives	MW	LC-MS Method	m/z	
Ethyl (3 <i>R</i>)-(3-propoxycarbonylamino-1,2,3,4-tetrahydro-9 <i>H</i> -carbazol-9-yl)-acetate	C ₂₀ H ₂₆ N ₂ O ₄ 358.436	1.14 LC-2	380.98 [M+Na] ⁺	
Ethyl (3 <i>R</i>)-(3-isobutoxycarbonylamino-1,2,3,4-tetrahydro-9 <i>H</i> -carbazol-9-yl)-acetate	C ₂₁ H ₂₈ N ₂ O ₄ 372.463	1.20 LC-2	395.04 [M+Na] ⁺	
Ethyl (3 <i>R</i>)-(3-benzyloxycarbonylamino-1,2,3,4-tetrahydro-9 <i>H</i> -carbazol-9-yl)-acetate	C ₂₄ H ₂₆ N ₂ O ₄ 406.48	1.17 LC-2	407.02 [M+H] ⁺	
Ethyl (3 <i>R</i>)-[3-(2-benzyloxyethoxycarbonylamino)-1,2,3,4-tetrahydro-9 <i>H</i> -carbazol-9-yl]-acetate	C ₂₆ H ₃₀ N ₂ O ₅ 450.533	1.17 LC-2	473.01 [M+Na] ⁺	
Ethyl (3 <i>S</i>)-(3-propoxycarbonylamino-1,2,3,4-tetrahydro-9 <i>H</i> -carbazol-9-yl)-acetate	C ₂₀ H ₂₆ N ₂ O ₄ 358.436	1.12 LC-2	381.09 [M+Na] ⁺	
Ethyl (3 <i>S</i>)-(3-isobutoxycarbonylamino-1,2,3,4-tetrahydro-9 <i>H</i> -carbazol-9-yl)-acetate	C ₂₁ H ₂₈ N ₂ O ₄ 372.463	1.15 LC-2	373.13 [M+H] ⁺	
Ethyl (3 <i>S</i>)-(3-benzyloxycarbonylamino-1,2,3,4-tetrahydro-9 <i>H</i> -carbazol-9-yl)-acetate	C ₂₄ H ₂₆ N ₂ O ₄ 406.48	1.16 LC-2	407.2 [M+H] ⁺	

Ethyl (3 <i>S</i>)-[3-(2-benzyloxy-ethoxycarbonylamino)-1,2,3,4-tetrahydro-9 <i>H</i> -carbazol-9-yl]-acetate	C ₂₆ H ₃₀ N ₂ O ₅	1.17	473.14
	450.533	LC-2	[M+Na] ⁺

Listed in Table 3a below are further ethyl (3-oxycarbonylamino-1,2,3,4-tetrahydro-9*H*-carbazol-9-yl)-acetate derivatives of Structure **1**, prepared according to the above mentioned method, with the corresponding intermediate of Structure **2a** or **2b** as starting material.

5 Table 3a

Intermediates of Structure 1: Ethyl (3-oxycarbonylamino-1,2,3,4-tetrahydro-9 <i>H</i> -carbazol-9-yl)-acetate derivatives	Formula MW
Ethyl (3 <i>RS</i>)-(3-benzyloxycarbonylamino-6-trifluoromethyl-1,2,3,4-tetrahydro-9 <i>H</i> -carbazol-9-yl)-acetate	C ₂₅ H ₂₅ N ₂ O ₄ F ₃ 474.478
Ethyl (3 <i>RS</i>)-(3-benzyloxycarbonylamino-8-bromo-6-fluoro-1,2,3,4-tetrahydro-9 <i>H</i> -carbazol-9-yl)-acetate	C ₂₄ H ₂₄ N ₂ O ₄ BrF 503.367
Ethyl (3 <i>RS</i>)-(3-benzyloxycarbonylamino-6-fluoro-8-vinyl-1,2,3,4-tetrahydro-9 <i>H</i> -carbazol-9-yl)-acetate	C ₂₆ H ₂₇ N ₂ O ₄ F 450.508
Ethyl (3 <i>RS</i>)-(3-benzyloxycarbonylamino-6-fluoro-8-methanesulfonyl-1,2,3,4-tetrahydro-9 <i>H</i> -carbazol-9-yl)-acetate	C ₂₅ H ₂₇ N ₂ O ₆ FS 502.561
Ethyl (3 <i>S</i>)-(3-benzyloxycarbonylamino-6-fluoro-8-methyl-1,2,3,4-tetrahydro-9 <i>H</i> -carbazol-9-yl)-acetate	C ₂₅ H ₂₇ N ₂ O ₄ F 438.497
Ethyl (3 <i>S</i>)-(3-benzyloxycarbonylamino-7-chloro-6-fluoro-1,2,3,4-tetrahydro-9 <i>H</i> -carbazol-9-yl)-acetate	C ₂₄ H ₂₄ ClFN ₂ O ₄ 458.91
Ethyl (3 <i>S</i>)-(8-allyl-3-benzyloxycarbonylamino-6-fluoro-1,2,3,4-tetrahydro-9 <i>H</i> -carbazol-9-yl)-acetate	C ₂₇ H ₂₉ N ₂ O ₄ F 464.535

Ethyl (3 <i>R</i>)-(3-benzyloxycarbonylamino-8-chloro-1,2,3,4-tetrahydro-9 <i>H</i> -carbazol-9-yl)-acetate	C24H25N2O4Cl 440.926
Ethyl (3 <i>S</i>)-[3-(benzyloxycarbonyl-methyl-amino)-6-fluoro-1,2,3,4-tetrahydro-9 <i>H</i> -carbazol-9-yl]-acetate	C25H27N2O4F 438.494
Ethyl {(3 <i>S</i>)-3-[(2-chloro-benzyloxycarbonyl)-methyl-amino]-6-fluoro-1,2,3,4-tetrahydro-9 <i>H</i> -carbazol-9-yl}-acetate	C25H26N2O4ClF 472.939
Ethyl (3 <i>S</i>)-[3-(benzyloxycarbonyl-cyclopropylmethyl-amino)-6-fluoro-1,2,3,4-tetrahydro-9 <i>H</i> -carbazol-9-yl]-acetate	C28H31N2O4F 478.558
Ethyl (3 <i>S</i>)-(3-{benzyloxycarbonyl-[2-(4-trifluoromethyl-phenoxy)-ethyl]-amino}-6-fluoro-1,2,3,4-tetrahydro-9 <i>H</i> -carbazol-9-yl)-acetate	C33H32N2O5F4 612.614
Ethyl (3 <i>S</i>)-{3-[benzyloxycarbonyl-(2-methoxy-ethyl)-amino]-6-fluoro-1,2,3,4-tetrahydro-9 <i>H</i> -carbazol-9-yl}-acetate	C27H31N2O5F 482.546

3) N-Acylation of an intermediate of Structure **2a** or **2b**:

Method (A)

The appropriate acid chloride (0.132 mmol) and a catalytical amount of DMAP are added to
5 a stirred solution of a hydrochloride of the appropriate intermediate of Structure **2a** or **2b**
(0.11 mmol) and Et₃N (0.034 ml, 0.242 mmol) in DCM (2 ml) at 0°C, and the resulting
reaction mixture is kept stirring at rt overnight. Then, a (1:4) mixture (1 ml) of sat. NaHCO₃
and H₂O is added. After phase separation, the aq. layer is extracted three times with DCM,
and the combined org. layers are washed with 10% citric acid to remove DMAP. The
10 solvent is evaporated and the pure ethyl (3-acylamido-1,2,3,4-tetrahydro-9*H*-carbazol-9-yl)-
acetate derivative of Structure **1** is isolated by preparative HPLC in 10 to 95 % yield.

Method (B)

A solution of a hydrochloride of the appropriate intermediate of Structure **2a** or **2b** (0.075
15 mmol) and DIEA (0.15 mmol) in a 4:1 mixture (2 ml) of dry DMF and THF is added

dropwise to a stirred solution of the appropriate carboxylic acid (0.113 mmol), HATU (0.15 mmol) and DIEA (0.15 mmol) in a 4:1 mixture (2 ml) of dry DMF and THF at 0°C. The mixture is stirred at rt for 1 h, or overnight, then sat. NaHCO₃ solution is added. After phase separation, the aq. layer is extracted three times with DCM. The combined org. phases are evaporated. The crude ethyl (3-acylamido-1,2,3,4-tetrahydro-9*H*-carbazol-9-yl)-acetate derivative of Structure 1 is obtained with >50% yield and is either used as such in the next step or purified by preparative HPLC to give the pure ethyl (3-acylamino-1,2,3,4-tetrahydro-9*H*-carbazol-9-yl)-acetate derivative of Structure 1 with 13 to 95% yield.

- 10 Listed in Table 4 below are crude ethyl (3-acylamino-1,2,3,4-tetrahydro-9*H*-carbazol-9-yl)-acetate derivatives of Structure 1, prepared according to the above mentioned methods (A) or (B), with the corresponding intermediate of Structure 2a or 2b as starting material.

Table 4

Intermediates of Structure 1:		Formula	t _R [min] MS Data	
Ethyl	(3-acylamino-1,2,3,4-tetrahydro-9 <i>H</i> -carbazol-9-yl)-acetate derivatives	MW	LC-MS Method	m/z [M+H] ⁺
Ethyl	(3 <i>R</i>)-(3-benzoylamino-1,2,3,4-tetrahydro-9 <i>H</i> -carbazol-9-yl)-acetate	C ₂₃ H ₂₄ N ₂ O ₃ 376.455	1.11 LC-2	399.00 [M+Na] ⁺
Ethyl	(3 <i>R</i>)-[3-(2-phenoxy-acetylamino)-1,2,3,4-tetrahydro-9 <i>H</i> -carbazol-9-yl]-acetate	C ₂₄ H ₂₆ N ₂ O ₄ 406.48	1.13 LC-2	428.93 [M+Na] ⁺
Ethyl	(3 <i>R</i>)-(3-phenylacetylamino-1,2,3,4-tetrahydro-9 <i>H</i> -carbazol-9-yl)-acetate	C ₂₄ H ₂₆ N ₂ O ₃ 390.481	1.11 LC-2	412.97 [M+Na] ⁺
Ethyl	(3 <i>R</i>)-[3-(2-thiophen-2-yl-acetylamino)-1,2,3,4-tetrahydro-9 <i>H</i> -carbazol-9-yl]-acetate	C ₂₂ H ₂₄ N ₂ O ₃ S 396.51	1.09 LC-2	396.98
Ethyl	(3 <i>R</i>)-[3-(3-phenyl-propionylamino)-1,2,3,4-tetrahydro-9 <i>H</i> -carbazol-9-yl]-acetate	C ₂₅ H ₂₈ N ₂ O ₃ 404.508	1.13 LC-2	427.03 [M+Na] ⁺
Ethyl	(3 <i>R</i>)-[3-(2-benzyloxy-acetylamino)-1,2,3,4-tetrahydro-9 <i>H</i> -carbazol-9-yl]-acetate	C ₂₅ H ₂₈ N ₂ O ₄ 420.507	1.14 LC-2	421.07
Ethyl	(3 <i>R</i>)-[3-(3-methyl-butyrylamino)-1,2,3,4-tetrahydro-9 <i>H</i> -carbazol-9-yl]-acetate	C ₂₁ H ₂₈ N ₂ O ₃ 356.464	1.09 LC-2	357.1
Ethyl	(3 <i>R</i>)-[3-(3-cyclopentyl-propionylamino)-1,2,3,4-tetrahydro-9 <i>H</i> -carbazol-9-yl]-acetate	C ₂₄ H ₃₂ N ₂ O ₃ 396.529	1.17 LC-2	397.05
Ethyl	(3 <i>R</i>)-(3-decanoylamino-1,2,3,4-tetrahydro-9 <i>H</i> -carbazol-9-yl)-acetate	C ₂₆ H ₃₈ N ₂ O ₃ 426.599	1.28 LC-2	449.01 [M+Na] ⁺

Ethyl (3S)-[3-(2-phenoxy-acetylamino)-1,2,3,4-tetrahydro-9H-carbazol-9-yl]-acetate	C24H26N2O4	1.03	407.23
	406.48	LC-2	
Ethyl (3S)-(3-phenylacetylamino-1,2,3,4-tetrahydro-9H-carbazol-9-yl)-acetate	C24H26N2O3	1.1	391.13
	390.481	LC-2	
Ethyl (3S)-[3-(2-thiophen-2-yl-acetylamino)-1,2,3,4-tetrahydro-9H-carbazol-9-yl]-acetate	C22H24N2O3S	1.1	397
	396.51	LC-2	
Ethyl (3S)-[3-(3-phenyl-propionylamino)-1,2,3,4-tetrahydro-9H-carbazol-9-yl]-acetate	C25H28N2O3	1.13	405.12
	404.508	LC-2	
Ethyl (3S)-[3-(2-benzyloxy-acetylamino)-1,2,3,4-tetrahydro-9H-carbazol-9-yl]-acetate	C25H28N2O4	1.14	421.09
	420.507	LC-2	
Ethyl (3S)-[3-(3-methyl-butyrylamino)-1,2,3,4-tetrahydro-9H-carbazol-9-yl]-acetate	C21H28N2O3	1.1	357.13
	356.464	LC-2	
Ethyl (3S)-[3-(3-cyclopentyl-propionylamino)-1,2,3,4-tetrahydro-9H-carbazol-9-yl]-acetate	C24H32N2O3	1.18	397.16
	396.529	LC-2	
Ethyl (3S)-(3-decanoylamino-1,2,3,4-tetrahydro-9H-carbazol-9-yl)-acetate	C26H38N2O3	1.15	427.32
	426.599	LC-2	
Ethyl (3S)-(3-butyrylamino-1,2,3,4-tetrahydro-9H-carbazol-9-yl)-acetate	C20H26N2O3	1.07	343.15
	342.437	LC-2	
Ethyl (3S)-(3-heptanoylamino-1,2,3,4-tetrahydro-9H-carbazol-9-yl)-acetate	C23H32N2O3	1.18	385.18
	384.518	LC-2	
Ethyl (3R)-[6-fluoro-3-(2-phenoxy-acetylamino)-1,2,3,4-tetrahydro-9H-carbazol-9-yl]-acetate	C24H25N2O4F	1.15	425.28
	424.471	LC-2	
Ethyl (3R)-(6-fluoro-3-phenylacetylamino-1,2,3,4-tetrahydro-9H-carbazol-9-yl)-acetate	C24H25N2O3F	1.12	409.28
	408.472	LC-2	
Ethyl (3R)-[6-Fluoro-3-(3-phenyl-propionylamino)-1,2,3,4-tetrahydro-9H-carbazol-9-yl]-acetate	C25H27N2O3F	1.15	423.27
	422.498	LC-2	
Ethyl (3R)-{3-[2-(4-Chloro-phenyl)-acetylamino]-6-fluoro-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetate	C24H24N2O3ClF	1.18	443.21
	442.917	LC-2	
Ethyl (3R)-{6-fluoro-3-[2-(4-methoxy-phenyl)-acetylamino]-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetate	C25H27N2O4F	1.12	439.2
	438.497	LC-2	
Ethyl (3R)-[6-fluoro-3-(2-p-tolyl-acetylamino)-1,2,3,4-tetrahydro-9H-carbazol-9-yl]-acetate	C25H27N2O3F	1.14	423.34
	422.498	LC-2	
Ethyl (3R)-{3-[2-(3,4-dichloro-phenyl)-acetylamino]-6-fluoro-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-	C24H23N2O3Cl2F	1.18	477.22
	477.362	LC-2	

acetate

Ethyl (3 <i>R</i>)-{3-[2-(3-chloro-phenyl)-acetylamino]-6-fluoro-1,2,3,4-tetrahydro-9 <i>H</i> -carbazol-9-yl}-acetate	C ₂₄ H ₂₄ N ₂ O ₃ ClF	1.16	443.28
	442.917	LC-2	
Ethyl (3 <i>R</i>)-{6-fluoro-3-[2-(4-trifluoromethyl-phenyl)-acetylamino]-1,2,3,4-tetrahydro-9 <i>H</i> -carbazol-9-yl}-acetate	C ₂₅ H ₂₄ N ₂ O ₃ F ₄	1.17	477.29
	476.469	LC-2	
Ethyl (3 <i>R</i>)-{3-[2-(4-chloro-phenoxy)-acetylamino]-6-fluoro-1,2,3,4-tetrahydro-9 <i>H</i> -carbazol-9-yl}-acetate	C ₂₄ H ₂₄ N ₂ O ₄ ClF	1.18	459.28
	458.916	LC-2	
Ethyl (3 <i>R</i>)-[6-fluoro-3-(2- <i>p</i> -tolylloxy-acetylamino)-1,2,3,4-tetrahydro-9 <i>H</i> -carbazol-9-yl]-acetate	C ₂₅ H ₂₇ N ₂ O ₄ F	1.18	439.27
	438.497	LC-2	
Ethyl (3 <i>R</i>)-{3-[2-(2-chloro-phenoxy)-acetylamino]-6-fluoro-1,2,3,4-tetrahydro-9 <i>H</i> -carbazol-9-yl}-acetate	C ₂₄ H ₂₄ N ₂ O ₄ ClF	1.17	459.21
	458.916	LC-2	
Ethyl (3 <i>R</i>)-{3-[2-(3-chloro-phenoxy)-acetylamino]-6-fluoro-1,2,3,4-tetrahydro-9 <i>H</i> -carbazol-9-yl}-acetate	C ₂₄ H ₂₄ N ₂ O ₄ ClF	1.18	459.21
	458.916	LC-2	
Ethyl (3 <i>R</i>)-{6-fluoro-3-[3-(4-methoxy-phenyl)-propionylamino]-1,2,3,4-tetrahydro-9 <i>H</i> -carbazol-9-yl}-acetate	C ₂₆ H ₂₉ N ₂ O ₄ F	1.14	453.26
	452.524	LC-2	
Ethyl (3 <i>R</i>)-[6-fluoro-3-(3- <i>p</i> -tolyl-propionylamino)-1,2,3,4-tetrahydro-9 <i>H</i> -carbazol-9-yl]-acetate	C ₂₆ H ₂₉ N ₂ O ₃ F	1.17	437.26
	436.525	LC-2	
Ethyl (3 <i>R</i>)-{3-[3-(4-chloro-phenyl)-propionylamino]-6-fluoro-1,2,3,4-tetrahydro-9 <i>H</i> -carbazol-9-yl}-acetate	C ₂₅ H ₂₆ N ₂ O ₃ ClF	1.18	457.2
	456.943	LC-2	
Ethyl (3 <i>R</i>)-{3-[3-(2-chloro-phenyl)-propionylamino]-6-fluoro-1,2,3,4-tetrahydro-9 <i>H</i> -carbazol-9-yl}-acetate	C ₂₅ H ₂₆ N ₂ O ₃ ClF	1.18	457.2
	456.943	LC-2	
Ethyl (3 <i>R</i>)-{3-[3-(3-chloro-phenyl)-propionylamino]-6-fluoro-1,2,3,4-tetrahydro-9 <i>H</i> -carbazol-9-yl}-acetate	C ₂₅ H ₂₆ N ₂ O ₃ ClF	1.17	457.2
	456.943	LC-2	
Ethyl (3 <i>S</i>)-{3-[2-(4-chloro-phenyl)-acetylamino]-6-fluoro-1,2,3,4-tetrahydro-9 <i>H</i> -carbazol-9-yl}-acetate	C ₂₄ H ₂₄ N ₂ O ₃ ClF	1.15	443.21
	442.917	LC-2	
Ethyl (3 <i>S</i>)-{6-fluoro-3-[2-(4-methoxy-phenyl)-acetylamino]-1,2,3,4-tetrahydro-9 <i>H</i> -carbazol-9-yl}-acetate	C ₂₅ H ₂₇ N ₂ O ₄ F	1.12	439.33
	438.497	LC-2	
Ethyl (3 <i>S</i>)-[6-fluoro-3-(2- <i>p</i> -tolyl-acetylamino)-1,2,3,4-tetrahydro-9 <i>H</i> -carbazol-9-yl]-acetate	C ₂₅ H ₂₇ N ₂ O ₃ F	1.15	423.27
	422.498	LC-2	

Ethyl (3S)-[6-fluoro-3-(2-phenoxy-acetyl-amino)-1,2,3,4-tetrahydro-9H-carbazol-9-yl]-acetate	C24H25N2O4F 424.471	1.15 LC-2	425.28
Ethyl (3S)-[6-fluoro-3-(3-phenyl-propionyl-amino)-1,2,3,4-tetrahydro-9H-carbazol-9-yl]-acetate	C25H27N2O3F 422.498	1.14 LC-2	423.27
Ethyl (3S)-{3-[2-(4-chloro-phenoxy)-acetyl-amino]-6-fluoro-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetate	C24H24N2O4ClF 458.916	1.17 LC-2	459.21
Ethyl (3S)-[6-fluoro-3-(2-p-tolyl-oxy-acetyl-amino)-1,2,3,4-tetrahydro-9H-carbazol-9-yl]-acetate	C25H27N2O4F 438.497	1.18 LC-2	439.27
Ethyl (3S)-{6-fluoro-3-[3-(4-methoxy-phenyl)-propionyl-amino]-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetate	C26H29N2O4F 452.524	1.14 LC-2	453.33
Ethyl (3S)-[6-fluoro-3-(3-p-tolyl-propionyl-amino)-1,2,3,4-tetrahydro-9H-carbazol-9-yl]-acetate	C26H29N2O3F 436.525	1.17 LC-2	437.33
Ethyl (3S)-{3-[3-(4-chloro-phenyl)-propionyl-amino]-6-fluoro-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetate	C25H26N2O3ClF 456.943	1.17 LC-2	457.27
Ethyl (3S)-{3-[3-(2-chloro-phenyl)-propionyl-amino]-6-fluoro-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetate	C25H26N2O3ClF 456.943	1.17 LC-2	457.27
Ethyl (3S)-{3-[3-(3-chloro-phenyl)-propionyl-amino]-6-fluoro-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetate	C25H26N2O3ClF 456.943	1.18 LC-2	457.27
Ethyl (3S)-{3-[3-(3,4-difluoro-phenyl)-propionyl-amino]-6-fluoro-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetate	C25H25N2O3F3 458.479	1.17 LC-2	459.28
Ethyl (3S)-{6-fluoro-3-[3-(3-methoxy-phenyl)-propionyl-amino]-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetate	C26H29N2O4F 452.524	1.14 LC-2	453.33
Ethyl (3S)-{6-fluoro-3-[3-(2-methoxy-phenyl)-propionyl-amino]-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetate	C26H29N2O4F 452.524	1.16 LC-2	453.33
Ethyl (3S)-[3-(2,3-diphenyl-propionyl-amino)-6-fluoro-1,2,3,4-tetrahydro-9H-carbazol-9-yl]-acetate	C31H31N2O3F 498.596	1.21 LC-2	499.39
Ethyl (3S)-[3-(3,3-diphenyl-propionyl-amino)-6-fluoro-1,2,3,4-tetrahydro-9H-carbazol-9-yl]-acetate	C31H31N2O3F 498.596	1.2 LC-2	499.39

Ethyl (3S)-{3-[4-(4-bromo-phenyl)-4-oxo-butylamino]-6-fluoro-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetate	C26H26N2O4BrF 529.404	1.17 LC-2	531.25
Ethyl (3S)-[6-fluoro-3-(4-oxo-4-phenyl-butylamino)-1,2,3,4-tetrahydro-9H-carbazol-9-yl]-acetate	C26H27N2O4F 450.508	1.12 LC-2	451.25
Ethyl (3S)-{6-Fluoro-3-[4-(4-methanesulfonyl-phenyl)-4-oxo-butylamino]-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetate	C27H29N2O6FS 528.599	1.07 LC-2	529.31
Ethyl (3S)-[6-fluoro-3-(2-indan-2-yl-acetyl-amino)-1,2,3,4-tetrahydro-9H-carbazol-9-yl]-acetate	C27H29N2O3F 448.536	1.18 LC-2	449.31
Ethyl (3S)-{6-fluoro-3-[3-(4-hydroxy-3-methoxy-phenyl)-propionylamino]-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetate	C26H29FN2O5 468.52	1.08 LC-3	469.04
Ethyl (3S)-{6-fluoro-3-[3-(4-hydroxy-phenyl)-propionylamino]-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetate	C25H27FN2O4 438.49	1.07 LC-3	439.06
Ethyl (3S)-{6-fluoro-3-[3-(3-hydroxy-phenyl)-propionylamino]-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetate	C25H27FN2O5 439.49	1.08 LC-3	439.06
Ethyl (3S)-{6-fluoro-3-[3-(2-hydroxy-phenyl)-propionylamino]-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetate	C25H27FN2O6 440.49	n. d. LC-3	n. d.
Ethyl (3S)-{3-[(2,3-dihydro-1H-indole-2-carbonyl)-amino]-6-fluoro-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetate	C25H26FN3O3 435.49	1.14 LC-3	436.08
Ethyl (3S)-[6-fluoro-3-(3-1H-indol-3-yl-propionylamino)-1,2,3,4-tetrahydro-9H-carbazol-9-yl]-acetate	C27H28FN3O3 461.53	1.15 LC-3	462.05
Ethyl (3S)-[3-(3-1H-benzimidazol-2-yl-propionylamino)-6-fluoro-1,2,3,4-tetrahydro-9H-carbazol-9-yl]-acetate	C26H27FN4O3 462.52	0.86 LC-3	463.09
Ethyl (3S)-[3-(3-benzo[1,3]dioxol-5-yl-propionylamino)-6-fluoro-1,2,3,4-tetrahydro-9H-carbazol-9-yl]-acetate	C26H27FN2O5 466.5	1.15 LC-3	467.03

Ethyl (3S)-{6-fluoro-3-[(1 <i>H</i> -indole-2-carbonyl)-amino]-1,2,3,4-tetrahydro-9 <i>H</i> -carbazol-9-yl}-acetate	C25H24FN3O3 433.47	n. d. LC-3	n. d.
Ethyl (3S)-[6-fluoro-3-(3-pyridin-3-yl-propionylamino)-1,2,3,4-tetrahydro-9 <i>H</i> -carbazol-9-yl]-acetate	C24H26FN3O3 423.48	n. d. LC-3.	n. d.
Ethyl (3S)-{3-[2-(4- <i>tert</i> -butyl-phenyl)-acetyl-amino]-6-fluoro-1,2,3,4-tetrahydro-9 <i>H</i> -carbazol-9-yl}-acetate	C28H33FN2O3 464.57	n. d. LC-3	n. d.
Ethyl (3S)-{6-fluoro-3-[2-(4-trifluoromethyl-phenyl)-acetyl-amino]-1,2,3,4-tetrahydro-9 <i>H</i> -carbazol-9-yl}-acetate	C25H24F4N2O3 476.46	n. d. LC-3	n. d.
Ethyl (3S)-{6-fluoro-3-[2-(3-trifluoromethyl-phenyl)-acetyl-amino]-1,2,3,4-tetrahydro-9 <i>H</i> -carbazol-9-yl}-acetate	C25H24F4N2O3 476.46	1.26 LC-2	477.04
Ethyl (3S)-{6-fluoro-3-[2-(4-trifluoromethyl-phenoxy)-acetyl-amino]-1,2,3,4-tetrahydro-9 <i>H</i> -carbazol-9-yl}-acetate	C25H24F4N2O4 492.46	n. d. LC-3.	n. d.
Ethyl (3S)-[6-fluoro-3-(3-naphthalen-2-yl-acryloylamino)-1,2,3,4-tetrahydro-9 <i>H</i> -carbazol-9-yl]-acetate	C29H27FN2O3 470.53	1.29 LC-2	471.05
Ethyl (3S)-[6-fluoro-3-(3-naphthalen-2-yl-propionylamino)-1,2,3,4-tetrahydro-9 <i>H</i> -carbazol-9-yl]-acetate	C29H29FN2O3 472.55	1.27 LC-2	473.08
Ethyl (3S)-{6-fluoro-3-[methyl-(3-phenyl-propionyl)-amino]-1,2,3,4-tetrahydro-9 <i>H</i> -carbazol-9-yl}-acetate	C26H29FN2O3 436.52	1.08 LC-3	437.28
Ethyl (3S)-(3-{[2-(4-chloro-phenyl)-acetyl]-methyl-amino}-6-fluoro-1,2,3,4-tetrahydro-9 <i>H</i> -carbazol-9-yl)-acetate	C25H26ClFN2O3 456.94	1.09 LC-3	473.08
Ethyl (3S)-{6-fluoro-3-[ethyl-(3-phenyl-propionyl)-amino]-1,2,3,4-tetrahydro-9 <i>H</i> -carbazol-9-yl}-acetate	C27H31FN2O3 450.55	1.09 LC-3	451.23
Ethyl (3S)-(3-{[2-(4-chloro-phenyl)-acetyl]-ethyl-amino}-6-fluoro-1,2,3,4-tetrahydro-9 <i>H</i> -carbazol-9-yl)-acetate	C26H28ClFN2O3 470.96	1.1 LC-3	471.22

Ethyl (3 <i>S</i>)-{6-fluoro-3-[propyl-(3-phenyl-propionyl)-amino]-1,2,3,4-tetrahydro-9 <i>H</i> -carbazol-9-yl}-acetate	C ₂₈ H ₃₃ FN ₂ O ₃ 464.57	1.11 LC-3	465.23
Ethyl (3 <i>S</i>)-(3-{[2-(4-chloro-phenyl)-acetyl]-propyl-amino}-6-fluoro-1,2,3,4-tetrahydro-9 <i>H</i> -carbazol-9-yl)-acetate	C ₂₇ H ₃₀ ClFN ₂ O 484.99	1.12 LC-3	485.20

Listed in Table 4a below are further ethyl (3-acylamino-1,2,3,4-tetrahydro-9*H*-carbazol-9-yl)-acetate derivatives of Structure 1, prepared according to the above mentioned methods (A) or (B), with the corresponding intermediate of Structure 2a or 2b as starting material.

5 **Table 4a**

Intermediates of Structure 1:	Formula
Ethyl (3-acylamino-1,2,3,4-tetrahydro-9<i>H</i>-carbazol-9-yl)-acetate derivatives	MW
Ethyl (3 <i>S</i>)-{3-[3-(2,4-dimethoxy-phenyl)-propionylamino]-6-fluoro-1,2,3,4-tetrahydro-9 <i>H</i> -carbazol-9-yl}-acetate	C ₂₇ H ₃₁ N ₂ O ₅ F 482.546
Ethyl (3 <i>S</i>)-[6-fluoro-3-(3-naphthalen-1-yl-propionylamino)-1,2,3,4-tetrahydro-9 <i>H</i> -carbazol-9-yl]-acetate	C ₂₉ H ₂₉ N ₂ O ₃ F 472.555
Ethyl (3 <i>RS</i>)-{6-fluoro-3-[2-(2-methoxy-phenoxy)-acetyl-amino]-1,2,3,4-tetrahydro-9 <i>H</i> -carbazol-9-yl}-acetate	C ₂₅ H ₂₇ N ₂ O ₅ F 454.493
Ethyl (3 <i>RS</i>)-{6-fluoro-3-[3-(2-methylphenyl)-propionylamino]-1,2,3,4-tetrahydro-9 <i>H</i> -carbazol-9-yl}-acetate	C ₂₆ H ₂₉ N ₂ O ₃ F 436.522
Ethyl (3 <i>RS</i>)-{6-fluoro-3-[3-(3-methylphenyl)-propionylamino]-1,2,3,4-tetrahydro-9 <i>H</i> -carbazol-9-yl}-acetate	C ₂₆ H ₂₉ N ₂ O ₃ F 436.522
Ethyl (3 <i>RS</i>)-{6-fluoro-3-[3-(3-methoxy-phenyl)-propionylamino]-1,2,3,4-tetrahydro-9 <i>H</i> -carbazol-9-yl}-acetate	C ₂₆ H ₂₉ N ₂ O ₄ F 452.521

Ethyl (3 <i>RS</i>)-{6-fluoro-3-[2-(3-methoxy-phenoxy)-acetyl-amino]-1,2,3,4-tetrahydro-9 <i>H</i> -carbazol-9-yl}-acetate	C25H27N2O5F 454.493
Ethyl (3 <i>RS</i>)-{6-fluoro-3-[2-(2-methylphenoxy)-acetyl-amino]-1,2,3,4-tetrahydro-9 <i>H</i> -carbazol-9-yl}-acetate	C25H27N2O4F 438.494
Ethyl (3 <i>S</i>)-{3-[3-(2,5-dimethoxy-phenyl)-propionyl-amino]-6-fluoro-1,2,3,4-tetrahydro-9 <i>H</i> -carbazol-9-yl}-acetate	C22H31N2O5F 482.546
Ethyl (3 <i>S</i>)-{6-fluoro-3-[3-(4-trifluoromethyl-phenyl)-propionyl-amino]-1,2,3,4-tetrahydro-9 <i>H</i> -carbazol-9-yl}-acetate	C26H26N2O3F4 490.492
Ethyl (3 <i>S</i>)-{3-[3-(2,6-dichloro-phenyl)-propionyl-amino]-6-fluoro-1,2,3,4-tetrahydro-9 <i>H</i> -carbazol-9-yl}-acetate	C25H25N2O3Cl2F 491.385
Ethyl (3 <i>S</i>)-{3-[3-(2,5-bis-trifluoromethyl-phenyl)-propionyl-amino]-6-fluoro-1,2,3,4-tetrahydro-9 <i>H</i> -carbazol-9-yl}-acetate	C27H25N2O3F7 558.489
Ethyl (3 <i>S</i>)-{6-fluoro-3-[3-(4-methylsulfanyl-phenyl)-propionyl-amino]-1,2,3,4-tetrahydro-9 <i>H</i> -carbazol-9-yl}-acetate	C26H29N2O3FS 468.588
Ethyl (3 <i>S</i>)-{6-fluoro-3-[3-(4-iodo-phenyl)-propionyl-amino]-1,2,3,4-tetrahydro-9 <i>H</i> -carbazol-9-yl}-acetate	C25H26N2O3FI 548.387
Ethyl (3 <i>S</i>)-{6-fluoro-3-[3-(4-isopropyl-phenyl)-propionyl-amino]-1,2,3,4-tetrahydro-9 <i>H</i> -carbazol-9-yl}-acetate	C28H33N2O3F 464.575
Ethyl (3 <i>S</i>)-{6-fluoro-3-[3-(3-trifluoromethyl-phenyl)-propionyl-amino]-1,2,3,4-tetrahydro-9 <i>H</i> -carbazol-9-yl}-acetate	C26H26N2O3F4 490.492
Ethyl (3 <i>S</i>)-{3-[3-(2,4-dichloro-phenyl)-propionyl-amino]-6-fluoro-1,2,3,4-tetrahydro-9 <i>H</i> -carbazol-9-yl}-acetate	C25H25N2O3Cl2F 491.385

Ethyl (3S)-{6-fluoro-3-[3-(4-fluoro-phenyl)-propionylamino]-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetate	C25H26N2O3F2 440.485
Ethyl (3S)-{3-[3-(3,5-bis-trifluoromethyl-phenyl)-propionylamino]-6-fluoro-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetate	C27H25N2O3F7 558.489
Ethyl (3S)-{3-[3-(4-ethyl-phenyl)-propionylamino]-6-fluoro-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetate	C27H31N2O3F 450.548
Ethyl (3S)-{6-fluoro-3-[3-(3-iodo-phenyl)-propionylamino]-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetate	C25H26N2O3FI 548.387
Ethyl (3S)-{6-fluoro-3-[3-(4-methanesulfonyl-phenyl)-propionylamino]-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetate	C26H29N2O5FS 500.586
Ethyl (3S)-{3-[3-(2,3-dimethoxy-phenyl)-propionylamino]-6-fluoro-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetate	C27H31N2O5F 482.546
Ethyl (3S)-{3-[3-(2-bromo-phenyl)-propionylamino]-6-fluoro-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetate	C25H26N2O3BrF 501.391
Ethyl (3S)-{6-fluoro-3-[3-(3-trifluoromethoxy-phenyl)-propionylamino]-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetate	C26H26N2O4F4 506.491
Ethyl (3S)-{3-[3-(2,4-dimethyl-phenyl)-propionylamino]-6-fluoro-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetate	C27H31N2O3F 450.548
Ethyl (3S)-{3-[3-(3-bromo-phenyl)-propionylamino]-6-fluoro-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetate	C25H26N2O3BrF 501.391
Ethyl (3S)-{3-[3-(3-tert-butoxycarbonylamino-phenyl)-propionylamino]-6-fluoro-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetate	C30H36N3O5F 537.626

Ethyl (3S)-{6-fluoro-3-[(S)-3-(4-fluoro-phenyl)-2-phenyl-propionylamino]-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetate	C31H30N2O3F2 516.582
Ethyl (3S)-{6-fluoro-3-[(S)-3-(4-methoxy-phenyl)-2-phenyl-propionylamino]-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetate	C32H33N2O4F 528.618
Ethyl (3S)-{6-fluoro-3-[3-(2-fluoro-phenyl)-propionylamino]-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetate	C25H26N2O3F2 440.485
Ethyl (3S)-(6-fluoro-3-[(2RS)-1,2,3,4-tetrahydro-naphthalene-2-carbonyl]-amino)-1,2,3,4-tetrahydro-9H-carbazol-9-yl)-acetate	C27H29N2O3F 448.533
Ethyl (3S)-(6-fluoro-3-[(2RS)-8-methoxy-1,2,3,4-tetrahydro-naphthalene-2-carbonyl]-amino)-1,2,3,4-tetrahydro-9H-carbazol-9-yl)-acetate	C28H31N2O4F 478.558
Ethyl (3S)-(6-fluoro-3-{(2RS)-2-[(4-fluoro-phenylcarbamoyl)-methyl]-3-phenyl-propionylamino}-1,2,3,4-tetrahydro-9H-carbazol-9-yl)-acetate	C33H33N3O4F2 573.634
Ethyl (3S)-{3-[(2RS)-2-benzyl-3,3-dimethyl-butyrylamino]-6-fluoro-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetate	C29H35N2O3F 478.602
Ethyl (3S)-(3-[(3RS)-chroman-3-carbonyl]-amino)-6-fluoro-1,2,3,4-tetrahydro-9H-carbazol-9-yl)-acetate	C26H27N2O4F 450.505
Ethyl (3S)-{6-fluoro-3-[3-(3-fluoro-phenyl)-propionylamino]-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetate	C25H26N2O3F2 440.485
Ethyl (3S)-(6-fluoro-3-[(1R,2R)-2-phenyl-cyclopropanecarbonyl]-amino)-1,2,3,4-tetrahydro-9H-carbazol-9-yl)-acetate	C26H27N2O3F 434.506

Ethyl (3S)-{6-fluoro-3-[(2R)-2-methyl-3-phenyl-propionylamino]-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetate	C26H29N2O3F 436.522
Ethyl (3S)-[3-(2,2-dimethyl-3-phenyl-propionylamino)-6-fluoro-1,2,3,4-tetrahydro-9H-carbazol-9-yl]-acetate	C27H31N2O3F 450.552 450.548
Ethyl (3S)-[6-fluoro-3-(3-methyl-3-phenyl-butyrylamino)-1,2,3,4-tetrahydro-9H-carbazol-9-yl]-acetate	C27H31N2O3F 450.548
Ethyl (3S)-{6-fluoro-3-[(3S)-3-phenyl-butyrylamino]-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetate	C26H29N2O3F 436.522
Ethyl (3S)-[3-(2-benzyloxy-acetyl-amino)-6-fluoro-1,2,3,4-tetrahydro-9H-carbazol-9-yl]-acetate	C25H27N2O4F 438.494
Ethyl (3S)-[6-fluoro-3-(4-phenyl-butyrylamino)-1,2,3,4-tetrahydro-9H-carbazol-9-yl]-acetate	C26H29N2O3F 436.522
Ethyl (3S)-{3-[(2R,3R)-2,3-dihydroxy-3-(2-methoxy-phenylcarbamoyl)-propionylamino]-6-fluoro-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetate	C27H30N3O7F 527.543
Ethyl (3RS)-{8-chloro-6-fluoro-3-[3-(2-methylphenyl)-propionylamino]-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetate	C26H28N2O3ClF 470.967
Ethyl (3RS)-{8-chloro-6-fluoro-3-[2-(2-methoxy-phenoxy)-acetyl-amino]-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetate	C25H26N2O5ClF 488.938
Ethyl (3RS)-{8-chloro-6-fluoro-3-[3-(3-hydroxy-phenyl)-propionylamino]-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetate	C25H26N2O4ClF 472.939

Ethyl (3 <i>RS</i>)-{8-chloro-6-fluoro-3-[3-(3-methoxy-phenyl)-propionylamino]-1,2,3,4-tetrahydro-9 <i>H</i> -carbazol-9-yl}-acetate	C26H28N2O4ClF 486.966
Ethyl (3 <i>RS</i>)-{8-chloro-6-fluoro-3-[3-(3-methylphenyl)-propionylamino]-1,2,3,4-tetrahydro-9 <i>H</i> -carbazol-9-yl}-acetate	C22H28N2O3ClF 470.967
Ethyl (3 <i>RS</i>)-{8-chloro-6-fluoro-3-[3-(2-hydroxy-phenyl)-propionylamino]-1,2,3,4-tetrahydro-9 <i>H</i> -carbazol-9-yl}-acetate	C25H26N2O4ClF 472.939
Ethyl (3 <i>RS</i>)-[8-chloro-6-fluoro-3-(3-phenyl-propionylamino)-1,2,3,4-tetrahydro-9 <i>H</i> -carbazol-9-yl]-acetate	C25H26N2O3ClF 456.94
Ethyl (3 <i>RS</i>)-{8-chloro-6-fluoro-3-[3-(2-methoxy-phenyl)-propionylamino]-1,2,3,4-tetrahydro-9 <i>H</i> -carbazol-9-yl}-acetate	C26H28N2O4ClF 486.966
Ethyl (3 <i>RS</i>)-{8-chloro-3-[3-(3-chloro-phenyl)-propionylamino]-6-fluoro-1,2,3,4-tetrahydro-9 <i>H</i> -carbazol-9-yl}-acetate	C25H25N2O3Cl2F 491.385
Ethyl (3 <i>RS</i>)-[8-chloro-6-fluoro-3-(3-1 <i>H</i> -indol-3-yl-propionylamino)-1,2,3,4-tetrahydro-9 <i>H</i> -carbazol-9-yl]-acetate	C27H27N3O3ClF 495.977
Ethyl (3 <i>RS</i>)-{8-chloro-3-[2-(2-chloro-phenoxy)-acetyl-amino]-6-fluoro-1,2,3,4-tetrahydro-9 <i>H</i> -carbazol-9-yl}-acetate	C24H23N2O4Cl2F 493.357
Ethyl (3 <i>RS</i>)-{8-chloro-6-fluoro-3-[2-(2-methylphenyl)-oxy-acetyl-amino]-1,2,3,4-tetrahydro-9 <i>H</i> -carbazol-9-yl}-acetate	C25H26N2O4ClF 472.939
Ethyl (3 <i>RS</i>)-[3-(3-benzo[1,3]dioxol-5-yl-propionylamino)-8-chloro-6-fluoro-1,2,3,4-tetrahydro-9 <i>H</i> -carbazol-9-yl]-acetate	C26H26N2O5ClF 500.949
Ethyl (3 <i>RS</i>)-{8-chloro-6-fluoro-3-[2-(3-methoxy-phenoxy)-acetyl-amino]-1,2,3,4-tetrahydro-9 <i>H</i> -carbazol-9-yl}-acetate	C25H26N2O5ClF 488.938

Ethyl (3 <i>RS</i>)-{8-chloro-3-[2-(3-chloro-phenoxy)-acetylamino]-6-fluoro-1,2,3,4-tetrahydro-9 <i>H</i> -carbazol-9-yl}-acetate	C24H23N2O4Cl2F 493.357
Ethyl (3 <i>RS</i>)-{8-chloro-3-[3-(2-chloro-phenyl)-propionylamino]-6-fluoro-1,2,3,4-tetrahydro-9 <i>H</i> -carbazol-9-yl}-acetate	C25H25N2O3Cl2F 491.385
Ethyl (3 <i>RS</i>)-[8-chloro-6-fluoro-3-(2-indan-2-yl-acetylamino)-1,2,3,4-tetrahydro-9 <i>H</i> -carbazol-9-yl]-acetate	C27H28N2O3ClF 482.978
Ethyl (3 <i>S</i>)-(6-fluoro-3-{[2-(4-methoxy-phenyl)-acetyl]-methyl-amino}-1,2,3,4-tetrahydro-9 <i>H</i> -carbazol-9-yl)-acetate	C26H29N2O4F 452.521
Ethyl (3 <i>S</i>)-(6-fluoro-3-{methyl-[2-(4-methylphenyl)-acetyl]-amino}-1,2,3,4-tetrahydro-9 <i>H</i> -carbazol-9-yl)-acetate	C22H29N2O3F 436.522
Ethyl (3 <i>S</i>)-(6-fluoro-3-{[2-(2-methoxy-phenyl)-acetyl]-methyl-amino}-1,2,3,4-tetrahydro-9 <i>H</i> -carbazol-9-yl)-acetate	C26H29N2O4F 452.521
Ethyl (3 <i>S</i>)-{6-fluoro-3-[(2-indan-2-yl-acetyl)-methyl-amino]-1,2,3,4-tetrahydro-9 <i>H</i> -carbazol-9-yl}-acetate	C28H31N2O3F 462.559
Ethyl (3 <i>S</i>)-(3-{[2-(3-chloro-phenyl)-acetyl]-methyl-amino}-6-fluoro-1,2,3,4-tetrahydro-9 <i>H</i> -carbazol-9-yl)-acetate	C25H26N2O3ClF 456.94
Ethyl (3 <i>S</i>)-(6-fluoro-3-{methyl-[2-(3-methylphenyl)-acetyl]-amino}-1,2,3,4-tetrahydro-9 <i>H</i> -carbazol-9-yl)-acetate	C26H29N2O3F 436.522
Ethyl (3 <i>S</i>)-(6-fluoro-3-{[2-(3-methoxy-phenyl)-acetyl]-methyl-amino}-1,2,3,4-tetrahydro-9 <i>H</i> -carbazol-9-yl)-acetate	C26H29N2O4F 452.521
Ethyl (3 <i>S</i>)-(3-{[2-(2-chloro-phenoxy)-acetyl]-methyl-amino}-6-fluoro-1,2,3,4-tetrahydro-9 <i>H</i> -carbazol-9-yl)-acetate	C25H26N2O4ClF 472.939

Ethyl (3S)-(3-([2-(4-chloro-phenoxy)-acetyl]-methyl-amino)-6-fluoro-1,2,3,4-tetrahydro-9H-carbazol-9-yl)-acetate	C25H26N2O4ClF 472.939
Ethyl (3S)-(6-fluoro-3-([3-(3-methoxy-phenyl)-propionyl]-methyl-amino)-1,2,3,4-tetrahydro-9H-carbazol-9-yl)-acetate	C27H31N2O4F 466.547
Ethyl (3S)-(6-fluoro-3-{methyl-[2-(2-methylphenyl)-acetyl]-amino}-1,2,3,4-tetrahydro-9H-carbazol-9-yl)-acetate	C26H29N2O3F 436.522
Ethyl (3S)-{3-[(3,3-diphenyl-propionyl)-methyl-amino]-6-fluoro-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetate	C32H33N2O3F 512.619
Ethyl (3S)-(6-fluoro-3-([3-(2-methoxy-phenyl)-propionyl]-methyl-amino)-1,2,3,4-tetrahydro-9H-carbazol-9-yl)-acetate	C27H31N2O4F 466.547
Ethyl (3S)-{6-fluoro-3-[(3-1H-indol-3-yl-propionyl)-methyl-amino]-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetate	C28H30N3O3F 475.558
Ethyl (3S)-{3-[(2-benzyloxy-acetyl)-methyl-amino]-6-fluoro-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetate	C26H29N2O4F 452.521
Ethyl (3S)-{3-[(2,3-diphenyl-propionyl)-methyl-amino]-6-fluoro-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetate	C32H33N2O3F 512.619
Ethyl (3S)-{6-fluoro-3-[[3-(2-methoxy-phenyl)-propionyl]-(3-phenyl-propyl)-amino]-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetate	C35H39N2O4F 570.699
Ethyl (3S)-{3-[acetyl-(3-phenyl-propyl)-amino]-6-fluoro-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetate	C27H31N2O3F 450.548
Ethyl (3S)-{3-[cyclopropylmethyl-(3-phenyl-propionyl)-amino]-6-fluoro-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetate	C29H33N2O3F 476.586

Ethyl (3S)-{3-[cyclopropylmethyl-((S)-2-methyl-3-phenyl-propionyl)-amino]-6-fluoro-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetate	C30H35N2O3F 490.613
Ethyl (3S)-(3-{cyclopropylmethyl-[3-(2-methoxy-phenyl)-propionyl]-amino}-6-fluoro-1,2,3,4-tetrahydro-9H-carbazol-9-yl)-acetate	C30H35N2O4F 506.612
Ethyl (3S)-(3-{[2-(3-chloro-phenoxy)-acetyl]-cyclopropylmethyl-amino}-6-fluoro-1,2,3,4-tetrahydro-9H-carbazol-9-yl)-acetate	C28H30N2O4ClF 513.003
Ethyl (3S)-{3-[cyclopropylmethyl-(3,3-diphenyl-propionyl)-amino]-6-fluoro-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetate	C35H37N2O3F 552.684
Ethyl (3S)-{3-[cyclopropylmethyl-(2-naphthalen-1-yl-acetyl)-amino]-6-fluoro-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetate	C32H33N2O3F 512.619
Ethyl (3S)-(3-{acetyl-[2-(4-trifluoromethyl-phenoxy)-ethyl]-amino}-6-fluoro-1,2,3,4-tetrahydro-9H-carbazol-9-yl)-acetate	C27H28N2O4F4 520.518
Ethyl (3S)-(6-fluoro-3-{propionyl-[2-(4-trifluoromethyl-phenoxy)-ethyl]-amino}-1,2,3,4-tetrahydro-9H-carbazol-9-yl)-acetate	C28H30N2O4F4 534.544
Ethyl (3S)-(6-fluoro-3-{(3-phenyl-propionyl)-[2-(4-trifluoromethyl-phenoxy)-ethyl]-amino}-1,2,3,4-tetrahydro-9H-carbazol-9-yl)-acetate	C34H34N2O4F4 610.642
Ethyl (3S)-(6-fluoro-3-{[3-(2-methoxy-phenyl)-propionyl]-[2-(4-trifluoromethyl-phenoxy)-ethyl]-amino}-1,2,3,4-tetrahydro-9H-carbazol-9-yl)-acetate	C35H36N2O5F4 640.668
Ethyl (3S)-{6-fluoro-3-[(2-phenoxy-ethyl)-(3-phenyl-propionyl)-amino]-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetate	C33H35N2O4F 542.645

Ethyl (3S)-{6-fluoro-3-[(S)-2-methyl-3-phenyl-propionyl]-(2-phenoxy-ethyl)-amino]-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetate	C34H37N2O4F 556.672
Ethyl (3S)-{6-fluoro-3-[[3-(2-methoxy-phenyl)-propionyl]-(2-phenoxy-ethyl)-amino]-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetate	C34H37N2O5F 572.671
Ethyl (3S)-{3-[acetyl-(2-phenoxy-ethyl)-amino]-6-fluoro-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetate	C26H29N2O4F 452.521
Ethyl (3S)-{6-fluoro-3-[(2-methoxy-ethyl)-(3-phenyl-propionyl)-amino]-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetate	C28H33N2O4F 480.574
Ethyl (3S)-{6-fluoro-3-[(2-methoxy-ethyl)-((S)-2-methyl-3-phenyl-propionyl)-amino]-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetate	C29H35N2O4F 494.601
Ethyl (3S)-{6-fluoro-3-[(2-methoxy-ethyl)-[3-(2-methoxy-phenyl)-propionyl]-amino]-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetate	C29H35N2O5F 510.6
Ethyl (3S)-{3-[[2-(3-chloro-phenoxy)-acetyl]-(2-methoxy-ethyl)-amino]-6-fluoro-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetate	C27H30N2O5ClF 516.991
Ethyl (3S)-{3-[(3,3-diphenyl-propionyl)-(2-methoxy-ethyl)-amino]-6-fluoro-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetate	C34H37N2O4F 556.672
Ethyl (3S)-{6-fluoro-3-[(2-methoxy-ethyl)-(2-naphthalen-1-yl-acetyl)-amino]-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetate	C31H33N2O4F 516.607
Ethyl (3S)-{6-fluoro-3-[[2S)-2-methyl-3-phenyl-propionyl]-phenethyl-amino]-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetate	C34H37N2O3F 540.673
Ethyl (3S)-{6-fluoro-3-[[3-(2-methoxy-phenyl)-propionyl]-phenethyl-amino]-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetate	C34H37N2O4F 556.672

Ethyl (3S)-[3-(acetyl-phenethyl-amino)-6-fluoro-1,2,3,4-tetrahydro-9H-carbazol-9-yl]-acetate	C26H29N2O3F 436.522
Ethyl (3S)-{6-fluoro-3-[(2-naphthalen-1-yl-acetyl)-phenethyl-amino]-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetate	C36H35N2O3F 562.679
Ethyl (3S)-{6-fluoro-3-[phenethyl-(3-phenyl-propionyl)-amino]-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetate	C33H35N2O3F 526.646
Ethyl (3S)-[3-(3-benzyl-1-naphthalen-1-ylmethyl-ureido)-6-fluoro-1,2,3,4-tetrahydro-9H-carbazol-9-yl]-acetate	C35H34N3O3F 563.667
Ethyl (3S)-[3-(benzyloxycarbonyl-naphthalen-1-ylmethyl-amino)-6-fluoro-1,2,3,4-tetrahydro-9H-carbazol-9-yl]-acetate	C35H31N2O4F 564.651
Ethyl (3S)-{6-fluoro-3-[naphthalen-1-ylmethyl-(3-phenyl-propionyl)-amino]-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetate	C36H35N2O3F 562.679
Ethyl (3S)-{6-fluoro-3-[(S)-2-methyl-3-phenyl-propionyl]-naphthalen-1-ylmethyl-amino]-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetate	C37H37N2O3F 576.706
Ethyl (3S)-{6-fluoro-3-[[3-(2-methoxy-phenyl)-propionyl]-naphthalen-1-ylmethyl-amino]-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetate	C37H37N2O4F 592.705
Ethyl (3S)-{3-[(3,3-diphenyl-propionyl)-naphthalen-1-ylmethyl-amino]-6-fluoro-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetate	C42H39N2O3F 638.777
Ethyl (3S)-[3-(acetyl-naphthalen-1-ylmethyl-amino)-6-fluoro-1,2,3,4-tetrahydro-9H-carbazol-9-yl]-acetate	C29H29N2O3F 472.555
Ethyl (3S)-[6-fluoro-3-(naphthalen-1-ylmethyl-propionyl-amino)-1,2,3,4-tetrahydro-9H-carbazol-9-yl]-acetate	C30H31N2O3F 486.581

Ethyl (3S)-{6-fluoro-3-[3-phenyl-4- ([1,3,4]thiadiazol-2-ylcarbamoyl)-butyrylamino]- 1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetate	C29H30FN5O4S 563.64
Ethyl (3S)-[6-fluoro-3-(3-thiophen-2-yl- propionylamino)-1,2,3,4-tetrahydro-9H-carbazol- 9-yl]-acetate	C23H25FN2O3S 428.012
Ethyl (3S)-{3-[3-(3-chloro-isoxazol-5-yl)- propionylamino]-6-fluoro-1,2,3,4-tetrahydro-9H- carbazol-9-yl}-acetate	C22H23ClFN3O4 447.88
Ethyl (3S)-[6-Fluoro-3-(3-pyrimidin-2-yl- propionylamino)-1,2,3,4-tetrahydro-9H-carbazol- 9-yl]-acetate	C23H25FN4O3 424.46
Ethyl (3S)-(3-{acetyl-[2-(2-fluoro-phenyl)-ethyl]- amino}-6-fluoro-1,2,3,4-tetrahydro-9H-carbazol- 9-yl)-acetate	C26H28F2N2O3 454.51
Ethyl (3S)-(3-{acetyl-[2-(3-fluoro-phenyl)-ethyl]- amino}-6-fluoro-1,2,3,4-tetrahydro-9H-carbazol- 9-yl)-acetate	C26H28F2N2O3 454.51
Ethyl (3S)-(3-{cyclohexylmethyl-[3-(2-methoxy- phenyl)-propionyl]-amino}-6-fluoro-1,2,3,4- tetrahydro-9H-carbazol-9-yl)-acetate	C33H41N2O4F 548.693

General Method for the Preparation of Intermediates of Structure 1, wherein R⁴ represents C₁₋₅-alkyl or allyl

To a stirred and degassed solution of an appropriately protected ethyl (3-amino-8-bromo-
 5 1,2,3,4-tetrahydro-9H-carbazol-9-yl)-acetate derivative of Structure 2c (0.2 mmol) and
 Pd(PPh₃)₄ (0.02 mmol, 0.1 eq.) in dry DMF (1.5 ml) is added under inert atmosphere the
 appropriate tetraC₁₋₅-alkyltin or allyltrialkyltin, respectively (0.22 mmol, 1.1 eq.). The
 reaction mixture is allowed to stir overnight at 110°C. After cooling to rt, acetonitrile (1 ml)
 and heptane (1 ml) are added. The acetonitrile-DMF phase is washed three times with
 10 heptane. Water is then added and the resulting aq. phase is extracted twice with AcOEt. The
 combined org. phases are washed with brine and dried over Na₂SO₄. Evaporation of the
 solvent *in vacuo* yields the protected ethyl (3-amino-8-C₁₋₅-alkyl-1,2,3,4-tetrahydro-9H-

carbazol-9-yl)-acetate derivative or ethyl (3-amino-8-allyl-1,2,3,4-tetrahydro-9H-carbazol-9-yl)-acetate derivative of Structure 1, respectively.

Intermediates of Structure 1 wherein R⁴ represents C₁₋₅-alkyl or allyl:

5 Ethyl (3S)-(3-benzyloxycarbonylamino-6-fluoro-8-methyl-1,2,3,4-tetrahydro-9H-carbazol-9-yl)-acetate is obtained in quantitative yield as a yellow oil. *t_R* = 1.09 min (LC-3), ESI-MS (pos.): *m/z* 439.15 [M+H]⁺.

Ethyl (3S)-(3-benzyloxycarbonylamino-6-fluoro-8-allyl-1,2,3,4-tetrahydro-9H-carbazol-9-yl)-acetate is obtained in quantitative yield as a yellow oil. *t_R* = 1.11 min (LC-3), ESI-MS
10 (pos.): *m/z* 465.22 [M+H]⁺.

General Method for the Preparation of Intermediates of Structure 1 wherein R⁴ represents vinyl

A suspension of an appropriately protected ethyl (3-amino-8-bromo-1,2,3,4-tetrahydro-9H-carbazol-9-yl)-acetate derivative of Structure 2c (0.4 mmol), vinylboronic anhydride
15 pyridine complex (0.22 mmol, 0.56 eq.), Pd(PPh₃)₄ (23 mg, 0.02 mmol, 0.05 eq.), and K₂CO₃ (55 mg, 0.4 mmol, 1 eq.) in 1 ml (DME/ H₂O) is stirred for 4 h at reflux. Water is added and the resulting aq. phase is extracted three times with AcOEt. The combined org. phases are dried over Na₂SO₄, filtered and concentrated *in vacuo*. The crude product is
20 purified by FC (heptane / AcOEt, 3:1) to yield protected ethyl (3-amino-8-vinyl-1,2,3,4-tetrahydro-9H-carbazol-9-yl)-acetate derivatives of Structure 1.

Intermediate of Structure 1 wherein R⁴ represents vinyl:

Ethyl (3S)-(3-benzyloxycarbonylamino-6-fluoro-8-vinyl-1,2,3,4-tetrahydro-9H-carbazol-9-yl)-acetate is obtained in 87% yield as a white solid. *t_R* = 1.11 min (LC-3), ESI-MS (pos.):
25 *m/z* 451.19 [M+H]⁺.

General Method for the Preparation of Intermediates of Structure 1 wherein R⁴ represents C₁₋₆-alkylsulfonyl

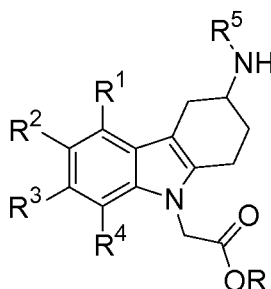
30 A solution of an appropriately protected ethyl (3-amino-8-bromo-1,2,3,4-tetrahydro-9H-carbazol-9-yl)-acetate derivative of Structure 2c (0.238 mmol), cuprous iodide (204 mg, 1.073 mmol, 4.5 eq.) and sodium methanesulfinate (129 mg, 1.073 mmol, 4.5 eq.) in degassed NMP (5 ml) is heated under inert atmosphere at 140°C overnight. Then, the mixture is diluted with heptane (5 ml) and AcOEt (5 ml) and filtered over a pad of silica gel

with AcOEt as eluent. The solvent is removed *in vacuo* and the residue dissolved in AcOEt and H₂O. The phases are separated and the aq. phase is extracted twice with AcOEt. The combined org. phases are washed with brine and H₂O, dried over Na₂SO₄ and concentrated *in vacuo* to yield the corresponding ethyl (3-amino-8-methanesulfonyl-1,2,3,4-tetrahydro-9H-carbazol-9-yl)-acetate derivative of Structure 1.

Intermediate of Structure 1 wherein R⁴ represents C₁₋₆-alkylsulfonyl:

Ethyl (3*RS*)-(3-benzyloxycarbonylamino-6-fluoro-8-methanesulfonyl-1,2,3,4-tetrahydro-9H-carbazol-9-yl)-acetate is obtained in quantitative yield as a brown solid. *t_R* = 1.04 min (LC-3), ESI-MS (pos.): *m/z* 503.12 [M+H]⁺.

General Methods for the Preparation of Intermediates of Structure 2a:



Structure 2a: R⁵ ≠ H
2b: R⁵ = H

Method (A)

Step A) 4-Nitro-benzenesulfonylation of an intermediate of Structure 2b to yield an ethyl [3-(4-nitro-benzenesulfonylamino)-1,2,3,4-tetrahydro-9H-carbazol-9-yl]-acetate derivative of Structure 3a:

A catalytical amount of DMAP and *p*-nitrobenzenesulfonyl chloride (223 mg, 1.01 mmol) are added to an ice cold stirred solution of the appropriate (3-amino-1,2,3,4-tetrahydro-9H-carbazol-9-yl)-acetate derivative hydrochloride of Structure 2b (0.92 mmol) and pyridine (0.96 ml, 11.9 mmol) in DCM. The reaction mixture is allowed to warm up to rt and is continued to stir overnight. The reaction is then quenched by addition of H₂O and sat. NaHCO₃ solution. After phase separation the aq. phase is extracted with DCM. The combined org. phases are dried over Na₂SO₄, filtered, and the solvent is evaporated to dryness. The crude product is filtered through a plug of silica gel (heptane/AcOEt, 2:1) to give the desired intermediate of Structure 3a.

Intermediate of Structure **3a**: Ethyl (3*S*)-[6-fluoro-3-(4-nitro-benzenesulfonylamino)-1,2,3,4-tetrahydro-9*H*-carbazol-9-yl]-acetate is obtained in 71% yield as a yellow solid: t_R = 1.05 min (LC-3), ESI-MS (pos.): m/z 476.12 $[M+H]^+$.

5

Step B) *N*-Substitution of a 4-nitro-benzenesulfonamide intermediate of Structure **3a** to yield intermediates of Structure **3b**:

Following a procedure described in the literature (Peña, C. *et al. Tetrahedron Lett.* **2005**, 46, 2783-2787), a stirred suspension of the appropriate intermediate of Structure **3a** (0.21 mmol), K_2CO_3 (291 mg, 2.1 mmol) and tetrabutylammonium bromide (6.78 mg, 0.021 mmol) in toluene (2 ml) is heated at 70°C for 30 min before adding the corresponding alkylating agent R^5-L (0.841 mmol). The reaction mixture is continued to stir at 70°C overnight, cooled to rt, and treated with sat. NH_4Cl solution. After phase separation, the aq. layer is extracted three times with DCM. The combined org. phases are dried over Na_2SO_4 ,
15 filtered, and the solvent evaporated to dryness, affording the corresponding intermediate of Structure **3b** in quantitative yield.

Listed in Table 5 below are intermediates of Structure **3b**, prepared according to the above-mentioned method.

20 **Table 5**

Intermediates of Structure 3b		Formula MW	t_R [min] Meth.	MS Data m/z $[M+H]^+$
Ethyl	(3 <i>S</i>)-{6-fluoro-3-[methyl-(4-nitro-benzenesulfonyl)-amino]-1,2,3,4-tetrahydro-9 <i>H</i> -carbazol-9-yl}-acetate	C ₂₃ H ₂₄ N ₃ O ₆ F 489.52	1.09 (LC-3)	490.05
Ethyl	(3 <i>S</i>)-{6-fluoro-3-[ethyl-(4-nitro-benzenesulfonyl)-amino]-1,2,3,4-tetrahydro-9 <i>H</i> -carbazol-9-yl}-acetate	C ₂₄ H ₂₆ N ₃ O ₆ FS 503.549	1.11 LC-3	504.15
Ethyl	(3 <i>S</i>)-{6-fluoro-3-[propyl-(4-nitro-benzenesulfonyl)-amino]-1,2,3,4-tetrahydro-9 <i>H</i> -carbazol-9-yl}-acetate	C ₂₅ H ₂₈ N ₃ O ₆ FS 517.576	1.13 LC-3	518.23

Listed in Table 5a below are further intermediates of Structure **3b**, prepared according to the above-mentioned method.

Table 5a

Intermediates of Structure 3b	Formula MW	t _R [min] Method	MS Data	
			m/z [M+H] ⁺	
Ethyl (3S)-{6-fluoro-3-[(4-nitro-benzenesulfonyl)-(3-phenyl-propyl)-amino]-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetate	C31H32N3O6FS 593.674	1.16 LC-3	594.12	
Ethyl (3S)-{3-[cyclopropylmethyl-(4-nitro-benzenesulfonyl)-amino]-6-fluoro-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetate	C26H28N3O6FS 529.587	1.12 LC-3	530.02	
Ethyl (3S)-(6-fluoro-3-{(4-nitro-benzenesulfonyl)-[2-(3-trifluoromethyl-phenoxy)-ethyl]-amino}-1,2,3,4-tetrahydro-9H-carbazol-9-yl)-acetate	C31H29N3O7F4S 663.643	1.17 LC-3	664.17	
Ethyl (3S)-{6-fluoro-3-[(4-nitro-benzenesulfonyl)-(2-phenoxy-ethyl)-amino]-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetate	C30H30N3O7FS 595.646	1.14 LC-3	596.18	
Ethyl (3S)-{6-fluoro-3-[(2-methoxy-ethyl)-(4-nitro-benzenesulfonyl)-amino]-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetate	C25H28N3O7FS 533.575	1.09 LC-3	534.16	

Step C) Cleavage of the 4-nitro-benzenesulfonyl group to yield an intermediate of Structure

5 2a:

In analogy to the literature (Miller, S. C.; Scanlan, T. S. *J. Am. Chem. Soc.* **1997**, *119*, 2301-2302), mercaptoacetic acid (0.019 ml, 0.267 mmol) and DBU (0.081 ml, 0.53 mmol) are added to a stirred solution of an intermediate of Structure **3b** (0.179 mmol) in dry DMF (2 ml). The reaction mixture is allowed to stir overnight, then, at rt, sat. Na₂CO₃ solution, H₂O and DCM are added. After phase separation, the org. layer is extracted twice with sat. Na₂CO₃ solution, and twice with H₂O. The combined org. phases are washed with brine and dried over Na₂SO₄. After filtration, the solvent is evaporated and the residue is purified by preparative tlc on silica gel (DCM/MeOH/NH₄OH, 90:10:1) to give the desired intermediate of Structure **2a** in 30-40% yield.

Listed in Table 6 below are intermediates of Structure **2a**, prepared according to the above-mentioned method.

Intermediates of Structure 2a	Formula	t_R [min]	MS Data
	MW	Method	m/z [M+H] ⁺
Ethyl (3S)-(6-fluoro-3-methylamino-1,2,3,4-tetrahydro-9H-carbazol-9-yl)-acetate	C17H21FN2O2 304.36	0.76 LC-3	305.19
Ethyl (3S)-(6-fluoro-3-ethylamino-1,2,3,4-tetrahydro-9H-carbazol-9-yl)-acetate	C18H23FN2O2 318.39	0.78 LC-3	319.14
Ethyl (3S)-(6-fluoro-3-propylamino-1,2,3,4-tetrahydro-9H-carbazol-9-yl)-acetate	C19H25FN2O2 332.41	0.81 LC-3	333.15

Table 6

- 5 Listed in Table 6a below are further intermediates of Structure **2a**, prepared according to the abovementioned method.

Table 6a

Intermediates of Structure 2a	Formula	t_R [min]	MS Data
	MW	LC-MS Method	m/z [M+H] ⁺
Ethyl (3S)-[6-fluoro-3-(3-phenyl-propylamino)-1,2,3,4-tetrahydro-9H-carbazol-9-yl]-acetate	C25H29N2O2F 408.515	0.91 LC-3	409.15
Ethyl (3S)-[3-(cyclopropylmethyl-amino)-6-fluoro-1,2,3,4-tetrahydro-9H-carbazol-9-yl]-acetate	C20H25N2O2F 344.428	0.82 LC-3	345.18
Ethyl (3S)-{6-fluoro-3-[2-(4-trifluoromethyl-phenoxy)-ethylamino]-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetate	C25H26N2O3F4 478.484	0.95 LC-3	479.07
Ethyl (3S)-[6-fluoro-3-(2-phenoxy-ethylamino)-1,2,3,4-tetrahydro-9H-carbazol-9-yl]-acetate	C24H27N2O3F 410.487	0.88 LC-3	411.10
Ethyl (3S)-[6-fluoro-3-(2-methoxy-ethylamino)-1,2,3,4-tetrahydro-9H-carbazol-9-yl]-acetate	C19H25N2O3F 348.417	0.77 LC-3	349.15

Method (B)

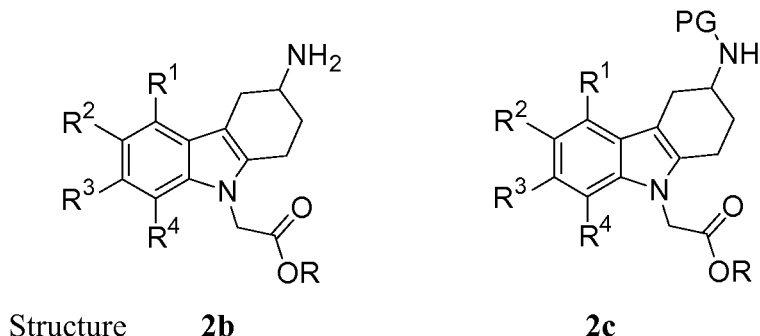
- 10 To a stirred suspension of an appropriate ethyl (3-amino-1,2,3,4-tetrahydro-9H-carbazol-9-yl)-acetate derivative hydrochloride of Structure **2b** (0.73 mmol) and DIEA (0.769 mmol,

0.132 ml, 1.05 eq.) and the corresponding aldehyde (0.806 mmol, 1.1 eq.) in DCM (10 ml) is added NaBH(OAc)₃ (1.62 mmol, 2.2 eq.). The reaction mixture is stirred overnight and diluted with DCM and sat. NaHCO₃ solution. The resulting aq. phase is extracted three times with DCM. The combined org. phases are dried over Na₂SO₄, filtered, and the solvent is evaporated to dryness. The crude product is purified by flash-chromatography on silica gel (DCM/MeOH, 95:5) to give the desired intermediate of Structure **2a** in 66 to 95% yield.

Listed in Table 6b below are intermediates of Structure **2a**, prepared according to the abovementioned method.

10 **Table 6b**

Intermediates of Structure 2a	Formula MW	t _R [min] LC-MS Method	MS Data
			m/z [M+H] ⁺
Ethyl (3S)-(6-fluoro-3-phenethylamino-1,2,3,4-tetrahydro-9H-carbazol-9-yl)-acetate	C24H27N2O2F 394.488	0.88 LC-3	395.18
Ethyl (3S)-{6-fluoro-3-[(naphthalen-1-ylmethyl)-amino]-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetate	C27H27N2O2F 430.521	0.91 LC-3	431.22
Ethyl (3S)-(3-benzylamino-6-fluoro-1,2,3,4-tetrahydro-9H-carbazol-9-yl)-acetate	C23H25N2O2F 380.461	0.89 LC-3	381.16
Ethyl (3S)-{6-fluoro-3-[2-(2-fluoro-phenyl)-ethylamino]-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetate	C24H26N2O2F2 412.478	0.88 LC-3	413.14
Ethyl (3S)-{6-fluoro-3-[2-(3-fluoro-phenyl)-ethylamino]-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetate	C24H26N2O2F2 412.478	0.88 LC-3	413.14
Ethyl (3S)-[3-(cyclohexylmethyl-amino)-6-fluoro-1,2,3,4-tetrahydro-9H-carbazol-9-yl]-acetate	C23H31N2O2F 386.509	0.88 LC-3	387.20

General Procedures for the Preparation of Intermediates of Structure 2b:5 Cleavage of PG= *tert*-butoxycarbonyl

To a stirred solution of an ethyl (3-*tert*-butoxycarbonylamino-1,2,3,4-tetrahydro-9*H*-carbazol-9-yl)-acetate derivative of Structure **2c** (1.61 mmol) in THF (4 ml) is added 2*N* HCl (2 ml) in diethylether, or in AcOEt. The reaction mixture is stirred overnight, and the formed precipitate is filtered off, rinsed with diethylether and dried to give the desired intermediate of Structure **2b** as a white solid in quantitative yield.

Listed in Table 7 below are intermediates of Structure **2b**, prepared according to the above-mentioned method, with corresponding intermediate of Structure **2c** as starting material.

Table 7

Intermediates of Structure 2b		Formula MW	t _R [min] Method	MS Data m/z [M+H] ⁺ (parent)
Ethyl	(3 <i>R</i>)-(3-amino-1,2,3,4-tetrahydro-9 <i>H</i> -carbazol-9-yl)-acetate hydrochloride	C ₁₆ H ₂₁ N ₂ O ₂ Cl 308.807	0.74 LC-2	273.16
Ethyl	(3 <i>S</i>)-(3-amino-1,2,3,4-tetrahydro-9 <i>H</i> -carbazol-9-yl)-acetate hydrochloride	C ₁₆ H ₂₁ N ₂ O ₂ Cl 308.807	0.74 LC-2	273.16
Ethyl	(3 <i>R</i>)-(3-amino-6-fluoro-1,2,3,4-tetrahydro-9 <i>H</i> -carbazol-9-yl)-acetate hydrochloride	C ₁₆ H ₂₀ ClFN ₂ O ₂ 326.79	0.74 LC-2	291.15
Ethyl	(3 <i>S</i>)-(3-amino-6-fluoro-1,2,3,4-tetrahydro-9 <i>H</i> -carbazol-9-yl)-acetate hydrochloride	C ₁₆ H ₂₀ N ₂ O ₂ ClF 326.79	0.73 LC-2	291.11

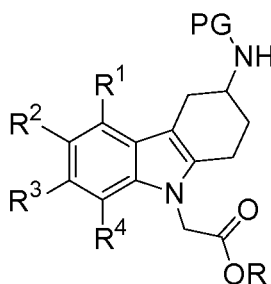
Cleavage of PG= benzyloxycarbonyl

To a stirred solution of an ethyl (3-benzyloxycarbonylamino-1,2,3,4-tetrahydro-9H-carbazol-9-yl)-acetate derivative of Structure **2c** (7.58 mmol) in AcOH (85 ml) and EtOH (20 ml) is added Pd /C (806 mg, 0.76 mmol, 0.1 eq.). The reaction mixture is stirred for 1h
 5 under a H₂ atmosphere then diluted with DCM and filtered over a plug of celite. A solution of 4M HCl in dioxane (30 ml, 10 eq.) is added to the filtrate and the solvents are removed *in vacuo* to give an intermediate of Structure **2b**.

Listed in Table **7a** below are further intermediates of Structure **2b**, prepared according to the
 10 above-mentioned methods, with the corresponding intermediate of Structure **2c** as starting material.

Table 7a

Intermediates of Structure 2b	Formula MW	t _R [min]	MS Data
		LC-MS	m/z
		Method	[M+H] ⁺
Ethyl (3 <i>RS</i>)-(3-amino-8-chloro-6-fluoro-1,2,3,4-tetrahydro-carbazol-9-yl)-acetate hydrochloride	C ₁₆ H ₁₉ N ₂ O ₂ Cl ₂ F 361.243	0.78 LC-3	325.05
Ethyl (3 <i>RS</i>)-(3-amino-6-fluoro-1,2,3,4-tetrahydro-carbazol-9-yl)-acetate hydrochloride	C ₂₀ H ₁₉ N ₂ O ₂ F 338.381	1.02 LC-3	339.12

General Method for the Synthesis of Intermediates of Structure **2c:**Structure **2c**Alkylation of an intermediate of Structure **4**:

A solution of e.g. ethyl bromoacetate (1.25 ml, 11.25 mmol) in dry DMF (20 ml) is added
 20 dropwise to a heated (60°C) solution of an intermediate of Structure **4** (10.22 mmol) and Cs₂CO₃ (9.99 g, 30.67 mmol) in dry DMF (50 ml) over a period of 15 min. The resulting suspension is continued to stir at 60°C for 1 h, or overnight. After cooled to rt, the reaction

mixture is filtered and washed with DCM. The DCM is evaporated and the residue is partitioned between AcOEt and H₂O. The aq. layer is extracted three times with AcOEt. The combined org. layers are washed with H₂O and brine, dried over MgSO₄ and filtered. The solvent is evaporated and the solid residue is purified by FC with a continuous gradient of eluents from AcOEt/ heptane 1:99 to 1:1 to give the desired intermediate of Structure **2c** in 40 to 80% yield.

Listed in Table 8 below are intermediates of Structure **2c**, prepared according to the above-mentioned method, starting from corresponding intermediate of Structure **4**.

10 **Table 8**

Intermediates of Structure 2c		Formula MW	t _R [min] LC-MS Method	MS Data m/z [M+Na] ⁺ or [M+H] ⁺
Ethyl	(3 <i>R</i>)-(3- <i>tert</i> -butoxycarbonylamino-1,2,3,4-tetrahydro-9 <i>H</i> -carbazol-9-yl)-acetate	C ₂₁ H ₂₈ N ₂ O ₄ 372.463	1.15 LC-2	394.95
Ethyl	(3 <i>S</i>)-(3- <i>tert</i> -butoxycarbonylamino-1,2,3,4-tetrahydro-9 <i>H</i> -carbazol-9-yl)-acetate	C ₂₁ H ₂₈ N ₂ O ₄ 372.463	1.15 LC-2	395.15
Ethyl	(3 <i>R</i>)-(3- <i>tert</i> -butoxycarbonylamino-6-fluoro-1,2,3,4-tetrahydro-9 <i>H</i> -carbazol-9-yl)-acetate	C ₂₁ H ₂₇ FN ₂ O ₄ 390.45	1.15 LC-2	413.09
Ethyl	(3 <i>S</i>)-(3- <i>tert</i> -butoxycarbonylamino-6-fluoro-1,2,3,4-tetrahydro-9 <i>H</i> -carbazol-9-yl)-acetate	C ₂₁ H ₂₇ FN ₂ O ₄ 390.45	1.16 LC-2	413.09
Ethyl	(3 <i>RS</i>)-(3-benzyloxycarbonylamino-8-chloro-5-fluoro-1,2,3,4-tetrahydro-9 <i>H</i> -carbazol-9-yl)-acetate	C ₂₄ H ₂₄ N ₂ O ₄ ClF 458.916	1.11 LC-3	458.99
Ethyl	(3 <i>RS</i>)-(3-benzyloxycarbonylamino-6-fluoro-1,2,3,4-tetrahydro-9 <i>H</i> -carbazol-9-yl)-	C ₂₄ H ₂₅ N ₂ O ₄ F 424.47	1.06 LC-3	425.22

acetate

Ethyl (3*RS*)-(3-benzyloxycarbonylamino-8-chloro-6-fluoro-1,2,3,4-tetrahydro-9*H*-carbazol-9-yl)-acetate

C₂₄H₂₄N₂O₄ClF 1.11 459.05

458.916 LC-3

Listed in Table 8a below are further intermediates of Structure **2c**, prepared according to the above-mentioned method, starting from corresponding intermediate of Structure **4**.

Table 8a

Intermediates of Structure 2c	Formula MW	t _R [min] LC-MS Method	MS Data m/z [M+H] ⁺
Ethyl (3 <i>RS</i>)-(3-benzyloxycarbonylamino-6-trifluoromethyl-1,2,3,4-tetrahydro-9 <i>H</i> -carbazol-9-yl)-acetate	C ₂₅ H ₂₅ N ₂ O ₄ F ₃ 474.478	1.11 LC-3	475.14
Ethyl (3 <i>RS</i>)-(3-benzyloxycarbonylamino-8-bromo-6-fluoro-1,2,3,4-tetrahydro-9 <i>H</i> -carbazol-9-yl)-acetate	C ₂₄ H ₂₄ N ₂ O ₄ BrF 503.367	1.11 LC-3	505.11
Ethyl (3 <i>S</i>)-(3-benzyloxycarbonylamino-7-chloro-6-fluoro-1,2,3,4-tetrahydro-9 <i>H</i> -carbazol-9-yl)-acetate	C ₂₄ H ₂₄ ClFN ₂ O ₄ 458.91	not determined	not determined
Ethyl (3 <i>R</i>)-(3-benzyloxycarbonylamino-8-chloro-1,2,3,4-tetrahydro-9 <i>H</i> -carbazol-9-yl)-acetate	C ₂₄ H ₂₅ N ₂ O ₄ Cl 440.926	1.1 LC-3	441.07

5

Listed in Table 9 below are intermediates of Structure **4**, prepared in analogy to the procedure described in the literature (Ha, J. D. *et al.*, *Bulletin of the Korean Soc. Chem.* **2004**, 25, 1784-1790).

Table 9

Intermediates of Structure 4	Formula MW	t _R [min] Method	MS Data m/z [M+H] ⁺
(3 <i>RS</i>)-(8-Chloro-5-fluoro-2,3,4,9-tetrahydro-1 <i>H</i> -carbazol-3-yl)-carbamic acid benzyl ester	C ₂₀ H ₁₈ N ₂ O ₂ ClF 372.825	1.07 LC-3	373.03

(3 <i>RS</i>)-(8-Chloro-6-fluoro-2,3,4,9-tetrahydro-1 <i>H</i> -carbazol-3-yl)-carbamic acid benzyl ester	C ₂₀ H ₁₈ N ₂ O ₂ ClF 372.825	1.06 LC-3	372.99
(3 <i>RS</i>)-(6-Fluoro-2,3,4,9-tetrahydro-1 <i>H</i> -carbazol-3-yl)-carbamic acid benzyl ester	C ₂₀ H ₁₉ N ₂ O ₂ F 338.38	1.02 LC-3	339.12

Listed in Table 9a below are further intermediates of Structure 4, prepared according to the abovementioned procedure.

Table 9a

Intermediates of Structure 4	Formula MW	t _R [min] Method	MS Data m/z [M+H] ⁺
(3 <i>RS</i>)-(6-Trifluoromethyl-2,3,4,9-tetrahydro-1 <i>H</i> -carbazol-3-yl)-carbamic acid benzyl ester	C ₂₁ H ₁₉ N ₂ O ₂ F ₃ 388.388	1.07 LC-3	389.08
(3 <i>RS</i>)-(8-Bromo-6-fluoro-2,3,4,9-tetrahydro-1 <i>H</i> -carbazol-3-yl)-carbamic acid benzyl ester	C ₂₀ H ₁₈ N ₂ O ₂ BrF 417.277	1.07 LC-3	417.03
(3 <i>RS</i>)-(7-Chloro-6-fluoro-2,3,4,9-tetrahydro-1 <i>H</i> -carbazol-3-yl)-carbamic acid benzyl ester	C ₂₀ H ₁₈ N ₂ O ₂ ClF 372.825	1.05 LC-3	373.07
(3 <i>R</i>)-(8-Chloro-2,3,4,9-tetrahydro-1 <i>H</i> -carbazol-3-yl)-carbamic acid benzyl ester	C ₂₀ H ₁₉ N ₂ O ₂ Cl 354.836	1.05 LC-3	355.11

5

General Method for the Preparation of Intermediates of Structure 1 from intermediates of Structure 8a

To a solution of the respective amine (0.140 mmol, 1.5 eq.), HATU (0.140 mmol, 1.5eq.) and DIEA (0.048 ml, 0.280 mmol, 3 eq.) in 0.5 ml (DMF/THF 4:1) is added a solution of an intermediate of Structure 8a in 0.5 ml (DMF/THF 4:1). The reaction mixture is stirred for 20h, then diluted with DCM and sat. NaHCO₃ solution. After stirring for an additional 1h, H₂O is added and the org. phase is separated. The aq. phase is extracted with DCM, the

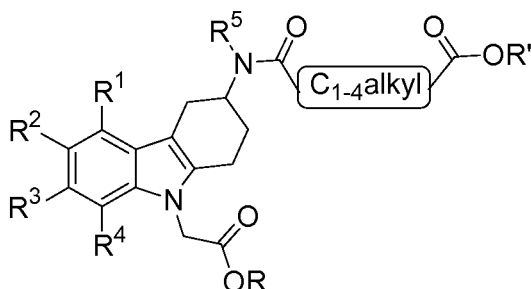
combined org. extracts are concentrated under a stream of air to yield the desired crude intermediate of Structure 1.

Listed in Table 10 below are intermediates of Structure 1, prepared according to the abovementioned method with corresponding intermediate of Structure 8a as starting material.

Table 10

Intermediates of Structure 1 starting from intermediates of Structure 8a	Formula MW	t_R [min]	MS Data
		LC-MS	m/z
		Method	[M+H] ⁺
Ethyl (3S)-{3-[(RS)-2-benzyl-3-(2-methylbenzyl)-carbamoyl-propionylamino]-6-fluoro-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetate	C34H36FN3O4 569.67	1.06 LC-3	570.21
Ethyl (3S)-{3-[(RS)-2-benzyl-3-(3-methoxyphenylcarbamoyl)-propionylamino]-6-fluoro-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetate	C34H36FN3O5 585.67	1.06 LC-3	586.21
Ethyl (3S)-{3-[(RS)-2-benzyl-3-(4-chlorophenylcarbamoyl)-propionylamino]-6-fluoro-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetate	C33H33ClFN3O4 590.08	1.09 LC-3	590.2
Ethyl (3S)-{3-[(RS)-2-benzyl-3-(4-fluorobenzylcarbamoyl)-propionylamino]-6-fluoro-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetate	C34H35F2N3O4 587.66	1.05 LC-3	588.25
Ethyl [(3S)-3-((RS)-2-benzyl-3-propylcarbamoyl-propionylamino)-6-fluoro-1,2,3,4-tetrahydro-9H-carbazol-9-yl]-acetate	C30H36FN3O4 521.62	1 LC-3	522.26

General Method for the Preparation of Intermediates of Structure 8a from intermediates of Structure 8b



Structure **8a**, wherein R' represents H and R represents C₁₋₄-alkyl
8b, wherein R' and R independently represent C₁₋₄-alkyl

A solution of an intermediate of Structure **8b** (0.54 mmol) and TFA (0.8 ml, 10 mmol, 20 eq.) in DCM (8 ml) is stirred for 2.5h. The volatiles are removed under reduced pressure to yield an intermediate of Structure **8a**.

Intermediate of Structure **8a**: 3-benzyl-N-(9-ethoxycarbonylmethyl-6-fluoro-2,3,4,9-tetrahydro-1H-carbazol-3-yl)-succinamic acid is quantitative yield as light brown foam. t_R = 0.97 min (LC-3), ESI-MS (pos.): m/z 481.22 $[M+H]^+$.

General Method for the Preparation of Intermediates of Structure 8b from intermediates of Structure 2a or 2b

A solution of an appropriate intermediate of Structure **2a** or **2b** (2.16 mmol), an appropriate C₁₋₄alkanedicarboxylic acid mono-ester of Structure **9** (4.05 mmol, 1.9 eq.), DIEA (1.5 ml, 8.65 mmol, 4 eq.) and HATU (1.64 g, 4.32 mmol, 2 eq.) in 10 ml (DMF / THF, 4:1) is stirred overnight. The reaction mixture is diluted with AcOEt and sat. NaHCO₃. The aq. phase is extracted twice with AcOEt. The combined org. extracts are washed with brine, dried over MgSO₄, and concentrated *in vacuo*. The residue is purified by flash-chromatography on silica gel with a gradient of heptane/AcOEt to yield the desired intermediate of Structure **8b**.

Intermediate of Structure **8b**:

3-Benzyl-N-(9-ethoxycarbonylmethyl-6-fluoro-2,3,4,9-tetrahydro-1*H*-carbazol-3-yl)-succinamic acid *tert*-butyl ester is obtained in 25% yield as an orange oil: $t_R = 1.10$ min (LC-3), ESI-MS (pos.): m/z 537.28 $[M+H]^+$.

5

Starting materials:

Starting materials of Structure 4:

(3*R*)-(2,3,4,9-tetrahydro-1*H*-carbazol-3-yl)-carbamic acid 1,1-dimethylethyl ester,

(3*S*)-(2,3,4,9-tetrahydro-1*H*-carbazol-3-yl)-carbamic acid 1,1-dimethylethyl ester,

10 (3*R*)-(6-fluoro-2,3,4,9-tetrahydro-1*H*-carbazol-3-yl)-carbamic acid 1,1-dimethylethyl ester, and

(3*S*)-(6-fluoro-2,3,4,9-tetrahydro-1*H*-carbazol-3-yl)-carbamic acid 1,1-dimethylethyl ester; as well as

Starting materials of Structure 7:

15 (3*R*)-(2,3,4,9-tetrahydro-1*H*-carbazol-3-ylamine),

(3*S*)-(2,3,4,9-tetrahydro-1*H*-carbazol-3-ylamine),

(3*R*)-(6-fluoro-2,3,4,9-tetrahydro-1*H*-carbazol-3-ylamine), and

(3*S*)-(6-fluoro-2,3,4,9-tetrahydro-1*H*-carbazol-3-ylamine),

are prepared according to literature procedures (Rosentreter U. *et al.*, *Arzneim.-Forsch.*

20 **1989**, 39(12), 1519-1521); EP 0242518; Ha J. D. *et al.*, *Bulletin of the Korean Soc. Chem.* **2004**, 25, 1784-1790; WO 03/033099).

Starting materials of Structure 9:

Starting materials of Structure **9** are commercially available or synthesized according to well known methods (see for example: *J. Org. Chem.* **1986**, 51(6), 938-940).

25

NMR data of selected compounds are given in Table 11 below.

Table 11

Compound	Chemical shifts (δ) in parts per million (ppm)	Solvent
(3 <i>S</i>)-[3-(3-Cyclopentyl-propionylamino)-1,2,3,4-tetrahydro-9 <i>H</i> -carbazol-9-yl]-acetic acid	0.99 (<i>br.s</i> , 2H), 1.41-1.64 (<i>m</i> , 9H), 1.98 (<i>m</i> , 2H), 2.06 (<i>t</i> , 2H), 2.48-2.72 (<i>m</i> , 4H), 2.99 (<i>m</i> , 1H), 4.33 (<i>m</i> , 1H), 4.63 (<i>s</i> , 2H), 6.03 (<i>d</i> , 1H), 6.94-7.14 (<i>m</i> , 3H), 7.32 (<i>d</i> , 2H).	CDCl ₃
(3 <i>RS</i>)-[3-(3-Benzyl-	1.78 (<i>m</i> , 1 H), 2.02 (<i>m</i> , 1 H), 2.48 (<i>m</i> , 1 H), 2.69	DMSO-

ureido)-6-fluoro-1,2,3,4-tetrahydro-9 <i>H</i> -carbazol-9-yl]-acetic acid	(m, 2 H), 2.92 (dd, 1 H), 3.93 (m, 1 H), 4.23 (m, 2 H), 4.86 (d, 2 H), 6.09 (d, 1 H), 6.30 (t, 1 H), 6.88 (td, 1 H), 7.15 (dd, 1 H), 7.24 (m, 3 H), 7.32 (m, 3 H)	<i>d</i> ₆
(3 <i>S</i>)-{6-Fluoro-3-[3-(4-isopropyl-phenyl)-propionylamino]-1,2,3,4-tetrahydro-9 <i>H</i> -carbazol-9-yl}-acetic acid	1.19 (d, 6 H), 1.73 (m, 1 H), 1.97 (m, 1 H), 2.38 (t, 2 H), 2.36-2.45 (m, 1H), 2.70 (m, 2 H), 2.80 (t, 2H), 2.82-2.90 (m, 2H), 4.01 (m, 1 H), 4.87 (m, 2 H), 6.88 (dt, 1 H), 7.01 (m, 4 H), 7.33 (dd, 1 H), 7.93 (d, 1 H), 12.90 (bs, 1H)	DMSO- <i>d</i> ₆
(3 <i>S</i>)-(6-Fluoro-3-{(2 <i>RS</i>)-2-[(4-fluoro-phenylcarbamoyl)-methyl]-3-phenyl-propionylamino}-1,2,3,4-tetrahydro-9 <i>H</i> -carbazol-9-yl)-acetic acid	1.59 (m, 0.5 H), 1.74 (m, 1 H), 1.91 (m, 0.5 H), 2.32 (m, 2 H), 2.68 (m, 4 H), 2.90 (m, 1 H), 3.08 (m, 1 H), 3.57 (m, 1 H), 3.95 (m, 1 H), 4.84 (m, 2 H), 6.87 (m, 1 H), 6.97 (d, 0.5 H), 7.10 (m, 2.5 H), 7.21 (m, 3 H), 7.30 (m, 3 H), 7.60 (m, 2 H), 7.97 (t, 1 H), 9.99 (d, 1 H), 13.00 (br.s, 1H)	DMSO- <i>d</i> ₆
(3 <i>S</i>)-[3-(Benzyloxycarbonyl-cyclopropylmethyl-amino)-6-fluoro-1,2,3,4-tetrahydro-9 <i>H</i> -carbazol-9-yl]-acetic acid	0.26 (m, 2 H), 0.47 (d, 2 H), 1.07 (m, 1 H), 2.05 (m, 1 H), 2.18 (m, 1 H), 2.82 (m, 2H), 3.21 (d, 2 H), 4.10 (m, 1 H), 4.88 (s, 2 H), 5.14 (s, 2 H), 6.88 (t, 1 H), 7.19 (d, 1 H), 7.45 (m, 6 H), 12.90 (br.s, 1H).	DMSO- <i>d</i> ₆
(3 <i>S</i>)-{3-[Benzyloxycarbonyl-(2-methoxy-ethyl)-amino]-6-fluoro-1,2,3,4-tetrahydro-9 <i>H</i> -carbazol-9-yl}-acetic acid	2.06 (m, 2 H), 2.77 (m, 6 H), 3.29 (m, 2 H), 3.45 (m, 3 H), 4.08 (dd, 1 H), 4.88 (m, 2 H), 5.13 (s, 2 H), 6.89 (m, 1 H), 7.16 (m, 1 H), 7.34 (m, 6 H), 13.00 (br. s, 1H).	DMSO- <i>d</i> ₆
(3 <i>S</i>)-{6-Fluoro-3-[[3-(2-methoxy-phenyl)-propionyl]-(2-phenoxy-	1.93 (dd, 1 H), 2.09 (m, 1 H), 2.75 (m, 8 H), 3.66 (m, 3 H), 3.77 (m, 2 H), 4.13 (m, 3 H), 4.90 (m, 2 H), 6.90 (m, 6 H), 7.17 (m, 3 H), 7.33 (m, 3 H),	DMSO- <i>d</i> ₆

ethyl)-amino]-1,2,3,4-tetrahydro-9 <i>H</i> -carbazol-9-yl}-acetic acid	12.90 (br. s, 1H)	
(3 <i>S</i>)-{6-Fluoro-3-[naphthalen-1-ylmethyl-(3-phenyl-propionyl)-amino]-1,2,3,4-tetrahydro-9 <i>H</i> -carbazol-9-yl}-acetic acid	1.93 (m, 2 H), 2.70-3.08 (m, 8 H), 4.41 (m, 0.5 H), 4.86 (m, 2.5 H), 5.05 (m, 2 H), 6.87 (m, 1 H), 7.04 (m, 2 H), 7.19 (m, 3 H), 7.35 (m, 3 H), 7.56 (m, 3 H), 7.83 (m, 1 H), 7.97 (m, 1 H), 8.15 (m, 1 H), 13.00 (br.s, 1H).	DMSO- <i>d</i> ₆
(3 <i>RS</i>)-(3-Benzoyloxycarbonylamino-6-fluoro-1,2,3,4-tetrahydro-9 <i>H</i> -carbazol-9-yl)-acetic acid	1.76 (<i>m</i> , 1H), 2.05 (<i>m</i> , 1H), 2.48 (<i>m</i> , 1H), 2.68 (<i>m</i> , 1H), 2.75 (<i>t</i> , 1H), 2.93 (<i>d</i> , 1H), 3.77 (<i>m</i> , 1H), 4.85 (<i>s</i> , 2H), 5.05 (<i>s</i> , 2H), 6.87 (<i>dt</i> , 1H), 7.14 (<i>dd</i> , 1H), 7.29-7.38 (<i>m</i> , 5H), 7.46 (<i>m</i> , 1H).	DMSO- <i>d</i> ₆
(3 <i>S</i>)-Ethyl [3-(3-butyl-ureido)-1,2,3,4-tetrahydro-9 <i>H</i> -carbazol-9-yl]-acetate	0.86 (<i>t</i> , 3H), 1.20 (<i>t</i> , 3H), 1.31 (<i>m</i> , 2H), 1.42 (<i>m</i> , 2H), 2.06 (<i>m</i> , 2H), 2.64 (<i>dd</i> , 1H), 2.70 (<i>m</i> , 2H), 3.03-3.10 (<i>m</i> , 3H), 4.18 (<i>q</i> , 2H), 4.28 (<i>m</i> , 1H), 4.71 (<i>s</i> , 2H), 7.04-7.21 (<i>m</i> , 3H), 7.45 (<i>d</i> , 1H).	DMSO- <i>d</i> ₆
(3 <i>S</i>)-Ethyl (3-propoxycarbonylamino-1,2,3,4-tetrahydro-9 <i>H</i> -carbazol-9-yl)-acetate	0.93 (<i>t</i> , 3H), 1.24 (<i>t</i> , 3H), 1.63 (<i>m</i> , 2H), 2.03-2.14 (<i>m</i> , 2H), 2.65 (<i>dd</i> , 1H), 2.77 (<i>t</i> , 2H), 3.12 (<i>dd</i> , 1H), 4.02 (<i>t</i> , 2H), 4.20 (<i>m</i> , 4H), 4.72 (<i>s</i> , 2H), 7.07-7.14 (<i>m</i> , 1H, H), 7.17 (<i>m</i> , 2H), 7.44 (<i>d</i> , 1H).	CDCl ₃
(3 <i>S</i>)- Ethyl [3-(2-phenoxy-acetyl-amino)-1,2,3,4-tetrahydro-9 <i>H</i> -carbazol-9-yl]-acetate	1.24 (<i>t</i> , 3H), 2.04 (<i>m</i> , 1H), 2.17 (<i>m</i> , 1H), 2.60-2.86 (<i>m</i> , 3H), 3.15 (<i>dd</i> , 1H), 4.20 (<i>q</i> , 2H), 4.53 (<i>m</i> , 1H), 4.49 (<i>s</i> , 2H), 4.72 (<i>s</i> , 2H), 6.71 (<i>d</i> , 1H), 6.90 (<i>s</i> , 2H), 7.02-7.27 (<i>m</i> , 6H), 7.45 (<i>d</i> , 1H).	CDCl ₃
(3 <i>R</i>)- Ethyl (3- <i>tert</i> -butoxycarbonylamino-1,2,3,4-tetrahydro-9 <i>H</i> -carbazol-9-yl)-acetate	1.25 (<i>t</i> , 3H), 1.45 (<i>s</i> , 9H), 1.99 (<i>m</i> , 1H), 2.12 (<i>m</i> , 1H), 2.63 (<i>dd</i> , 1H), 2.75 (<i>m</i> , 2H), 3.09 (<i>dd</i> , 1H), 4.16 (<i>m</i> , 1H), 4.21 (<i>d</i> , 2H), 4.72 (<i>s</i> , 2H), 7.18 (<i>m</i> , 3H), 7.45 (<i>d</i> , 1H).	CDCl ₃
(3 <i>R</i>)- Ethyl {6-fluoro-3-[2-(4-trifluoromethyl-phenyl)-acetyl-amino]-1,2,3,4-	1.24 (<i>t</i> , 3H), 2.04 (<i>m</i> , 2H), 2.60 (<i>m</i> , 2H), 2.70 (<i>dt</i> , 1H), 3.01 (<i>dd</i> , 1H), 3.54 (<i>s</i> , 2H), 4.19 (<i>q</i> , 2H), 4.43 (<i>m</i> , 1H), 4.66 (<i>s</i> , 2H), 5.58 (<i>d</i> , 1H), 6.88 (<i>dt</i> ,	CDCl ₃

tetrahydro-9 <i>H</i> -carbazol-9-yl}-acetate	1H), 7.06 (<i>m</i> , 2H), 7.27 (<i>m</i> , 1H), 7.39 (<i>d</i> , 2H), 7.54 (<i>d</i> , 2H).	
(3 <i>RS</i>)- Ethyl (3-benzyloxycarbonylamino-8-chloro-6-fluoro-1,2,3,4-tetrahydro-9 <i>H</i> -carbazol-9-yl)-acetate	1.18 (<i>t</i> , 3H), 1.76 (<i>m</i> , 1H), 2.03 (<i>m</i> , 1H), 2.46 (<i>m</i> , 1H), 2.63-2.80 (<i>m</i> , 2H), 2.90 (<i>dd</i> , 1H), 3.75 (<i>m</i> , 1H), 4.14 (<i>q</i> , 2H), 5.03 (<i>s</i> , 2H), 5.15 (<i>s</i> , 2H), 7.01 (<i>dd</i> , 1H), 7.19 (<i>dd</i> , 1H), 7.27-7.36 (<i>m</i> , 5), 7.45 (<i>d</i> , 1H).	DMSO- <i>d</i> ₆
(3 <i>S</i>)- Ethyl [6-fluoro-3-(4-nitro-benzenesulfonylamino)-1,2,3,4-tetrahydro-9 <i>H</i> -carbazol-9-yl]-acetate	1.28 (<i>t</i> , 3H), 2.07 (<i>dd</i> , 2H), 2.54 (<i>dd</i> , 1H), 2.73 (<i>t</i> , 2H), 2.87 (<i>dd</i> , 1H), 3.94 (<i>m</i> , 1H), 4.21 (<i>d</i> , 2H), 4.68 (<i>s</i> , 2H), 4.90 (<i>d</i> , 1H), 6.85-6.94 (<i>m</i> , 2H), 7.06 (<i>dd</i> , 1H), 8.03 (<i>d</i> , 1H), 8.30 (<i>d</i> , 1H).	CDCl ₃
(3 <i>S</i>)- Ethyl {6-fluoro-3-[methyl-(4-nitro-benzenesulfonyl)-amino]-1,2,3,4-tetrahydro-9 <i>H</i> -carbazol-9-yl}-acetate	1.27 (<i>t</i> , 3H), 1.85 (<i>m</i> , 1H), 2.01 (<i>m</i> , 1H), 2.65 (<i>dd</i> , 1H), 2.75-2.82 (<i>m</i> , 3H), 2.94 (<i>s</i> , 3H), 4.20 (<i>d</i> , 2H), 4.36 (<i>m</i> , 1H), 4.67 (<i>s</i> , 2H), 6.90 (<i>dt</i> , 1H), 6.97 (<i>dd</i> , 1H), 7.06 (<i>dd</i> , 1H), 8.03 (<i>d</i> , 1H), 8.37 (<i>d</i> , 1H).	CDCl ₃
(3 <i>RS</i>)-(8-Chloro-6-fluoro-2,3,4,9-tetrahydro-1 <i>H</i> -carbazol-3-yl)-carbamic acid benzyl ester	1.76 (<i>m</i> , 1H), 1.99 (<i>m</i> , 1H), 2.48 (<i>m</i> , 1H), 2.74-2.93 (<i>m</i> , 3H), 3.80 (<i>m</i> , 1H), 5.03 (<i>s</i> , 2H), 7.00 (<i>dd</i> , 1H), 7.10 (<i>dd</i> , 1H), 7.28-7.36 (<i>m</i> , 5H), 7.43 (<i>d</i> , 1H), 11.10 (<i>s</i> , 1H).	DMSO- <i>d</i> ₆

Biological assays:Preparation of hCRTH2 receptor membranes and radioligand binding assay:

Preparation of the membranes and radioligand binding assays are performed according to known procedures (*e.g.* Sawyer N. *et al.*, *Br. J. Pharmacol.* **2002**, 137, 1163-1172). A clonal
5 HEK 293 cell line, expressing high level of recombinant hCRTH2 receptor, is selected for the preparation of membranes. Cells are detached from culture plates in 5 ml buffer A per plate (5 mM Tris, pH 7.4, 1 mM MgCl₂, 0.1 mM PMSF, 0.1 mM phenanthroline) using a police rubber and transferred into centrifugation tubes and frozen at -80°C. After thawing, the cells are centrifuged at 500 g for 5 min and then resuspended in buffer A. Cells are then
10 fragmented by homogenization with a Polytron cell homogenizer for 30 s. The membrane fragments are collected by centrifugation at 3000 g for 40 min and resuspended in buffer B (50 mM Tris, pH 7.4, 25 mM MgCl₂, 250 mM saccharose) and aliquots are stored at -20°C.

Binding assay is performed in a total volume of 250 µl. In each well, 75 µl buffer C (50 mM Tris, pH 7.4, 100 mM NaCl, 1 mM EDTA, 0.1% BSA (protease free), 0.01 % NaN₃) is
15 mixed with 50 µl {³H}-PGD₂ (2.5 nM, 220'000 dpm/well, Amersham Biosciences, TRK734), 100 µl CRTH2 membranes to give 80 µg per well, and 25 µl of test compound in buffer C containing 1% DMSO. For unspecific binding, PGD₂ is added to the reaction mixture at 1 µM final concentration. This binding assay mix is incubated at rt for 90 min and then filtered through a GF/C filter plate. The filter is washed three times with ice cold
20 binding buffer C. Then, Microscint-40 (Packard, 40 µl/well) is added and the receptor bound radioactivity is quantified by scintillation counting in a "TopCount" benchtop microplate scintillation counter (Packard).

Results for ligand binding to the hCRTH2 receptor:

25 Antagonistic activities (IC₅₀ values) of compounds of Formula I are in the range of 0.1 to 10000 nM with respect to the hCRTH2 receptor (preferred compounds: < 1000 nM, more preferred compounds: < 100 nM, most preferred compounds: < 10 nM). IC₅₀ values of 242 from 251 exemplified compounds (9 IC₅₀ values being not available) are in the range of 0.4-2050 nM with an average of 97 nM with respect to the hCRTH2 receptor. Antagonistic
30 activities of selected compounds are displayed in Table 12.

Table 12

Compound	hCARTH2 Bdg IC ₅₀ (nM)
(3 <i>S</i>)-[3-(3,3-Diphenyl-propionylamino)-6-fluoro-1,2,3,4-tetrahydro-9 <i>H</i> -carbazol-9-yl]-acetic acid	2
(3 <i>S</i>)-(3-{Acetyl-[2-(2-fluoro-phenyl)-ethyl]-amino}-6-fluoro-1,2,3,4-tetrahydro-9 <i>H</i> -carbazol-9-yl)-acetic acid	4
(3 <i>S</i>)-(6-Fluoro-3-{(2-methoxy-ethyl)-[3-(2-methoxy-phenyl)-propionyl]-amino}-1,2,3,4-tetrahydro-9 <i>H</i> -carbazol-9-yl)-acetic acid	6
(3 <i>S</i>)-{3-[(<i>RS</i>)-2-Benzyl-3-(3-methoxy-phenylcarbamoyl)-propionylamino]-6-fluoro-1,2,3,4-tetrahydro-9 <i>H</i> -carbazol-9-yl}-acetic acid	6
(3 <i>S</i>)-[3-(3-Benzyl-1-cyclohexylmethyl-ureido)-6-fluoro-1,2,3,4-tetrahydro-9 <i>H</i> -carbazol-9-yl]-acetic acid	6
(3 <i>S</i>)-{3-[2-(4-Chloro-phenoxy)-acetyl-amino]-6-fluoro-1,2,3,4-tetrahydro-9 <i>H</i> -carbazol-9-yl}-acetic acid	9
(3 <i>S</i>)-{3-[(2,3-Dihydro-1 <i>H</i> -indole-2-carbonyl)-amino]-6-fluoro-1,2,3,4-tetrahydro-9 <i>H</i> -carbazol-9-yl}-acetic acid	11
(3 <i>S</i>)-{6-Fluoro-3-[3-(4-methylsulfanyl-phenyl)-propionylamino]-1,2,3,4-tetrahydro-9 <i>H</i> -carbazol-9-yl}-acetic acid	14
(3 <i>S</i>)-{3-[3-(2,5-Bis-trifluoromethyl-phenyl)-propionylamino]-6-fluoro-1,2,3,4-tetrahydro-9 <i>H</i> -carbazol-9-yl}-acetic acid	15
(3 <i>S</i>)-[3-(3-Benzo[1,3]dioxol-5-yl-propionylamino)-6-fluoro-1,2,3,4-tetrahydro-9 <i>H</i> -carbazol-9-yl]-acetic acid	15
(3 <i>S</i>)-{6-Fluoro-3-[ethyl-(3-phenyl-propionyl)-amino]-1,2,3,4-tetrahydro-9 <i>H</i> -carbazol-9-yl}-acetic acid	16
(3 <i>S</i>)-{3-[3-(2,4-Dichloro-phenyl)-propionylamino]-6-fluoro-1,2,3,4-tetrahydro-9 <i>H</i> -carbazol-9-yl}-acetic acid	16

(3 <i>S</i>)-(6-Fluoro-3-{[(2 <i>RS</i>)-8-methoxy-1,2,3,4-tetrahydro-naphthalene-2-carbonyl]-amino}-1,2,3,4-tetrahydro-9 <i>H</i> -carbazol-9-yl)-acetic acid	18
(3 <i>S</i>)-{6-Fluoro-3-[(<i>S</i>)-2-methyl-3-phenyl-propionyl]-(2-phenoxy-ethyl)-amino]-1,2,3,4-tetrahydro-9 <i>H</i> -carbazol-9-yl}-acetic acid	21
(3 <i>RS</i>)-(3-Benzoyloxycarbonylamino-6-trifluoromethyl-1,2,3,4-tetrahydro-9 <i>H</i> -carbazol-9-yl)-acetic acid	26
(3 <i>S</i>)-{6-Fluoro-3-[3-(2-hydroxy-phenyl)-propionylamino]-1,2,3,4-tetrahydro-9 <i>H</i> -carbazol-9-yl}-acetic acid	33
(3 <i>R</i>)-{3-[3-(3-Chloro-phenyl)-propionylamino]-6-fluoro-1,2,3,4-tetrahydro-9 <i>H</i> -carbazol-9-yl}-acetic acid	39
(3 <i>S</i>)-{6-Fluoro-3-[3-(3-trifluoromethoxy-phenyl)-propionylamino]-1,2,3,4-tetrahydro-9 <i>H</i> -carbazol-9-yl}-acetic acid	47
(3 <i>RS</i>)-[8-Chloro-6-fluoro-3-(3-phenyl-propionylamino)-1,2,3,4-tetrahydro-9 <i>H</i> -carbazol-9-yl]-acetic acid	57
(3 <i>S</i>)-{3-[(2-Benzoyloxy-acetyl)-methyl-amino]-6-fluoro-1,2,3,4-tetrahydro-9 <i>H</i> -carbazol-9-yl}-acetic acid	60
(3 <i>R</i>)-[6-Fluoro-3-(3- <i>p</i> -tolyl-propionylamino)-1,2,3,4-tetrahydro-9 <i>H</i> -carbazol-9-yl]-acetic acid	61
(3 <i>S</i>)-{6-Fluoro-3-[3-(4-methanesulfonyl-phenyl)-propionylamino]-1,2,3,4-tetrahydro-9 <i>H</i> -carbazol-9-yl}-acetic acid	72
(3 <i>S</i>)-(3-Isobutoxycarbonylamino-1,2,3,4-tetrahydro-9 <i>H</i> -carbazol-9-yl)-acetic acid	84
(3 <i>S</i>)-{3-[3-(3- <i>tert</i> -Butoxycarbonylamino-phenyl)-propionylamino]-6-fluoro-1,2,3,4-tetrahydro-9 <i>H</i> -carbazol-9-yl}-acetic acid	93

(3 <i>S</i>)-[3-(2-Benzoyloxy-ethoxycarbonylamino)-1,2,3,4-tetrahydro-9 <i>H</i> -carbazol-9-yl]-acetic acid	117
(3 <i>R</i>)-[3-(3-Phenylsulfonyl-ureido)-1,2,3,4-tetrahydro-9 <i>H</i> -carbazol-9-yl]-acetic acid	147
(3 <i>R</i>)-[3-(3-Naphthalen-1-yl-ureido)-1,2,3,4-tetrahydro-9 <i>H</i> -carbazol-9-yl]-acetic acid	152
(3 <i>R</i>)-[3-(2-Thiophen-2-yl-acetylamino)-1,2,3,4-tetrahydro-9 <i>H</i> -carbazol-9-yl]-acetic acid	297
(3 <i>R</i>)-[3-(3-Cyclopentyl-propionylamino)-1,2,3,4-tetrahydro-9 <i>H</i> -carbazol-9-yl]-acetic acid	400
(3 <i>R</i>)-(3-Benzoylamino-1,2,3,4-tetrahydro-9 <i>H</i> -carbazol-9-yl)-acetic acid	488
(3 <i>S</i>)-{6-Fluoro-3-[(1 <i>H</i> -indole-2-carbonyl)-amino]-1,2,3,4-tetrahydro-9 <i>H</i> -carbazol-9-yl}-acetic acid	824
(3 <i>S</i>)-[3-(3-Butyl-ureido)-1,2,3,4-tetrahydro-9 <i>H</i> -carbazol-9-yl]-acetic acid	896

Intracellular calcium mobilization assay (FLIPR):

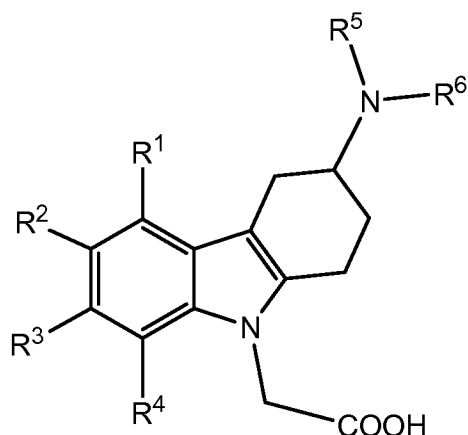
Cells (HEK-293), stably expressing the hCRTH2 receptor under the control of the cytomegalovirus promotor from a single insertion of the expression vector pcDNA5
 5 (Invitrogen), are grown to confluency in DMEM (low glucose, Gibco) medium supplemented with 10% fetal calf serum (Bioconcept, Switzerland) under standard mammalian cell culture conditions (37°C in a humidified atmosphere of 5% CO₂). Cells are detached from culture dishes using a dissociation buffer (0.02% EDTA in PBS, Gibco) for 1 min, and collected by centrifugation at 200 g at rt for 5 min in assay buffer (equal parts of
 10 Hank's BSS (HBSS, Bioconcept) and DMEM (low glucose, without phenol red, Gibco)). After incubation for 45 min (37°C and 5% CO₂) in the presence of 1 µM Fluo-4 and 0.04% Pluronic F-127 (both Molecular Probes), and 20 mM HEPES (Gibco) in assay buffer, the cells are washed with and resuspended in assay buffer, then seeded onto 384-well FLIPR assay plates (Greiner) at 50,000 cells in 66 µl per well, and sedimented by centrifugation.

Stock solutions of test compounds are made up at a concentration of 10 mM in DMSO, and serially diluted in assay buffer to concentrations required for inhibition dose response curves. Prostaglandin D₂ (Biomol, Plymouth Meeting, PA) is used as an agonist.

5 A FLIPR384 instrument (Molecular Devices) is operated according to the manufacturer's standard instructions, adding 4 µl of test compound dissolved at 10 mM in DMSO and diluted prior to the experiment in assay buffer to obtain the desired final concentration. 10 µl of 80 nM prostaglandin D₂ (Biomol, Plymouth Meeting, PA) in assay buffer, supplemented with 0.8% bovine serum albumin (fatty acid content <0.02%, Sigma), is then added to obtain a final concentration of 10 nM and 0.1%, respectively. Changes in fluorescence are
10 monitored before and after the addition of test compounds at $\lambda_{\text{ex}}=488$ nm and $\lambda_{\text{em}}=540$ nm. Emission peak values above base level after prostaglandin D₂ addition are exported after base line subtraction. Values are normalized to high-level control (no test compound added) after subtraction of base line value (no prostaglandin D₂ added). The program XLfit 3.0 (IDBS) is used to fit the data to a single site dose response curve of the equation $(A+((B-A)/(1+((C/x)^D))))$ and to calculate the IC₅₀ values.
15

Claims:

1. A compound of Formula I:

**I**

5

wherein

R^1 , R^2 , R^3 and R^4 independently represent hydrogen, C_{1-5} -alkyl, C_{1-5} -alkoxy, alkenyl, halogen, nitro, cyano, halo- C_{1-6} -alkoxy, halo- C_{1-6} -alkyl, C_{1-6} -alkylsulfonyl, or formyl;

10

R^5 represents hydrogen, alkenyl, C_{1-6} -alkyl, cycloalkyl- C_{1-4} -alkyl, C_{1-3} -alkoxy- C_{1-4} -alkyl, aryl- C_{1-4} -alkyl, or aryloxy- C_{1-4} -alkyl;

wherein aryl is unsubstituted, mono- or di-substituted with a group independently selected from C_{1-2} -alkylendioxy, C_{1-4} -alkoxy, C_{1-4} -alkyl, halogen, trifluoromethyl, and trifluoromethoxy; and

15

R^6 represents C_{1-9} -alkylaminocarbonyl; C_{1-9} -alkylaminothiocarbonyl; C_{1-9} -alkylcarbonyl; C_{1-9} -alkoxycarbonyl; arylalkenylcarbonyl; arylaminocarbonyl; arylaminothiocarbonyl; aryl- C_{1-3} -alkoxy- C_{1-3} -alkoxycarbonyl; aryl- C_{1-3} -alkoxycarbonyl; aryl- C_{1-3} -alkylaminocarbonyl; aryl- C_{1-6} -alkylcarbonyl; aryl- C_{1-3} -alkoxy- C_{1-3} -alkylcarbonyl; arylcarbonyl; arylcarbonyl- C_{1-4} -alkylcarbonyl; aryloxy- C_{1-3} -alkylcarbonyl; arylsulfonylaminocarbonyl; cycloalkyl- C_{1-3} -alkylcarbonyl; diaryl- C_{1-3} -alkylcarbonyl; heterocyclylcarbonyl; heteroaryl- C_{1-3} -alkylcarbonyl; heteroarylcarbonyl; aryl- C_{3-6} -cycloalkylcarbonyl; cycloalkylcarbonyl; or R^7 - C_{1-4} -alkylcarbonyl, wherein the bridging C_{1-4} -alkyl group may additionally be mono-

20

substituted with aryl or disubstituted with hydroxy, and R⁷ represents arylaminocarbonyl, heteroarylaminocarbonyl, C₁₋₆-alkylaminocarbonyl, or aryl-C₁₋₃-alkylaminocarbonyl; wherein aryl is unsubstituted, mono- or di-substituted with a group independently selected from C₁₋₂-alkylendioxy; C₁₋₆-alkoxy; C₁₋₆-alkyl; C₁₋₆-alkylsulfonyl; phenyl which is
5 unsubstituted, mono- or di-substituted by substituents independently selected from halogen, trifluoromethyl, methoxy and methyl; naphthyl; phenyl-C₁₋₃-alkyl, wherein the phenyl group is unsubstituted, mono- or di-substituted with substituents independently selected from halogen, trifluoromethyl, methoxy and methyl; naphthyl-C₁₋₃-alkyl; phenoxy, wherein the phenyl group is unsubstituted, mono- or di-substituted with substituents independently
10 selected from halogen, trifluoromethyl, methoxy and methyl; naphthyloxy; halogen; hydroxy; halo-C₁₋₆-alkyl; halo-C₁₋₆-alkoxy; C₁₋₆-alkylthio; and C₁₋₄-alkoxycarbonylamino; or a salt of such a compound.

2. A compound according to claim 1, wherein R¹, R³ and R⁴ represent hydrogen;

15 or a salt of such a compound.

3. A compound according to claim 1 or 2, wherein R² represents hydrogen, trifluoromethyl, or halogen;

or a salt of such a compound.

4. A compound according to any one of claims 1 to 3, wherein R⁵ represents hydrogen; C₁₋₃-alkyl; cyclopropylmethyl; 2-methoxyethyl; phenyl-C₂₋₃-alkyl; or phenoxyethyl, wherein the phenyl group is unsubstituted, or mono-substituted with a group selected from C₁₋₂-alkylendioxy, C₁₋₄-alkoxy, C₁₋₄-alkyl, halogen, trifluoromethyl, and trifluoromethoxy;

25 or a salt of such a compound.

5. A compound according to any one of claims 1 to 4, wherein R⁶ represents C₁₋₉-alkylaminocarbonyl; C₁₋₉-alkylcarbonyl; C₁₋₉-alkoxycarbonyl; arylalkenylcarbonyl; arylaminocarbonyl; aryl-C₁₋₃-alkoxy-C₁₋₃-alkoxycarbonyl; aryl-C₁₋₃-alkoxycarbonyl; aryl-C₁₋₃-alkylaminocarbonyl; aryl-C₁₋₆-alkylcarbonyl; aryl-C₁₋₃-alkoxy-C₁₋₃-alkylcarbonyl; arylcarbonyl; arylcarbonyl-C₁₋₄-alkylcarbonyl; aryloxy-C₁₋₃-alkylcarbonyl; arylsulfonylaminocarbonyl; cycloalkyl-C₁₋₃-alkylcarbonyl; diaryl-C₁₋₃-alkylcarbonyl; heterocyclylcarbonyl; heteroaryl-C₁₋₃-alkylcarbonyl; heteroarylcarbonyl; aryl-

C₃₋₆-cycloalkylcarbonyl; cycloalkylcarbonyl; or R⁷-C₁₋₄-alkylcarbonyl, wherein the bridging C₁₋₄-alkyl group may additionally be mono-substituted with aryl, and R⁷ represents arylaminocarbonyl, heteroarylaminocarbonyl, C₁₋₆-alkylaminocarbonyl, or aryl-C₁₋₃-alkylaminocarbonyl;

5 wherein aryl is unsubstituted, mono- or di-substituted with a group independently selected from C₁₋₂-alkylendioxy, C₁₋₆-alkoxy, C₁₋₆-alkyl, C₁₋₆-alkylsulfonyl, halogen, hydroxy, halo-C₁₋₆-alkyl, halo-C₁₋₆-alkoxy, C₁₋₆-alkylthio, and C₁₋₄-alkoxycarbonylamino; or a salt of such a compound.

10 6. A compound according to any one of claims 1 to 4, wherein R⁶ represents aryl-C₁₋₂-alkoxycarbonyl; aryl-C₁₋₂-alkylaminocarbonyl; aryl-C₁₋₄-alkylcarbonyl; aryloxy-C₁₋₂-alkylcarbonyl; or diaryl-C₂₋₃-alkylcarbonyl; or R⁷-C₂₋₄-alkylcarbonyl, wherein the bridging C₂₋₄-alkyl group may additionally be mono-substituted with aryl, and R⁷ represents arylaminocarbonyl, or C₁₋₄-alkylaminocarbonyl;

15 wherein aryl is unsubstituted, mono- or di-substituted with a group independently selected from C₁₋₂-alkylendioxy, C₁₋₆-alkoxy, C₁₋₆-alkyl, C₁₋₆-alkylsulfonyl, halogen, hydroxy, trifluoromethyl, and trifluoromethoxy; or a salt of such a compound.

20 7. A compound according to any one of claims 1 to 6, wherein, in case R⁶ represents a group which contains a carbonyl group and one or more aryl moieties, said group is such that it contains a bridging group between the carbonyl group and said aryl moiety (moieties) of said R⁶, wherein the carbonyl moiety and at least one of the aryl moieties are directly attached to different atoms of said bridging group;

25 or a salt of such a compound.

8. A compound according to any one of claims 1 to 3, wherein

R⁶ represents C₁₋₄-alkylcarbonyl; or aryl-C₂₋₄-alkylcarbonyl, wherein aryl is unsubstituted, mono- or di-substituted with a group independently selected from C₁₋₄-alkoxy, C₁₋₄-alkyl, halogen, and trifluoromethyl; and

30

R⁵ represents phenyl-C₂₋₃-alkyl;

or a salt of such a compound.

9. A compound according to claim 1 selected from the group consisting of:

(3*S*)-[3-(3,3-diphenyl-propionylamino)-6-fluoro-1,2,3,4-tetrahydro-9*H*-carbazol-9-yl]-acetic acid;

5 (3*R*)-{3-[2-(3-chloro-phenoxy)-acetyl-amino]-6-fluoro-1,2,3,4-tetrahydro-9*H*-carbazol-9-yl}-acetic acid;

(3*S*)-[6-fluoro-3-(3-phenyl-propionylamino)-1,2,3,4-tetrahydro-9*H*-carbazol-9-yl]-acetic acid;

(3*R*)-{3-[2-(4-chloro-phenoxy)-acetyl-amino]-6-fluoro-1,2,3,4-tetrahydro-9*H*-carbazol-9-yl}-acetic acid;

10 (3*S*)-{3-[3-(2-chloro-phenyl)-propionylamino]-6-fluoro-1,2,3,4-tetrahydro-9*H*-carbazol-9-yl}-acetic acid;

(3*R*)-(3-isobutoxycarbonylamino-1,2,3,4-tetrahydro-9*H*-carbazol-9-yl)-acetic acid;

(3*R*)-[6-fluoro-3-(3-phenyl-propionylamino)-1,2,3,4-tetrahydro-9*H*-carbazol-9-yl]-acetic acid;

15 (3*S*)-{3-[3-(4-chloro-phenyl)-propionylamino]-6-fluoro-1,2,3,4-tetrahydro-9*H*-carbazol-9-yl}-acetic acid;

(3*R*)-(3-benzyloxycarbonylamino-6-fluoro-1,2,3,4-tetrahydro-9*H*-carbazol-9-yl)-acetic acid;

(3*S*)-(3-benzyloxycarbonylamino-6-fluoro-1,2,3,4-tetrahydro-9*H*-carbazol-9-yl)-acetic acid;

20 (3*S*)-{3-[2-(4-chloro-phenoxy)-acetyl-amino]-6-fluoro-1,2,3,4-tetrahydro-9*H*-carbazol-9-yl}-acetic acid;

(3*R*)-{3-[2-(2-chloro-phenoxy)-acetyl-amino]-6-fluoro-1,2,3,4-tetrahydro-9*H*-carbazol-9-yl}-acetic acid;

(3*S*)-{3-[3-(3-chloro-phenyl)-propionylamino]-6-fluoro-1,2,3,4-tetrahydro-9*H*-carbazol-9-yl}-acetic acid;

25 (3*S*)-[6-fluoro-3-(4-oxo-4-phenyl-butyrylamino)-1,2,3,4-tetrahydro-9*H*-carbazol-9-yl]-acetic acid;

(3*S*)-[6-fluoro-3-(2-indan-2-yl-acetyl-amino)-1,2,3,4-tetrahydro-9*H*-carbazol-9-yl]-acetic acid;

30 (3*S*)-{3-[(2,3-dihydro-1*H*-indole-2-carbonyl)-amino]-6-fluoro-1,2,3,4-tetrahydro-9*H*-carbazol-9-yl}-acetic acid;

(3*S*)-(3-{[2-(4-chloro-phenyl)-acetyl]-ethyl-amino}-6-fluoro-1,2,3,4-tetrahydro-9*H*-carbazol-9-yl)-acetic acid;

(3*R*)-(3-propoxycarbonylamino-1,2,3,4-tetrahydro-9*H*-carbazol-9-yl)-acetic acid;

- (3R)-[6-fluoro-3-(2-*p*-tolylloxy-acetylamino)-1,2,3,4-tetrahydro-9*H*-carbazol-9-yl]-acetic acid;
- (3*S*)-{6-fluoro-3-[methyl-(3-phenyl-propionyl)-amino]-1,2,3,4-tetrahydro-9*H*-carbazol-9-yl}-acetic acid;
- 5 (3*S*)-[6-fluoro-3-(3-1*H*-indol-3-yl-propionylamino)-1,2,3,4-tetrahydro-9*H*-carbazol-9-yl]-acetic acid;
- (3*S*)-[3-(3-benzo[1,3]dioxol-5-yl-propionylamino)-6-fluoro-1,2,3,4-tetrahydro-9*H*-carbazol-9-yl]-acetic acid;
- (3*S*)-{6-fluoro-3-[ethyl-(3-phenyl-propionyl)-amino]-1,2,3,4-tetrahydro-9*H*-carbazol-9-yl}-
- 10 acetic acid;
- (3*S*)-{3-[2-(4-chloro-phenyl)-acetylamino]-6-fluoro-1,2,3,4-tetrahydro-9*H*-carbazol-9-yl}-acetic acid;
- (3*S*)-[3-(2,3-diphenyl-propionylamino)-6-fluoro-1,2,3,4-tetrahydro-9*H*-carbazol-9-yl]-acetic acid;
- 15 (3*R*)-[6-fluoro-3-(2-phenoxy-acetylamino)-1,2,3,4-tetrahydro-9*H*-carbazol-9-yl]-acetic acid;
- (3*S*)-{3-[3-(3,4-difluoro-phenyl)-propionylamino]-6-fluoro-1,2,3,4-tetrahydro-9*H*-carbazol-9-yl}-acetic acid;
- (3*S*)-[3-(3-phenyl-propionylamino)-1,2,3,4-tetrahydro-9*H*-carbazol-9-yl]-acetic acid;
- (3*R*)-[3-(2-benzyloxy-acetylamino)-1,2,3,4-tetrahydro-9*H*-carbazol-9-yl]-acetic acid;
- 20 (3*S*)-{6-fluoro-3-[3-(2-methoxy-phenyl)-propionylamino]-1,2,3,4-tetrahydro-9*H*-carbazol-9-yl}-acetic acid;
- (3*S*)-{6-fluoro-3-[propyl-(3-phenyl-propionyl)-amino]-1,2,3,4-tetrahydro-9*H*-carbazol-9-yl}-acetic acid;
- (3*S*)-[3-(2-benzyloxy-acetylamino)-1,2,3,4-tetrahydro-9*H*-carbazol-9-yl]-acetic acid;
- 25 (3*R*)-(3-benzyloxycarbonylamino-1,2,3,4-tetrahydro-9*H*-carbazol-9-yl)-acetic acid;
- (3*R*)-{6-fluoro-3-[2-(4-methoxy-phenyl)-acetylamino]-1,2,3,4-tetrahydro-9*H*-carbazol-9-yl}-acetic acid;
- (3*R*)-{3-[3-(4-chloro-phenyl)-propionylamino]-6-fluoro-1,2,3,4-tetrahydro-9*H*-carbazol-9-yl}-acetic acid;
- 30 (3*S*)-{3-[4-(4-bromo-phenyl)-4-oxo-butyrylamino]-6-fluoro-1,2,3,4-tetrahydro-9*H*-carbazol-9-yl}-acetic acid;
- (3*S*)-(3-{[2-(4-chloro-phenyl)-acetyl]-propyl-amino}-6-fluoro-1,2,3,4-tetrahydro-9*H*-carbazol-9-yl)-acetic acid;

- (3R)-(3-phenylacetyl-amino-1,2,3,4-tetrahydro-9H-carbazol-9-yl)-acetic acid;
- (3R)-{3-[3-(2-chloro-phenyl)-propionyl-amino]-6-fluoro-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetic acid;
- (3S)-{6-fluoro-3-[2-(4-trifluoromethyl-phenoxy)-acetyl-amino]-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetic acid;
- 5 (3R)-(6-fluoro-3-phenylacetyl-amino-1,2,3,4-tetrahydro-9H-carbazol-9-yl)-acetic acid;
- (3S)-{6-fluoro-3-[3-(2-hydroxy-phenyl)-propionyl-amino]-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetic acid;
- (3S)-[3-(3-1H-benzimidazol-2-yl-propionyl-amino)-6-fluoro-1,2,3,4-tetrahydro-9H-carbazol-9-yl]-acetic acid;
- 10 (3S)-{6-fluoro-3-[3-(4-hydroxy-phenyl)-propionyl-amino]-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetic acid;
- (3S)-[6-fluoro-3-(2-*p*-tolyl-oxy-acetyl-amino)-1,2,3,4-tetrahydro-9H-carbazol-9-yl]-acetic acid;
- 15 (3R)-[6-fluoro-3-(2-*p*-tolyl-acetyl-amino)-1,2,3,4-tetrahydro-9H-carbazol-9-yl]-acetic acid;
- (3R)-{3-[3-(3-chloro-phenyl)-propionyl-amino]-6-fluoro-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetic acid;
- (3R)-[3-(2-phenoxy-acetyl-amino)-1,2,3,4-tetrahydro-9H-carbazol-9-yl]-acetic acid;
- (3S)-[6-fluoro-3-(3-*p*-tolyl-propionyl-amino)-1,2,3,4-tetrahydro-9H-carbazol-9-yl]-acetic acid;
- 20 acid;
- (3S)-(3-benzyloxycarbonyl-amino-1,2,3,4-tetrahydro-9H-carbazol-9-yl)-acetic acid;
- (3S)-[6-fluoro-3-(2-*p*-tolyl-acetyl-amino)-1,2,3,4-tetrahydro-9H-carbazol-9-yl]-acetic acid;
- (3S)-[3-(3-phenethyl-ureido)-1,2,3,4-tetrahydro-9H-carbazol-9-yl]-acetic acid;
- (3S)-{6-fluoro-3-[3-(3-hydroxy-phenyl)-propionyl-amino]-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetic acid;
- 25 acid;
- (3R)-[3-(2-benzyloxy-ethoxycarbonyl-amino)-1,2,3,4-tetrahydro-9H-carbazol-9-yl]-acetic acid;
- (3S)-[6-fluoro-3-(3-naphthalen-2-yl-propionyl-amino)-1,2,3,4-tetrahydro-9H-carbazol-9-yl]-acetic acid;
- 30 (3S)-{6-fluoro-3-[4-(4-methanesulfonyl-phenyl)-4-oxo-butyryl-amino]-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetic acid;
- (3S)-(3-{[2-(4-chloro-phenyl)-acetyl]-methyl-amino}-6-fluoro-1,2,3,4-tetrahydro-9H-carbazol-9-yl)-acetic acid;

- (3S)-[3-(3-phenylsulfonyl-ureido)-1,2,3,4-tetrahydro-9H-carbazol-9-yl]-acetic acid;
(3S)-{6-fluoro-3-[3-(4-methoxy-phenyl)-propionylamino]-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetic acid;
(3R)-[3-(3-phenyl-propionylamino)-1,2,3,4-tetrahydro-9H-carbazol-9-yl]-acetic acid;
5 (3R)-{3-[2-(4-chloro-phenyl)-acetylaminio]-6-fluoro-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetic acid;
(3R)-[6-fluoro-3-(3-*p*-tolyl-propionylamino)-1,2,3,4-tetrahydro-9H-carbazol-9-yl]-acetic acid;
(3R)-{6-fluoro-3-[3-(4-methoxy-phenyl)-propionylamino]-1,2,3,4-tetrahydro-9H-carbazol-10 9-yl}-acetic acid;
(3S)-{6-fluoro-3-[3-(4-hydroxy-3-methoxy-phenyl)-propionylamino]-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetic acid;
(3S)-{6-fluoro-3-[2-(3-trifluoromethyl-phenyl)-acetylaminio]-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetic acid;
15 (3S)-{6-fluoro-3-[2-(4-methoxy-phenyl)-acetylaminio]-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetic acid;
(3R)-{3-[2-(3-chloro-phenyl)-acetylaminio]-6-fluoro-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetic acid;
(3S)-{6-fluoro-3-[2-(4-trifluoromethyl-phenyl)-acetylaminio]-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetic acid;
20 (3R)-(3-*tert*-butoxycarbonylamino-1,2,3,4-tetrahydro-9H-carbazol-9-yl)-acetic acid;
(3R)-{3-[2-(3,4-dichloro-phenyl)-acetylaminio]-6-fluoro-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetic acid;
(3S)-(3-isobutoxycarbonylamino-1,2,3,4-tetrahydro-9H-carbazol-9-yl)-acetic acid;
25 (3S)-{6-fluoro-3-[3-(3-methoxy-phenyl)-propionylamino]-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetic acid;
(3S)-[6-fluoro-3-(2-phenoxy-acetylaminio)-1,2,3,4-tetrahydro-9H-carbazol-9-yl]-acetic acid;
(3R)-[3-(3-phenethyl-ureido)-1,2,3,4-tetrahydro-9H-carbazol-9-yl]-acetic acid;
(3S)-[3-(2-benzyloxy-ethoxycarbonylamino)-1,2,3,4-tetrahydro-9H-carbazol-9-yl]-acetic acid;
30 acid;
(3S)-[3-(2-phenoxy-acetylaminio)-1,2,3,4-tetrahydro-9H-carbazol-9-yl]-acetic acid;
(3S)-(3-propoxycarbonylamino-1,2,3,4-tetrahydro-9H-carbazol-9-yl)-acetic acid;
(3S)-[3-(2-thiophen-2-yl-acetylaminio)-1,2,3,4-tetrahydro-9H-carbazol-9-yl]-acetic acid;

- (3S)-(3-phenylacetyl-amino-1,2,3,4-tetrahydro-9H-carbazol-9-yl)-acetic acid;
(3R)-[3-(3-phenylsulfonyl-ureido)-1,2,3,4-tetrahydro-9H-carbazol-9-yl]-acetic acid;
(3S)-[3-(3-benzyl-ureido)-1,2,3,4-tetrahydro-9H-carbazol-9-yl]-acetic acid;
(3R)-[3-(3-naphthalen-1-yl-ureido)-1,2,3,4-tetrahydro-9H-carbazol-9-yl]-acetic acid;
5 (3S)-(3-decanoylamino-1,2,3,4-tetrahydro-9H-carbazol-9-yl)-acetic acid;
(3S)-[6-fluoro-3-(3-naphthalen-2-yl-acryloylamino)-1,2,3,4-tetrahydro-9H-carbazol-9-yl]-
acetic acid;
(3S)-{3-[2-(4-*tert*-butyl-phenyl)-acetyl-amino]-6-fluoro-1,2,3,4-tetrahydro-9H-carbazol-9-
yl}-acetic acid;
10 (3R)-(3-benzyloxycarbonylamino-8-chloro-6-fluoro-1,2,3,4-tetrahydro-9H-carbazol-9-yl)-
acetic acid;
(3S)-(3-benzyloxycarbonylamino-8-chloro-6-fluoro-1,2,3,4-tetrahydro-9H-carbazol-9-yl)-
acetic acid;
(3S)-[6-fluoro-3-(3-pyridin-3-yl-propionyl-amino)-1,2,3,4-tetrahydro-9H-carbazol-9-yl]-
15 acetic acid;
(3R)-[3-(3-benzyl-ureido)-1,2,3,4-tetrahydro-9H-carbazol-9-yl]-acetic acid;
(3S)-[3-(3-methyl-butyrylamino)-1,2,3,4-tetrahydro-9H-carbazol-9-yl]-acetic acid;
(3R)-{6-fluoro-3-[2-(4-trifluoromethyl-phenyl)-acetyl-amino]-1,2,3,4-tetrahydro-9H-
carbazol-9-yl}-acetic acid;
20 (3S)-[3-(3-phenyl-ureido)-1,2,3,4-tetrahydro-9H-carbazol-9-yl]-acetic acid;
(3S)-[3-(3-cyclopentyl-propionyl-amino)-1,2,3,4-tetrahydro-9H-carbazol-9-yl]-acetic acid;
(3R)-[3-(2-thiophen-2-yl-acetyl-amino)-1,2,3,4-tetrahydro-9H-carbazol-9-yl]-acetic acid;
(3S)-(3-butyrylamino-1,2,3,4-tetrahydro-9H-carbazol-9-yl)-acetic acid;
(3R)-(3-benzyloxycarbonylamino-8-chloro-5-fluoro-1,2,3,4-tetrahydro-9H-carbazol-9-yl)-
25 acetic acid;
(3S)-(3-benzyloxycarbonylamino-8-chloro-5-fluoro-1,2,3,4-tetrahydro-9H-carbazol-9-yl)-
acetic acid;
(3S)-(3-heptanoylamino-1,2,3,4-tetrahydro-9H-carbazol-9-yl)-acetic acid;
(3R)-[3-(3-cyclopentyl-propionyl-amino)-1,2,3,4-tetrahydro-9H-carbazol-9-yl]-acetic acid;
30 (3R)-(3-decanoylamino-1,2,3,4-tetrahydro-9H-carbazol-9-yl)-acetic acid;
(3R)-(3-benzoylamino-1,2,3,4-tetrahydro-9H-carbazol-9-yl)-acetic acid;
(3R)-[3-(3-butyl-ureido)-1,2,3,4-tetrahydro-9H-carbazol-9-yl]-acetic acid;

(3S)-{6-fluoro-3-[(1*H*-indole-2-carbonyl)-amino]-1,2,3,4-tetrahydro-9*H*-carbazol-9-yl}-acetic acid;

(3*R*)-[3-(3-methyl-butyrylamino)-1,2,3,4-tetrahydro-9*H*-carbazol-9-yl]-acetic acid;

(3*S*)-[3-(3-butyl-ureido)-1,2,3,4-tetrahydro-9*H*-carbazol-9-yl]-acetic acid;

5 or a salt of such a compound.

10. A compound according to claim 1 selected from the group consisting of:

(3*R*)-[3-(3-Benzyl-ureido)-6-fluoro-1,2,3,4-tetrahydro-9*H*-carbazol-9-yl]-acetic acid;

(3*S*)-[3-(3-Benzyl-ureido)-6-fluoro-1,2,3,4-tetrahydro-9*H*-carbazol-9-yl]-acetic acid;

10 (3*S*)-[6-Fluoro-3-(3-phenethyl-ureido)-1,2,3,4-tetrahydro-9*H*-carbazol-9-yl]-acetic acid;

(3*R*)-[3-(3-Benzyl-ureido)-8-chloro-6-fluoro-1,2,3,4-tetrahydro-9*H*-carbazol-9-yl]-acetic acid;

(3*S*)-[3-(3-Benzyl-ureido)-8-chloro-6-fluoro-1,2,3,4-tetrahydro-9*H*-carbazol-9-yl]-acetic acid;

15 (3*R*)-[8-Chloro-6-fluoro-3-(3-phenethyl-ureido)-1,2,3,4-tetrahydro-9*H*-carbazol-9-yl]-acetic acid;

(3*S*)-[8-Chloro-6-fluoro-3-(3-phenethyl-ureido)-1,2,3,4-tetrahydro-9*H*-carbazol-9-yl]-acetic acid;

20 (3*R*)-(3-Benzylloxycarbonylamino-6-trifluoromethyl-1,2,3,4-tetrahydro-9*H*-carbazol-9-yl)-acetic acid;

(3*S*)-(3-Benzylloxycarbonylamino-6-trifluoromethyl-1,2,3,4-tetrahydro-9*H*-carbazol-9-yl)-acetic acid;

(3*R*)-(3-Benzylloxycarbonylamino-8-bromo-6-fluoro-1,2,3,4-tetrahydro-9*H*-carbazol-9-yl)-acetic acid;

25 (3*S*)-(3-Benzylloxycarbonylamino-8-bromo-6-fluoro-1,2,3,4-tetrahydro-9*H*-carbazol-9-yl)-acetic acid;

(3*R*)-(3-Benzylloxycarbonylamino-6-fluoro-8-vinyl-1,2,3,4-tetrahydro-9*H*-carbazol-9-yl)-acetic acid;

30 (3*S*)-(3-Benzylloxycarbonylamino-6-fluoro-8-vinyl-1,2,3,4-tetrahydro-9*H*-carbazol-9-yl)-acetic acid;

(3*R*)-(3-Benzylloxycarbonylamino-6-fluoro-8-methanesulfonyl-1,2,3,4-tetrahydro-9*H*-carbazol-9-yl)-acetic acid;

- (3S)-(3-Benzylloxycarbonylamino-6-fluoro-8-methanesulfonyl-1,2,3,4-tetrahydro-9H-carbazol-9-yl)-acetic acid;
- (3S)-(3-Benzylloxycarbonylamino-6-fluoro-8-methyl-1,2,3,4-tetrahydro-9H-carbazol-9-yl)-acetic acid;
- 5 (3S)-(3-Benzylloxycarbonylamino-7-chloro-6-fluoro-1,2,3,4-tetrahydro-9H-carbazol-9-yl)-acetic acid;
- (3S)-(8-Allyl-3-benzylloxycarbonylamino-6-fluoro-1,2,3,4-tetrahydro-9H-carbazol-9-yl)-acetic acid;
- (3R)-(3-Benzylloxycarbonylamino-8-chloro-1,2,3,4-tetrahydro-9H-carbazol-9-yl)-acetic acid;
- 10 (3S)-{3-[3-(2,4-Dimethoxy-phenyl)-propionylamino]-6-fluoro-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetic acid;
- (3S)-[6-Fluoro-3-(3-naphthalen-1-yl-propionylamino)-1,2,3,4-tetrahydro-9H-carbazol-9-yl]-acetic acid;
- 15 (3R)-{6-Fluoro-3-[2-(2-methoxy-phenoxy)-acetylaminol]-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetic acid;
- (3S)-{6-Fluoro-3-[2-(2-methoxy-phenoxy)-acetylaminol]-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetic acid;
- (3R)-{6-Fluoro-3-[3-(2-methylphenyl)-propionylamino]-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetic acid;
- 20 (3S)-{6-Fluoro-3-[3-(2-methylphenyl)-propionylamino]-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetic acid;
- (3R)-{6-Fluoro-3-[3-(3-methylphenyl)-propionylamino]-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetic acid;
- 25 (3S)-{6-Fluoro-3-[3-(3-methylphenyl)-propionylamino]-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetic acid;
- (3R)-{6-Fluoro-3-[3-(3-methoxy-phenyl)-propionylamino]-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetic acid;
- (3S)-{6-Fluoro-3-[3-(3-methoxy-phenyl)-propionylamino]-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetic acid;
- 30 (3R)-{6-Fluoro-3-[2-(3-methoxy-phenoxy)-acetylaminol]-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetic acid;

- (3S)-{6-Fluoro-3-[2-(3-methoxy-phenoxy)-acetylamino]-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetic acid;
- (3R)-{6-Fluoro-3-[2-(2-methylphenoxy)-acetylamino]-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetic acid;
- 5 (3S)-{6-Fluoro-3-[2-(2-methylphenoxy)-acetylamino]-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetic acid;
- (3S)-{3-[3-(2,5-Dimethoxy-phenyl)-propionylamino]-6-fluoro-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetic acid;
- (3S)-{6-Fluoro-3-[3-(4-trifluoromethyl-phenyl)-propionylamino]-1,2,3,4-tetrahydro-9H-
- 10 carbazol-9-yl}-acetic acid;
- (3S)-{3-[3-(2,6-Dichloro-phenyl)-propionylamino]-6-fluoro-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetic acid;
- (3S)-{3-[3-(2,5-Bis-trifluoromethyl-phenyl)-propionylamino]-6-fluoro-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetic acid;
- 15 (3S)-{6-Fluoro-3-[3-(4-methylsulfanyl-phenyl)-propionylamino]-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetic acid;
- (3S)-{6-Fluoro-3-[3-(4-iodo-phenyl)-propionylamino]-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetic acid;
- (3S)-{6-Fluoro-3-[3-(4-isopropyl-phenyl)-propionylamino]-1,2,3,4-tetrahydro-9H-carbazol-
- 20 9-yl}-acetic acid;
- (3S)-{6-Fluoro-3-[3-(3-trifluoromethyl-phenyl)-propionylamino]-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetic acid;
- (3S)-{3-[3-(2,4-Dichloro-phenyl)-propionylamino]-6-fluoro-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetic acid;
- 25 (3S)-{6-Fluoro-3-[3-(4-fluoro-phenyl)-propionylamino]-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetic acid;
- (3S)-{3-[3-(3,5-Bis-trifluoromethyl-phenyl)-propionylamino]-6-fluoro-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetic acid;
- (3S)-{3-[3-(4-Ethyl-phenyl)-propionylamino]-6-fluoro-1,2,3,4-tetrahydro-9H-carbazol-9-
- 30 yl}-acetic acid;
- (3S)-{6-Fluoro-3-[3-(3-iodo-phenyl)-propionylamino]-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetic acid;

- (3S)-{6-Fluoro-3-[3-(4-methanesulfonyl-phenyl)-propionylamino]-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetic acid;
- (3S)-{3-[3-(2,3-Dimethoxy-phenyl)-propionylamino]-6-fluoro-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetic acid;
- 5 (3S)-{3-[3-(2-Bromo-phenyl)-propionylamino]-6-fluoro-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetic acid;
- (3S)-{6-Fluoro-3-[3-(3-trifluoromethoxy-phenyl)-propionylamino]-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetic acid;
- (3S)-{3-[3-(2,4-Dimethyl-phenyl)-propionylamino]-6-fluoro-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetic acid;
- 10 (3S)-{3-[3-(3-Bromo-phenyl)-propionylamino]-6-fluoro-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetic acid;
- (3S)-{3-[3-(3-*tert*-Butoxycarbonylamino-phenyl)-propionylamino]-6-fluoro-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetic acid;
- 15 (3S)-{6-Fluoro-3-[(S)-3-(4-fluoro-phenyl)-2-phenyl-propionylamino]-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetic acid;
- (3S)-{6-Fluoro-3-[(S)-3-(4-methoxy-phenyl)-2-phenyl-propionylamino]-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetic acid;
- (3S)-{6-Fluoro-3-[3-(2-fluoro-phenyl)-propionylamino]-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetic acid;
- 20 (3S)-(6-Fluoro-3-{[(2RS)-1,2,3,4-tetrahydro-naphthalene-2-carbonyl]-amino}-1,2,3,4-tetrahydro-9H-carbazol-9-yl)-acetic acid;
- (3S)-(6-Fluoro-3-{[(2RS)-8-methoxy-1,2,3,4-tetrahydro-naphthalene-2-carbonyl]-amino}-1,2,3,4-tetrahydro-9H-carbazol-9-yl)-acetic acid;
- 25 (3S)-(6-Fluoro-3-{(2RS)-2-[(4-fluoro-phenylcarbamoyl)-methyl]-3-phenyl-propionylamino}-1,2,3,4-tetrahydro-9H-carbazol-9-yl)-acetic acid;
- (3S)-{3-[(2RS)-2-Benzyl-3,3-dimethyl-butyrylamino]-6-fluoro-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetic acid;
- (3S)-(6-Fluoro-3-{[(2RS)-8-methoxy-1,2,3,4-tetrahydro-naphthalene-2-carbonyl]-amino}-1,2,3,4-tetrahydro-9H-carbazol-9-yl)-acetic acid;
- 30 (3S)-{6-Fluoro-3-[3-(3-fluoro-phenyl)-propionylamino]-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetic acid;

- (3S)-(6-Fluoro-3-{[(2R)-8-methoxy-1,2,3,4-tetrahydro-naphthalene-2-carbonyl]-amino}-1,2,3,4-tetrahydro-9H-carbazol-9-yl)-acetic acid;
- (3S)-{6-Fluoro-3-[(2R)-2-methyl-3-phenyl-propionylamino]-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetic acid;
- 5 (3S)-[3-(2,2-Dimethyl-3-phenyl-propionylamino)-6-fluoro-1,2,3,4-tetrahydro-9H-carbazol-9-yl]-acetic acid;
- (3S)-[6-Fluoro-3-(3-methyl-3-phenyl-butyrylamino)-1,2,3,4-tetrahydro-9H-carbazol-9-yl]-acetic acid;
- (3S)-{6-Fluoro-3-[(3S)-3-phenyl-butyrylamino]-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetic acid;
- 10 acid;
- (3S)-[3-(2-Benzoyloxy-acetyl-amino)-6-fluoro-1,2,3,4-tetrahydro-9H-carbazol-9-yl]-acetic acid;
- (3S)-[6-Fluoro-3-(4-phenyl-butyrylamino)-1,2,3,4-tetrahydro-9H-carbazol-9-yl]-acetic acid;
- (3S)-{3-[(2R,3R)-2,3-Dihydroxy-3-(2-methoxy-phenylcarbamoyl)-propionylamino]-6-fluoro-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetic acid;
- 15 fluoro-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetic acid;
- (3R)-{8-Chloro-6-fluoro-3-[3-(2-methylphenyl)-propionylamino]-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetic acid;
- (3S)-{8-Chloro-6-fluoro-3-[3-(2-methylphenyl)-propionylamino]-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetic acid;
- 20 (3R)-{8-Chloro-6-fluoro-3-[2-(2-methoxy-phenoxy)-acetyl-amino]-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetic acid;
- (3S)-{8-Chloro-6-fluoro-3-[2-(2-methoxy-phenoxy)-acetyl-amino]-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetic acid;
- (3R)-{8-Chloro-6-fluoro-3-[3-(3-hydroxy-phenyl)-propionylamino]-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetic acid;
- 25 carbazol-9-yl}-acetic acid;
- (3S)-{8-Chloro-6-fluoro-3-[3-(3-hydroxy-phenyl)-propionylamino]-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetic acid;
- (3R)-{8-Chloro-6-fluoro-3-[3-(3-methoxy-phenyl)-propionylamino]-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetic acid;
- 30 (3S)-{8-Chloro-6-fluoro-3-[3-(3-methoxy-phenyl)-propionylamino]-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetic acid;
- (3R)-{8-Chloro-6-fluoro-3-[3-(3-methylphenyl)-propionylamino]-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetic acid;

- (3S)-{8-Chloro-6-fluoro-3-[3-(3-methylphenyl)-propionylamino]-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetic acid;
- (3R)-{8-Chloro-6-fluoro-3-[3-(2-hydroxy-phenyl)-propionylamino]-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetic acid;
- 5 (3S)-{8-Chloro-6-fluoro-3-[3-(2-hydroxy-phenyl)-propionylamino]-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetic acid;
- (3R)-[8-Chloro-6-fluoro-3-(3-phenyl-propionylamino)-1,2,3,4-tetrahydro-9H-carbazol-9-yl]-acetic acid;
- (3S)-[8-Chloro-6-fluoro-3-(3-phenyl-propionylamino)-1,2,3,4-tetrahydro-9H-carbazol-9-yl]-acetic acid;
- 10 (3R)-{8-Chloro-6-fluoro-3-[3-(2-methoxy-phenyl)-propionylamino]-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetic acid;
- (3S)-{8-Chloro-6-fluoro-3-[3-(2-methoxy-phenyl)-propionylamino]-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetic acid;
- (3R)-{8-Chloro-3-[3-(3-chloro-phenyl)-propionylamino]-6-fluoro-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetic acid;
- 15 (3S)-{8-Chloro-3-[3-(3-chloro-phenyl)-propionylamino]-6-fluoro-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetic acid;
- (3R)-[8-Chloro-6-fluoro-3-(3-1H-indol-3-yl-propionylamino)-1,2,3,4-tetrahydro-9H-carbazol-9-yl]-acetic acid;
- 20 (3S)-[8-Chloro-6-fluoro-3-(3-1H-indol-3-yl-propionylamino)-1,2,3,4-tetrahydro-9H-carbazol-9-yl]-acetic acid;
- (3R)-{8-Chloro-3-[2-(2-chloro-phenoxy)-acetylaminio]-6-fluoro-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetic acid;
- (3S)-{8-Chloro-3-[2-(2-chloro-phenoxy)-acetylaminio]-6-fluoro-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetic acid;
- 25 (3R)-{8-Chloro-6-fluoro-3-[2-(2-methylphenyl)-oxy-acetylaminio]-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetic acid;
- (3S)-{8-Chloro-6-fluoro-3-[2-(2-methylphenyl)-oxy-acetylaminio]-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetic acid;
- 30 (3R)-[3-(3-Benzo[1,3]dioxol-5-yl-propionylamino)-8-chloro-6-fluoro-1,2,3,4-tetrahydro-9H-carbazol-9-yl]-acetic acid;

- (3S)-[3-(3-Benzo[1,3]dioxol-5-yl-propionylamino)-8-chloro-6-fluoro-1,2,3,4-tetrahydro-9H-carbazol-9-yl]-acetic acid;
- (3R)-{8-Chloro-6-fluoro-3-[2-(3-methoxy-phenoxy)-acetyl-amino]-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetic acid;
- 5 (3S)-{8-Chloro-6-fluoro-3-[2-(3-methoxy-phenoxy)-acetyl-amino]-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetic acid;
- (3R)-{8-Chloro-3-[2-(3-chloro-phenoxy)-acetyl-amino]-6-fluoro-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetic acid;
- (3S)-{8-Chloro-3-[2-(3-chloro-phenoxy)-acetyl-amino]-6-fluoro-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetic acid;
- 10 (3R)-{8-Chloro-3-[3-(2-chloro-phenyl)-propionylamino]-6-fluoro-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetic acid;
- (3S)-{8-Chloro-3-[3-(2-chloro-phenyl)-propionylamino]-6-fluoro-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetic acid;
- 15 (3R)-[8-Chloro-6-fluoro-3-(2-indan-2-yl-acetyl-amino)-1,2,3,4-tetrahydro-9H-carbazol-9-yl]-acetic acid;
- (3S)-[8-Chloro-6-fluoro-3-(2-indan-2-yl-acetyl-amino)-1,2,3,4-tetrahydro-9H-carbazol-9-yl]-acetic acid;
- (3S)-[6-Fluoro-3-(1-methyl-3-phenethyl-ureido)-1,2,3,4-tetrahydro-9H-carbazol-9-yl]-acetic acid;
- 20 (3S)-{3-[3-(2-Chloro-benzyl)-1-methyl-ureido]-6-fluoro-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetic acid;
- (3S)-[3-(3-Benzyl-1-methyl-ureido)-6-fluoro-1,2,3,4-tetrahydro-9H-carbazol-9-yl]-acetic acid;
- 25 (3S)-[3-(Benzyloxycarbonyl-methyl-amino)-6-fluoro-1,2,3,4-tetrahydro-9H-carbazol-9-yl]-acetic acid;
- {(3S)-3-[(2-Chloro-benzyloxycarbonyl)-methyl-amino]-6-fluoro-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetic acid;
- (3S)-(6-Fluoro-3-{[2-(4-methoxy-phenyl)-acetyl]-methyl-amino}-1,2,3,4-tetrahydro-9H-carbazol-9-yl)-acetic acid;
- 30 (3S)-(6-Fluoro-3-{methyl-[2-(4-methylphenyl)-acetyl]-amino}-1,2,3,4-tetrahydro-9H-carbazol-9-yl)-acetic acid;

- (3S)-(6-Fluoro-3-{[2-(2-methoxy-phenyl)-acetyl]-methyl-amino}-1,2,3,4-tetrahydro-9H-carbazol-9-yl)-acetic acid;
- (3S)-{6-Fluoro-3-[(2-indan-2-yl-acetyl)-methyl-amino]-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetic acid;
- 5 (3S)-(3-{[2-(3-Chloro-phenyl)-acetyl]-methyl-amino}-6-fluoro-1,2,3,4-tetrahydro-9H-carbazol-9-yl)-acetic acid;
- (3S)-(6-Fluoro-3-{methyl-[2-(3-methylphenyl)-acetyl]-amino}-1,2,3,4-tetrahydro-9H-carbazol-9-yl)-acetic acid;
- (3S)-(6-Fluoro-3-{[2-(3-methoxy-phenyl)-acetyl]-methyl-amino}-1,2,3,4-tetrahydro-9H-
- 10 carbazol-9-yl)-acetic acid;
- (3S)-(3-{[2-(2-Chloro-phenoxy)-acetyl]-methyl-amino}-6-fluoro-1,2,3,4-tetrahydro-9H-carbazol-9-yl)-acetic acid;
- (3S)-(3-{[2-(4-Chloro-phenoxy)-acetyl]-methyl-amino}-6-fluoro-1,2,3,4-tetrahydro-9H-carbazol-9-yl)-acetic acid;
- 15 (3S)-(6-Fluoro-3-{[3-(3-methoxy-phenyl)-propionyl]-methyl-amino}-1,2,3,4-tetrahydro-9H-carbazol-9-yl)-acetic acid;
- (3S)-(6-Fluoro-3-{methyl-[2-(2-methylphenyl)-acetyl]-amino}-1,2,3,4-tetrahydro-9H-carbazol-9-yl)-acetic acid;
- (3S)-{3-[(3,3-Diphenyl-propionyl)-methyl-amino]-6-fluoro-1,2,3,4-tetrahydro-9H-carbazol-
- 20 9-yl}-acetic acid;
- (3S)-(6-Fluoro-3-{[3-(2-methoxy-phenyl)-propionyl]-methyl-amino}-1,2,3,4-tetrahydro-9H-carbazol-9-yl)-acetic acid;
- (3S)-{6-Fluoro-3-[(3-1H-indol-3-yl-propionyl)-methyl-amino]-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetic acid;
- 25 (3S)-{3-[(2-Benzyloxy-acetyl)-methyl-amino]-6-fluoro-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetic acid;
- (3S)-{3-[(2,3-Diphenyl-propionyl)-methyl-amino]-6-fluoro-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetic acid;
- (3S)-{6-Fluoro-3-[[3-(2-methoxy-phenyl)-propionyl]-(3-phenyl-propyl)-amino]-1,2,3,4-
- 30 tetrahydro-9H-carbazol-9-yl}-acetic acid;
- (3S)-{3-[Acetyl-(3-phenyl-propyl)-amino]-6-fluoro-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetic acid;

- (3S)-{3-[3-Benzyl-(1-cyclopropylmethyl)-ureido]-6-fluoro-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetic acid;
- (3S)-[3-(Benzyloxycarbonyl-cyclopropylmethyl-amino)-6-fluoro-1,2,3,4-tetrahydro-9H-carbazol-9-yl]-acetic acid;
- 5 (3S)-{3-[Cyclopropylmethyl-(3-phenyl-propionyl)-amino]-6-fluoro-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetic acid;
- (3S)-{3-[Cyclopropylmethyl-((S)-2-methyl-3-phenyl-propionyl)-amino]-6-fluoro-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetic acid;
- (3S)-(3-{Cyclopropylmethyl-[3-(2-methoxy-phenyl)-propionyl]-amino}-6-fluoro-1,2,3,4-tetrahydro-9H-carbazol-9-yl)-acetic acid;
- 10 (3S)-(3-{[2-(3-Chloro-phenoxy)-acetyl]-cyclopropylmethyl-amino}-6-fluoro-1,2,3,4-tetrahydro-9H-carbazol-9-yl)-acetic acid;
- (3S)-{3-[Cyclopropylmethyl-(3,3-diphenyl-propionyl)-amino]-6-fluoro-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetic acid;
- 15 (3S)-{3-[Cyclopropylmethyl-(2-naphthalen-1-yl-acetyl)-amino]-6-fluoro-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetic acid;
- (3S)-(3-{Benzyloxycarbonyl-[2-(4-trifluoromethyl-phenoxy)-ethyl]-amino}-6-fluoro-1,2,3,4-tetrahydro-9H-carbazol-9-yl)-acetic acid;
- (3S)-(3-{Acetyl-[2-(4-trifluoromethyl-phenoxy)-ethyl]-amino}-6-fluoro-1,2,3,4-tetrahydro-9H-carbazol-9-yl)-acetic acid;
- 20 (3S)-(6-Fluoro-3-{propionyl-[2-(4-trifluoromethyl-phenoxy)-ethyl]-amino}-1,2,3,4-tetrahydro-9H-carbazol-9-yl)-acetic acid;
- (3S)-(6-Fluoro-3-{(3-phenyl-propionyl)-[2-(4-trifluoromethyl-phenoxy)-ethyl]-amino}-1,2,3,4-tetrahydro-9H-carbazol-9-yl)-acetic acid;
- 25 (3S)-(6-Fluoro-3-{[3-(2-methoxy-phenyl)-propionyl]-[2-(4-trifluoromethyl-phenoxy)-ethyl]-amino}-1,2,3,4-tetrahydro-9H-carbazol-9-yl)-acetic acid;
- (3S)-{6-Fluoro-3-[(2-phenoxy-ethyl)-(3-phenyl-propionyl)-amino]-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetic acid;
- (3S)-{6-Fluoro-3-[(S)-2-methyl-3-phenyl-propionyl-(2-phenoxy-ethyl)-amino]-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetic acid;
- 30 (3S)-{6-Fluoro-3-[[3-(2-methoxy-phenyl)-propionyl]-(2-phenoxy-ethyl)-amino]-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetic acid;

- (3S)-{3-[Acetyl-(2-phenoxy-ethyl)-amino]-6-fluoro-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetic acid;
- (3S)-{3-[3-Benzyl-1-(2-methoxy-ethyl)-ureido]-6-fluoro-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetic acid;
- 5 (3S)-{3-[Benzyloxycarbonyl-(2-methoxy-ethyl)-amino]-6-fluoro-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetic acid;
- (3S)-{6-Fluoro-3-[(2-methoxy-ethyl)-(3-phenyl-propionyl)-amino]-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetic acid;
- (3S)-{6-Fluoro-3-[(2-methoxy-ethyl)-((S)-2-methyl-3-phenyl-propionyl)-amino]-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetic acid;
- 10 (3S)-(6-Fluoro-3-{(2-methoxy-ethyl)-[3-(2-methoxy-phenyl)-propionyl]-amino}-1,2,3,4-tetrahydro-9H-carbazol-9-yl)-acetic acid;
- (3S)-{3-[[2-(3-Chloro-phenoxy)-acetyl]-(2-methoxy-ethyl)-amino]-6-fluoro-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetic acid;
- 15 (3S)-{3-[(3,3-Diphenyl-propionyl)-(2-methoxy-ethyl)-amino]-6-fluoro-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetic acid;
- (3S)-{6-Fluoro-3-[(2-methoxy-ethyl)-(2-naphthalen-1-yl-acetyl)-amino]-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetic acid;
- (3S)-(6-Fluoro-3-{[(2S)-2-methyl-3-phenyl-propionyl]-phenethyl-amino}-1,2,3,4-tetrahydro-9H-carbazol-9-yl)-acetic acid;
- 20 (3S)-(6-Fluoro-3-{[3-(2-methoxy-phenyl)-propionyl]-phenethyl-amino}-1,2,3,4-tetrahydro-9H-carbazol-9-yl)-acetic acid;
- (3S)-[3-(Acetyl-phenethyl-amino)-6-fluoro-1,2,3,4-tetrahydro-9H-carbazol-9-yl]-acetic acid;
- 25 (3S)-{6-Fluoro-3-[(2-naphthalen-1-yl-acetyl)-phenethyl-amino]-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetic acid;
- (3S)-{6-Fluoro-3-[phenethyl-(3-phenyl-propionyl)-amino]-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetic acid;
- (3S)-[3-(3-Benzyl-1-naphthalen-1-ylmethyl-ureido)-6-fluoro-1,2,3,4-tetrahydro-9H-carbazol-9-yl]-acetic acid;
- 30 (3S)-[3-(Benzyloxycarbonyl-naphthalen-1-ylmethyl-amino)-6-fluoro-1,2,3,4-tetrahydro-9H-carbazol-9-yl]-acetic acid;

- (3S)-{6-Fluoro-3-[naphthalen-1-ylmethyl-(3-phenyl-propionyl)-amino]-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetic acid;
- (3S)-{6-Fluoro-3-[(*S*)-2-methyl-3-phenyl-propionyl]-naphthalen-1-ylmethyl-amino]-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetic acid;
- 5 (3S)-(6-Fluoro-3-{[3-(2-methoxy-phenyl)-propionyl]-naphthalen-1-ylmethyl-amino}-1,2,3,4-tetrahydro-9H-carbazol-9-yl)-acetic acid;
- (3S)-{3-[(3,3-Diphenyl-propionyl)-naphthalen-1-ylmethyl-amino]-6-fluoro-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetic acid;
- (3S)-[3-(Acetyl-naphthalen-1-ylmethyl-amino)-6-fluoro-1,2,3,4-tetrahydro-9H-carbazol-9-yl]-acetic acid;
- 10 (3S)-[6-Fluoro-3-(naphthalen-1-ylmethyl-propionyl-amino)-1,2,3,4-tetrahydro-9H-carbazol-9-yl]-acetic acid;
- (3S)-{3-[(*RS*)-2-Benzyl-3-(2-methylphenyl)-carbamoyl-propionylamino]-6-fluoro-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetic acid;
- 15 (3S)-{3-[(*RS*)-2-Benzyl-3-(3-methoxy-phenylcarbamoyl)-propionylamino]-6-fluoro-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetic acid;
- (3S)-{3-[(*RS*)-2-Benzyl-3-(4-chloro-phenylcarbamoyl)-propionylamino]-6-fluoro-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetic acid;
- (3S)-{3-[(*RS*)-2-Benzyl-3-(4-fluoro-benzylcarbamoyl)-propionylamino]-6-fluoro-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetic acid;
- 20 [(3S)-3-((*RS*)-2-Benzyl-3-propylcarbamoyl-propionylamino)-6-fluoro-1,2,3,4-tetrahydro-9H-carbazol-9-yl]-acetic acid;
- (3S)-[6-Fluoro-3-(3-thiophen-2-yl-propionylamino)-1,2,3,4-tetrahydro-9H-carbazol-9-yl]-acetic acid;
- 25 (3S)-{3-[3-(3-Chloro-isoxazol-5-yl)-propionylamino]-6-fluoro-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetic acid;
- (3S)-[6-Fluoro-3-(3-pyrimidin-2-yl-propionylamino)-1,2,3,4-tetrahydro-9H-carbazol-9-yl]-acetic acid;
- (3S)-{6-Fluoro-3-[3-phenyl-4-([1,3,4]thiadiazol-2-ylcarbamoyl)-butyrylamino]-1,2,3,4-tetrahydro-9H-carbazol-9-yl}-acetic acid;
- 30 (3S)-[3-(1,3-Dibenzyl-ureido)-6-fluoro-1,2,3,4-tetrahydro-9H-carbazol-9-yl]-acetic acid;
- (3S)-(3-{Acetyl-[2-(2-fluoro-phenyl)-ethyl]-amino}-6-fluoro-1,2,3,4-tetrahydro-9H-carbazol-9-yl)-acetic acid;

(3*S*)-(3-{Acetyl-[2-(3-fluoro-phenyl)-ethyl]-amino}-6-fluoro-1,2,3,4-tetrahydro-9*H*-carbazol-9-yl)-acetic acid;

(3*S*)-[3-(3-Benzyl-1-cyclohexylmethyl-ureido)-6-fluoro-1,2,3,4-tetrahydro-9*H*-carbazol-9-yl]-acetic acid; and

- 5 (3*S*)-(3-{Cyclohexylmethyl-[3-(2-methoxy-phenyl)-propionyl]-amino}-6-fluoro-1,2,3,4-tetrahydro-9*H*-carbazol-9-yl)-acetic acid;
or a salt of such a compound.

11. A pharmaceutical composition comprising a compound according to any one of claims
10 1 to 10, or a pharmaceutically acceptable salt thereof, and a pharmaceutically acceptable carrier.

12. A compound according to any one of claims 1 to 10, or a pharmaceutically acceptable salt thereof, or a pharmaceutical composition according to claim 11, for use as a
15 medicament.

13. Use of a compound according to any one of claims 1 to 10, or a pharmaceutically acceptable salt thereof, for the preparation of a medicament for the prevention and/or treatment of chronic and acute allergic/immune diseases/disorders, comprising allergic
20 asthma, rhinitis, allergic rhinitis, chronic obstructive pulmonary disease, dermatitis, inflammatory bowel disease, rheumatoid arthritis, allergic nephritis, conjunctivitis, atopic dermatitis, bronchial asthma, food allergy, systemic mast cell disorders, anaphylactic shock, urticaria, eczema, itching, inflammation, ischemia-reperfusion injury, cerebrovascular disorders, pleuritis, ulcerative colitis, eosinophil-related diseases comprising Churg-Strauss
25 syndrome and sinusitis, and basophil-related diseases, comprising basophilic leukemia and basophilic leukocytosis.