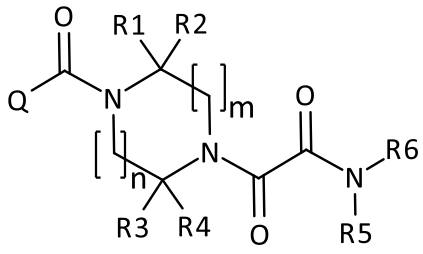
Claims

1. Compound of Formula I



I

in which

- R1, R2, R3, and R4 are for each position independently selected from the group comprising H, D, and C1-C6-alkyl
- R5 and R6 are independently selected from the group comprising H, C6-aryl, C3-C5-heteroaryl, C1-C6-alkyl, C2-C6-alkynyl, C1-C6-haloalkyl, C3-C7-cycloalkyl, C3-C7-heterocycloalkyl, C2-C6-hydroxyalkyl, C1-C6-alkyl-O-C1-C6-alkyl, C1-C2-alkyl-C3-C5-cycloalkyl, C1-C2-alkyl-C3-C5-heteroaryl, and C1-C2-alkyl-C3-C5-heterocycloalkyl optionally substituted with 1, 2, or 3 groups each independently selected from OH, halo, phenyl, carboxyphenyl, C3-C7-heterocycloalkyl, C1-C6-alkyl, C1-C6-haloalkyl, C1-C6-hydroxyalkyl, C1-C4-alkoxy, C1-C6-alkyl-O-C1-C6-alkyl, C(=O)NH_2, C(=O)N(H)CH_3 and carboxy
- R5 and R6 are optionally connected to form a C4-C8-heterocyclyl ring
- n is 0, 1, or 2
- m is 0, 1, or 2
- Q is indol-2-yl, optionally substituted with 1, 2, 3, or 4 groups independently selected from H, D, F, Cl, Br, I, CF_3, CF_2H, C1-C4-alkyl, CF_2CH_3, cyclopropyl, cyano, and nitro; or

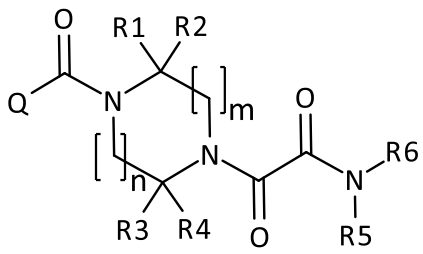
  indolizin-2-yl, optionally substituted with 1, 2, 3, 4, 5 or 6 groups independently selected from H, D, F, Cl, Br, I, CF_3, CF_2H, C1-C4-alkyl, CF_2CH_3, cyclopropyl, cyano, C2-C5-alkenyl, and nitro,

  wherein heteroaryl and heterocycloalkyl each has 1 or 2 heteroatoms each independently selected from N, O and S,

  or a pharmaceutically acceptable salt thereof or a solvate of a compound of Formula I or the pharmaceutically acceptable salt thereof or a prodrug of a compound of Formula I or a pharmaceutically acceptable salt or a solvate thereof for use in the prevention or

treatment of an HBV infection in a subject.

2. A compound of Formula I for use in the prevention or treatment of an HBV infection in a subject according to claim 1



I

in which

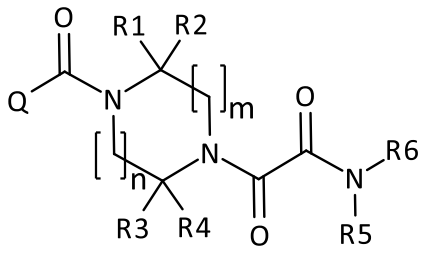
- R1, R2, R3, and R4 are for each position independently selected from the group comprising H, D, and C1-C6-alkyl
- R5 and R6 are independently selected from the group comprising H, C6-aryl, C1-C6-alkyl, C2-C6-alkynyl, C1-C6-haloalkyl, C3-C7-cycloalkyl, C3-C7-heterocycloalkyl, C2-C6-hydroxyalkyl, C1-C6-alkyl-O-C1-C6-alkyl, C1-C2-alkyl-C3-C5-cycloalkyl, C1-C2-alkyl-C3-C5-heteroaryl, and C1-C2-alkyl-C3-C5-heterocycloalkyl optionally substituted with 1, 2, or 3 groups each independently selected from OH, C3-C7-heterocycloalkyl, C1-C6-alkyl, C1-C6-hydroxyalkyl, C1-C4-alkoxy, C1-C6-alkyl-O-C1-C6-alkyl, $C(=O)NH_2$, and $C(=O)N(H)CH_3$
- R5 and R6 are optionally connected to form a C4-C8-heterocyclyl ring
- n is 0, 1, or 2
- m is 0, 1, or 2
- Q is indol-2-yl, optionally substituted with 1, 2, 3, or 4 groups independently selected from H, D, F, Cl, Br, I, CF_3, CF_2H, C1-C4-alkyl, CF_2CH_3, cyclopropyl, cyano, and nitro; or

  indolizin-2-yl, optionally substituted with 1, 2, 3, 4, 5 or 6 groups independently selected from H, D, F, Cl, Br, I, CF_3, CF_2H, C1-C4-alkyl, CF_2CH_3, cyclopropyl, cyano, C2-C5-alkenyl, and nitro,

  wherein heteroaryl and heterocycloalkyl each has 1 or 2 heteroatoms each independently selected from N, O and S,

or a pharmaceutically acceptable salt thereof or a solvate of a compound of Formula I or the pharmaceutically acceptable salt thereof or a prodrug of a compound of Formula I or a pharmaceutically acceptable salt or a solvate thereof.

3. A compound of Formula I for use in the prevention or treatment of an HBV infection in a subject according to claim 1



I

in which

- R1, R2, R3, and R4 are for each position independently selected from the group comprising H, D, and C1-C6-alkyl
- R5 and R6 are independently selected from the group comprising H, C6-aryl, C3-C5-heteroaryl, C1-C6-alkyl, C1-C6-haloalkyl, C3-C6-cycloalkyl, C3-C7-heterocycloalkyl, C2-C6-hydroxyalkyl, C1-C6-alkyl-O-C1-C6-alkyl, C1-C2-alkyl-C3-C5-cycloalkyl, and C1-C2-alkyl-C3-C5-heterocycloalkyl optionally substituted with 1, 2, or 3 groups each independently selected from OH, halo, phenyl, carboxyphenyl, C3-C7-heterocycloalkyl, C1-C6-alkyl, C1-C6-haloalkyl, C1-C6-hydroxyalkyl, C(=O)N(H)CH_3 and carboxy
- R5 and R6 are optionally connected to form a C4-C8-heterocyclyl ring
- n is 0, 1, or 2
- m is 0, 1, or 2
- Q is indol-2-yl, optionally substituted with 1, 2, 3, or 4 groups independently selected from H, D, F, Cl, Br, I, CF_3, CF_2H, C1-C4-alkyl, CF_2CH_3, cyclopropyl, cyano, and nitro; or

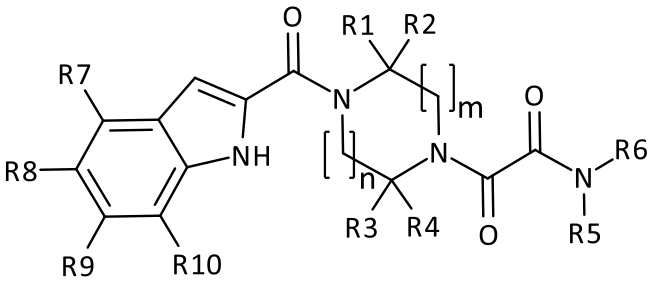
  indolizin-2-yl, optionally substituted with 1, 2, 3, 4, 5 or 6 groups independently selected from H, D, F, Cl, Br, I, CF_3, CF_2H, C1-C4-alkyl, CF_2CH_3, cyclopropyl, cyano, C2-C5-alkenyl, and nitro,

  wherein heteroaryl and heterocycloalkyl each has 1 or 2 heteroatoms each independently selected from N, O and S,

or a pharmaceutically acceptable salt thereof or a solvate of a compound of Formula I or the pharmaceutically acceptable salt thereof or a prodrug of a compound of Formula I or a pharmaceutically acceptable salt or a solvate thereof.

4. A compound of Formula I for use in the prevention or treatment of an HBV infection in a subject according to any of claims 1 to 3
   or a pharmaceutically acceptable salt thereof or a solvate of a compound of Formula I or the pharmaceutically acceptable salt thereof or a prodrug of a compound of Formula I or a pharmaceutically acceptable salt or a solvate thereof,
   wherein the prodrug is selected from the group consisting of esters and amides, preferably alkyl esters of fatty acids.

5. A compound of Formula I that is a compound of Formula II for use in the prevention or treatment of an HBV infection in a subject according to any of claims 1, 3 or 4



II

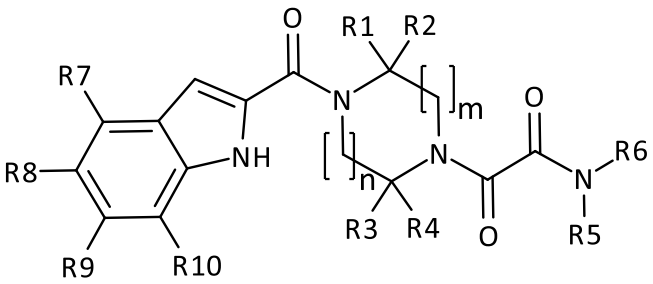
in which

- R1, R2, R3, and R4 are for each position independently selected from the group comprising H, D, and C1-C6-alkyl
- R5 and R6 are independently selected from the group comprising H, C6-aryl, C3-C5-heteroaryl, C1-C6-alkyl, C2-C6-alkynyl, C1-C6-haloalkyl, C3-C7-cycloalkyl, C3-C7-heterocycloalkyl, C2-C6-hydroxyalkyl, C1-C6-alkyl-O-C1-C6-alkyl, C1-C2-alkyl-C3-C5-cycloalkyl, C1-C2-alkyl-C3-C5-heteroaryl, and C1-C2-alkyl-C3-C5-heterocycloalkyl optionally substituted with 1, 2, or 3 groups each independently selected from OH, halo, phenyl, carboxyphenyl, C3-C7-heterocycloalkyl, C1-C6-alkyl, C1-C6-haloalkyl, C1-C6-hydroxyalkyl, C1-C4-alkoxy, C1-C6-alkyl-O-C1-C6-alkyl, C(=O)NH_2, C(=O)N(H)CH3 and carboxy
- R5 and R6 are optionally connected to form a C4-C8-heterocyclyl ring

- n is 0, 1, or 2
- m is 0, 1, or 2
- R7, R8, R9 and R10 are independently selected from the group comprising H, D, F, Cl, Br, I, CF_3, CF_2H, C1-C4-alkyl, CF_2CH_3, cyclopropyl and cyano,
  wherein heteroaryl and heterocycloalkyl each has 1 or 2 heteroatoms each independently selected from N, O and S,

or a pharmaceutically acceptable salt thereof or a solvate of a compound of Formula II or the pharmaceutically acceptable salt thereof or a prodrug of a compound of Formula II or a pharmaceutically acceptable salt or a solvate thereof.

6. A compound of Formula I that is a compound of Formula II for use in the prevention or treatment of an HBV infection in a subject according to any of claims 1 or 3 to 5



II

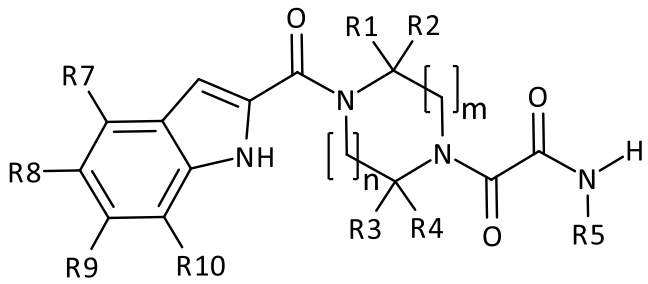
in which

- R1, R2, R3, and R4 are for each position independently selected from the group comprising H, D, and C1-C6-alkyl
- R5 and R6 are independently selected from the group comprising H, C6-aryl, C3-C5-heteroaryl, C1-C6-alkyl, C1-C6-haloalkyl, C3-C6-cycloalkyl, C3-C7-heterocycloalkyl, C2-C6-hydroxyalkyl, C1-C6-alkyl-O-C1-C6-alkyl, C1-C2-alkyl-C3-C5-cycloalkyl, and C1-C2-alkyl-C3-C5-heterocycloalkyl optionally substituted with 1, 2, or 3 groups each independently selected from OH, halo, phenyl, carboxyphenyl, C3-C7-heterocycloalkyl, C1-C6-alkyl, C1-C6-haloalkyl, C1-C6-hydroxyalkyl, C(=O)N(H)CH3 and carboxy
- R5 and R6 are optionally connected to form a C4-C8-heterocyclyl ring
- n is 0, 1, or 2
- m is 0, 1, or 2

- R7, R8, R9 and R10 are independently selected from the group comprising H, D, F, Cl, Br, I, CF_3, CF_2H, C1-C4-alkyl, CF_2CH_3, cyclopropyl and cyano,
  wherein heteroaryl and heterocycloalkyl each has 1 or 2 heteroatoms each independently selected from N, O and S,

or a pharmaceutically acceptable salt thereof or a solvate of a compound of Formula II or the pharmaceutically acceptable salt thereof or a prodrug of a compound of Formula II or a pharmaceutically acceptable salt or a solvate thereof.

7. A compound of Formula I that is a compound of Formula IIa for use in the prevention or treatment of an HBV infection in a subject according to any of claims 1 or 3 to 6



IIa

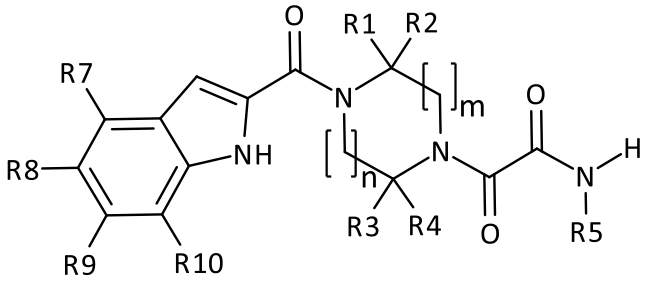
in which

- R1, R2, R3, and R4 are for each position independently selected from the group comprising H, D, and C1-C6-alkyl
- R5 is selected from the group comprising H, C6-aryl, C3-C5-heteroaryl, C1-C6-alkyl, C2-C6-alkynyl, C1-C6-haloalkyl, C3-C7-cycloalkyl, C3-C7-heterocycloalkyl, C2-C6-hydroxyalkyl, C1-C6-alkyl-O-C1-C6-alkyl, C1-C2-alkyl-C3-C5-cycloalkyl, C1-C2-alkyl-C3-C5-heteroaryl, and C1-C2-alkyl-C3-C5-heterocycloalkyl optionally substituted with 1, 2, or 3 groups each independently selected from OH, halo, phenyl, carboxyphenyl, C3-C7-heterocycloalkyl, C1-C6-alkyl, C1-C6-haloalkyl, C1-C6-hydroxyalkyl, C1-C4-alkoxy, C1-C6-alkyl-O-C1-C6-alkyl, $C(=O)NH_2$, $C(=O)N(H)CH_3$ and carboxy
- n is 0, 1, or 2
- m is 0, 1, or 2
- R7, R8, R9 and R10 are independently selected from the group comprising H, D, F, Cl, Br, I, CF_3, CF_2H, C1-C4-alkyl, CF_2CH_3, cyclopropyl and cyano,

wherein heteroaryl and heterocycloalkyl each has 1 or 2 heteroatoms each independently selected from N, O and S,

or a pharmaceutically acceptable salt thereof or a solvate of a compound of Formula IIa or the pharmaceutically acceptable salt thereof or a prodrug of a compound of Formula IIa or a pharmaceutically acceptable salt or a solvate thereof.

8. A compound of Formula I that is a compound of Formula IIa for use in the prevention or treatment of an HBV infection in a subject according to any of claims 1 or 3 to 7



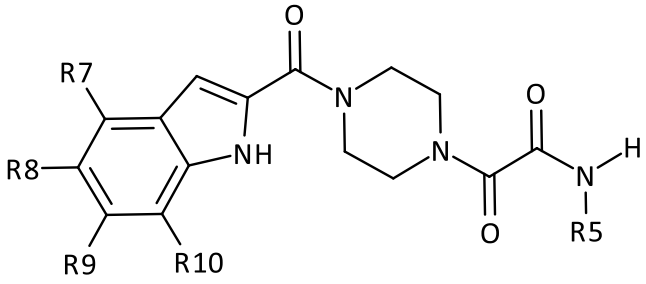
IIa

in which

- R1, R2, R3, and R4 are for each position independently selected from the group comprising H, D, and C1-C6-alkyl
- R5 is selected from the group comprising H, C6-aryl, C3-C5-heteroaryl, C1-C6-alkyl, C1-C6-haloalkyl, C3-C6-cycloalkyl, C3-C7-heterocycloalkyl, C2-C6-hydroxyalkyl, C1-C6-alkyl-O-C1-C6-alkyl, C1-C2-alkyl-C3-C5-cycloalkyl, and C1-C2-alkyl-C3-C5-heterocycloalkyl optionally substituted with 1, 2, or 3 groups each independently selected from OH, halo, phenyl, carboxyphenyl, C3-C7-heterocycloalkyl, C1-C6-alkyl, C1-C6-haloalkyl, C1-C6-hydroxyalkyl, C(=O)N(H)CH_3 and carboxy
- n is 0, 1, or 2
- m is 0, 1, or 2
- R7, R8, R9 and R10 are independently selected from the group comprising H, D, F, Cl, Br, I, CF_3, CF_2H, C1-C4-alkyl, CF_2CH_3, cyclopropyl and cyano,
  wherein heteroaryl and heterocycloalkyl each has 1 or 2 heteroatoms each independently selected from N, O and S,

or a pharmaceutically acceptable salt thereof or a solvate of a compound of Formula IIa or the pharmaceutically acceptable salt thereof or a prodrug of a compound of Formula IIa or a pharmaceutically acceptable salt or a solvate thereof.

9. A compound of Formula I that is a compound of Formula IIb for use in the prevention or treatment of an HBV infection in a subject according to any of claims 1 or 3 to 8



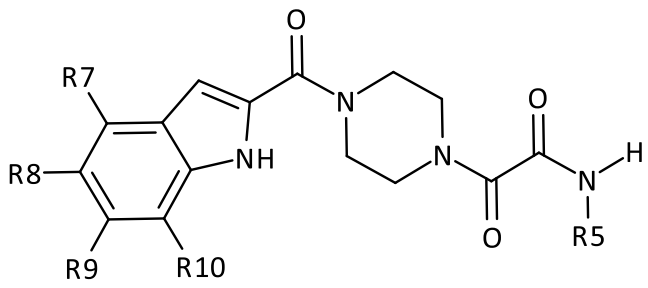
IIb

in which

- R5 is selected from the group comprising H, C6-aryl, C3-C5-heteroaryl, C1-C6-alkyl, C2-C6-alkynyl, C1-C6-haloalkyl, C3-C7-cycloalkyl, C3-C7-heterocycloalkyl, C2-C6-hydroxyalkyl, C1-C6-alkyl-O-C1-C6-alkyl, C1-C2-alkyl-C3-C5-cycloalkyl, C1-C2-alkyl-C3-C5-heteroaryl and C1-C2-alkyl-C3-C5-heterocycloalkyl optionally substituted with 1, 2, or 3 groups each independently selected from OH, halo, phenyl, carboxyphenyl, C3-C7-heterocycloalkyl, C1-C6-alkyl, C1-C6-haloalkyl, C1-C6-hydroxyalkyl, C1-C4-alkoxy, C1-C6-alkyl-O-C1-C6-alkyl, C(=O)NH_2, C(=O)N(H)CH_3 and carboxy
- R7, R8, R9 and R10 are independently selected from the group comprising H, D, F, Cl, Br, I, CF_3, CF_2H, C1-C4-alkyl, CF_2CH_3, cyclopropyl and cyano,
  wherein heteroaryl and heterocycloalkyl each has 1 or 2 heteroatoms each independently selected from N, O and S,

or a pharmaceutically acceptable salt thereof or a solvate of a compound of Formula IIb or the pharmaceutically acceptable salt thereof or a prodrug of a compound of Formula IIb or a pharmaceutically acceptable salt or a solvate thereof.

10. A compound of Formula I that is a compound of Formula IIb for use in the prevention or treatment of an HBV infection in a subject according to any of claims 1 or 3 to 9



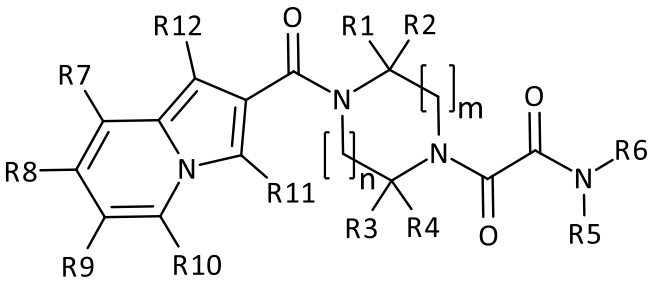
IIb

in which

- R5 is selected from the group comprising H, C6-aryl, C3-C5-heteroaryl, C1-C6-alkyl, C1-C6-haloalkyl, C3-C6-cycloalkyl, C3-C7-heterocycloalkyl, C2-C6-hydroxyalkyl, C1-C6-alkyl-O-C1-C6-alkyl, C1-C2-alkyl-C3-C5-cycloalkyl, and C1-C2-alkyl-C3-C5-heterocycloalkyl optionally substituted with 1, 2, or 3 groups each independently selected from OH, halo, phenyl, carboxyphenyl, C3-C7-heterocycloalkyl, C1-C6-alkyl, C1-C6-haloalkyl, C1-C6-hydroxyalkyl, C(=O)N(H)CH3 and carboxy
- R7, R8, R9 and R10 are independently selected from the group comprising H, D, F, Cl, Br, I, CF_3, CF_2H, C1-C4-alkyl, CF_2CH_3, cyclopropyl and cyano,
  wherein heteroaryl and heterocycloalkyl each has 1 or 2 heteroatoms each independently selected from N, O and S,

or a pharmaceutically acceptable salt thereof or a solvate of a compound of Formula IIb or the pharmaceutically acceptable salt thereof or a prodrug of a compound of Formula IIb or a pharmaceutically acceptable salt or a solvate thereof.

11. A compound of Formula I that is a compound of Formula III for use in the prevention or treatment of an HBV infection in a subject according to any of claims 1, 3, or 4



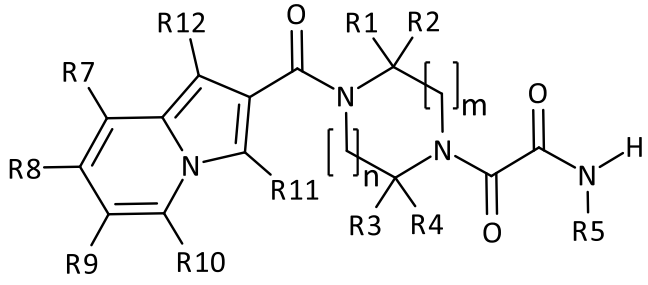
III

in which

- R1, R2, R3, and R4 are for each position independently selected from the group comprising H, D, and C1-C6-alkyl
- R5 and R6 are independently selected from the group comprising H, C6-aryl, C3-C5-heteroaryl, C1-C6-alkyl, C1-C6-haloalkyl, C3-C6-cycloalkyl, C3-C7-heterocycloalkyl, C2-C6-hydroxyalkyl, C1-C6-alkyl-O-C1-C6-alkyl, C1-C2-alkyl-C3-C5-cycloalkyl, and C1-C2-alkyl-C3-C5-heterocycloalkyl optionally substituted with 1, 2, or 3 groups each independently selected from OH, halo, phenyl, carboxyphenyl, C3-C7-heterocycloalkyl, C1-C6-alkyl, C1-C6-haloalkyl, C1-C6-hydroxyalkyl, C(=O)N(H)CH_3 and carboxy
- R5 and R6 are optionally connected to form a C4-C8-heterocyclyl ring
- n is 0, 1, or 2
- m is 0, 1, or 2
- R7, R8, R9 and R10 are independently selected from the group comprising H, D, F, Cl, Br, I, CF_3, CF_2H, C1-C4-alkyl, CF_2CH_3, cyclopropyl and cyano
- R11 and R12 are independently selected from the group comprising H, D, F, Cl, Br, I, CF_3, CF_2H, C1-C4-alkyl, C2-C5-alkenyl, CF_2CH_3, cyclopropyl, cyano, and nitro, wherein heteroaryl and heterocycloalkyl each has 1 or 2 heteroatoms each independently selected from N, O and S,

or a pharmaceutically acceptable salt thereof or a solvate of a compound of Formula III or the pharmaceutically acceptable salt thereof or a prodrug of a compound of Formula III or a pharmaceutically acceptable salt or a solvate thereof.

12. A compound of Formula I that is a compound of Formula IIIa for use in the prevention or treatment of an HBV infection in a subject according to any of claims 1, 3, 4 or 11



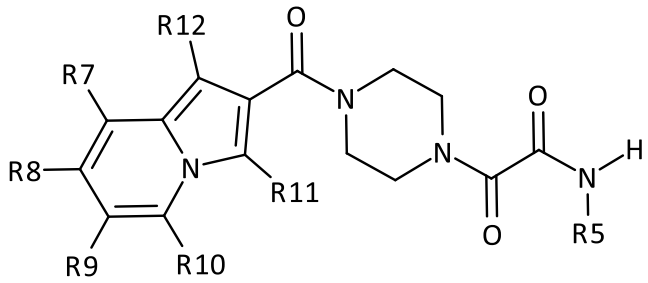
IIIa

in which

- R1, R2, R3, and R4 are for each position independently selected from the group comprising H, D, and C1-C6-alkyl
- R5 is selected from the group comprising H, C6-aryl, C3-C5-heteroaryl, C1-C6-alkyl, C1-C6-haloalkyl, C3-C6-cycloalkyl, C3-C7-heterocycloalkyl, C2-C6-hydroxyalkyl, C1-C6-alkyl-O-C1-C6-alkyl, C1-C2-alkyl-C3-C5-cycloalkyl, and C1-C2-alkyl-C3-C5-heterocycloalkyl optionally substituted with 1, 2, or 3 groups each independently selected from OH, halo, phenyl, carboxyphenyl, C3-C7-heterocycloalkyl, C1-C6-alkyl, C1-C6-haloalkyl, C1-C6-hydroxyalkyl, C(=O)N(H)CH3 and carboxy
- n is 0, 1, or 2
- m is 0, 1, or 2
- R7, R8, R9 and R10 are independently selected from the group comprising H, D, F, Cl, Br, I, CF_3, CF_2H, C1-C4-alkyl, CF_2CH_3, cyclopropyl and cyano
- R11 and R12 are independently selected from the group comprising H, D, F, Cl, Br, I, CF_3, CF_2H, C1-C4-alkyl, C2-C5-alkenyl, CF_2CH_3, cyclopropyl, cyano, and nitro, wherein heteroaryl and heterocycloalkyl each has 1 or 2 heteroatoms each independently selected from N, O and S,

or a pharmaceutically acceptable salt thereof or a solvate of a compound of Formula IIIa or the pharmaceutically acceptable salt thereof or a prodrug of a compound of Formula IIIa or a pharmaceutically acceptable salt or a solvate thereof.

13. A compound of Formula I that is a compound of Formula IIIb for use in the prevention or treatment of an HBV infection in a subject according to any of claims 1, 3, 4, 11 or 12



IIIb

in which

- R5 is selected from the group comprising H, C6-aryl, C3-C5-heteroaryl, C1-C6-alkyl, C1-C6-haloalkyl, C3-C6-cycloalkyl, C3-C7-heterocycloalkyl, C2-C6-hydroxyalkyl, C1-C6-alkyl-O-C1-C6-alkyl, C1-C2-alkyl-C3-C5-cycloalkyl, and C1-C2-alkyl-C3-C5-heterocycloalkyl optionally substituted with 1, 2, or 3 groups each independently selected from OH, halo, phenyl, carboxyphenyl, C3-C7-heterocycloalkyl, C1-C6-alkyl, C1-C6-haloalkyl, C1-C6-hydroxyalkyl, C(=O)N(H)CH_3 and carboxy
- R7, R8, R9 and R10 are independently selected from the group comprising H, D, F, Cl, Br, I, CF_3, CF_2H, C1-C4-alkyl, CF_2CH_3, cyclopropyl and cyano
- R11 and R12 are independently selected from the group comprising H, D, F, Cl, Br, I, CF_3, CF_2H, C1-C4-alkyl, C2-C5-alkenyl, CF_2CH_3, cyclopropyl, cyano, and nitro,

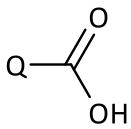
  wherein heteroaryl and heterocycloalkyl each has 1 or 2 heteroatoms each independently selected from N, O and S,

or a pharmaceutically acceptable salt thereof or a solvate of a compound of Formula IIIb or the pharmaceutically acceptable salt thereof or a prodrug of a compound of Formula IIIb or a pharmaceutically acceptable salt or a solvate thereof.

14. A pharmaceutical composition comprising a compound as defined in any of claims 1 to 13 or a pharmaceutically acceptable salt thereof or a solvate or a hydrate of said compound or the pharmaceutically acceptable salt thereof or a prodrug of said compound or a pharmaceutically acceptable salt or a solvate or a hydrate thereof, together with a pharmaceutically acceptable carrier for use in the prevention or treatment of an HBV infection in a subject.

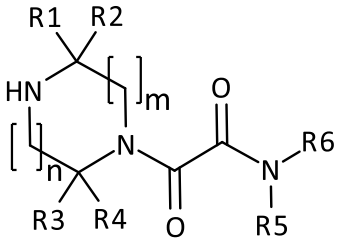
15. Use of a compound as defined in any of claims 1 to 13 or a pharmaceutically acceptable salt thereof or a solvate or a hydrate of said compound or the pharmaceutically acceptable salt thereof or a prodrug of said compound or a pharmaceutically acceptable salt or a solvate or a hydrate thereof in the manufacture of a medicament for the treatment of HBV infection.

16. Method for the preparation of a compound of Formula I as defined in claim 1 by reacting a compound of Formula IV



IV

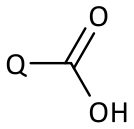
in which Q is as above-defined, with a compound of Formula V



V

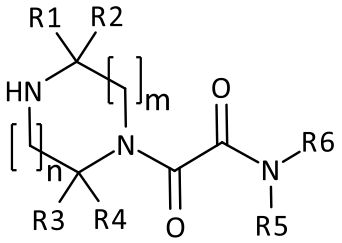
in which R1, R2, R3, R4, R5, R6, n and m are as defined in claim 1.

17. A method for the preparation of a compound of Formula I according to claim 16, wherein a compound of Formula IV



IV

in which Q is as above-defined, reacts with a compound of Formula V



V

in which R1, R2, R3, R4, R5, R6, n and m are as defined in claim 3.