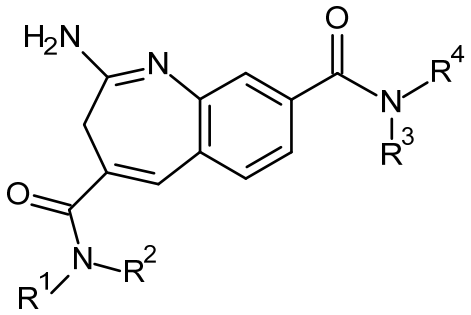
towards TLR8 and possess only low or even no activity towards TLR7. Thus, they are expected to possess advantageous properties compared to combined TLR7/8 agonists due to the more restricted expression pattern of TLR8 resulting in less servere side effects when administered systemically.

SUMMARY

In one aspect, the present disclosure relates to benzazepine-4-carboxamide compounds of the formula



I

wherein

R^1 is C_{3-7}-alkyl or C_{3-7}-cycloalkyl,

R^2 is selected from the group consisting of C_{1-7}-alkyl, hydroxy-C_{1-7}-alkyl, C_{2-7}-alkenyl, C_{3-7}-alkinyl, amino-C_{1-7}-alkoxy-C_{1-7}-alkyl, amino-C_{1-7}-alkoxy-C_{1-7}-alkoxy-C_{1-7}-alkyl, halogen-C_{1-7}-alkyl, C_{3-7}-cycloalkyl-C_{1-7}-alkyl and phenyl-C_{1-7}-alkyl, wherein phenyl is unsubstituted or substituted by amino-C_{1-7}-alkyl;

R^3 is hydrogen;

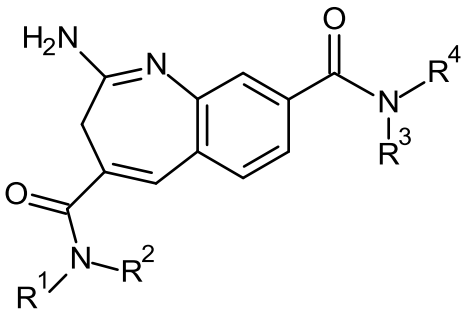
R^4 is selected from the group consisting of

phenyl, said phenyl being unsubstituted or substituted by one or two groups selected from the group consisting of C_{1-7}-alkyl, halogen, halogen-C_{1-7}-alkyl, C_{1-7}-alkoxy, hydroxy-C_{1-7}-alkyl, amino-C_{1-7}-alkyl, C_{1-7}-alkyl-amino-C_{1-7}-alkyl, di-C_{1-7}-alkyl-amino-C_{1-7}-alkyl, amino-C_{2-7}-alkenyl, C_{1-7}-alkyl-amino-C_{2-7}-alkenyl, di-C_{1-7}-alkyl-amino-C_{2-7}-alkenyl, amino-C_{2-7}-alkinyl, C_{1-7}-alkyl-amino-C_{2-7}-alkinyl, di-C_{1-7}-alkyl-amino-C_{2-7}-alkinyl, benzyloxycarbonylamino-C_{1-7}-alkyl, amino-C_{1-7}-alkoxy, amino-C_{1-7}-alkoxy-C_{1-7}-alkoxy, amino-C_{1-7}-alkoxy-C_{1-7}-alkyl, amino-C_{1-7}-alkoxy-C_{1-7}-alkoxy-C_{1-7}-alkyl, C_{1-7}-alkylsulfonyl heterocyclylcarbonyl and phenyl-C_{1-7}-alkyl, wherein phenyl is unsubstituted or substituted by C_{1-7}-alkoxy or amino-C_{1-7}-alkyl, or

heteroaryl, said heteroaryl being a 5- or 6-membered aromatic ring containing one, two or three heteroatoms selected from N, O or S and being unsubstituted or substituted by one or

Claims

1. A compound of the formula



I

wherein

R^1 is C_{3-7}-alkyl or C_{3-7}-cycloalkyl,

R^2 is selected from the group consisting of C_{1-7}-alkyl, hydroxy-C_{1-7}-alkyl, C_{2-7}-alkenyl, C_{3-7}-alkinyl, amino-C_{1-7}-alkoxy-C_{1-7}-alkyl, amino-C_{1-7}-alkoxy-C_{1-7}-alkoxy-C_{1-7}-alkyl, halogen-C_{1-7}-alkyl, C_{3-7}-cycloalkyl-C_{1-7}-alkyl and phenyl-C_{1-7}-alkyl, wherein phenyl is unsubstituted or substituted by amino-C_{1-7}-alkyl;

R^3 is hydrogen;

R^4 is selected from the group consisting of

phenyl, said phenyl being unsubstituted or substituted by one or two groups selected from the group consisting of C_{1-7}-alkyl, halogen, halogen-C_{1-7}-alkyl, C_{1-7}-alkoxy, hydroxy-C_{1-7}-alkyl, amino-C_{1-7}-alkyl, C_{1-7}-alkyl-amino-C_{1-7}-alkyl, di-C_{1-7}-alkyl-amino-C_{1-7}-alkyl, amino-C_{2-7}-alkenyl, C_{1-7}-alkyl-amino-C_{2-7}-alkenyl, di-C_{1-7}-alkyl-amino-C_{2-7}-alkenyl, amino-C_{2-7}-alkinyl, C_{1-7}-alkyl-amino-C_{2-7}-alkinyl, di-C_{1-7}-alkyl-amino-C_{2-7}-alkinyl, benzyloxycarbonylamino-C_{1-7}-alkyl, amino-C_{1-7}-alkoxy, amino-C_{1-7}-alkoxy-C_{1-7}-alkoxy, amino-C_{1-7}-alkoxy-C_{1-7}-alkyl, amino-C_{1-7}-alkoxy-C_{1-7}-alkoxy-C_{1-7}-alkyl, C_{1-7}-alkylsulfonyl, heterocyclylcarbonyl and phenyl-C_{1-7}-alkyl, wherein phenyl is unsubstituted or substituted by C_{1-7}-alkoxy or amino-C_{1-7}-alkyl, or

heteroaryl, said heteroaryl being a 5- or 6-membered aromatic ring containing one, two or three heteroatoms selected from N, O or S and being unsubstituted or substituted by one or two groups selected from the group consisting of C_{1-7}-alkyl, halogen, halogen-C_{1-7}-alkyl, C_{1-7}-alkoxy, hydroxy-C_{1-7}-alkyl, amino-C_{1-7}-alkyl, C_{1-7}-alkyl-amino-C_{1-7}-alkyl, di-C_{1-7}-alkyl-amino-C_{1-7}-alkyl, amino-C_{2-7}-alkenyl, C_{1-7}-alkyl-amino-C_{2-7}-alkenyl, di-C_{1-7}-alkyl-amino-C_{2-7}-alkenyl, amino-C_{2-7}-alkinyl, C_{1-7}-alkyl-amino-C_{2-7}-alkinyl, di-C_{1-7}-alkyl-amino-C_{2-7}-alkinyl, benzyloxycarbonylamino-C_{1-7}-alkyl, amino-C_{1-7}-alkoxy, amino-C_{1-7}-alkoxy-

C_{1-7}-alkoxy, amino-C_{1-7}-alkoxy-C_{1-7}-alkyl, amino-C_{1-7}-alkoxy-C_{1-7}-alkoxy-C_{1-7}-alkyl, C_{1-7}-alkylsulfonyl, heterocyclylcarbonyl and phenyl-C_{1-7}-alkyl, wherein phenyl is unsubstituted or substituted by C_{1-7}-alkoxy or amino-C_{1-7}-alkyl,

or pharmaceutically acceptable salts thereof.

2. A compound of formula I according to claim 1, wherein R^1 is C_{3-7}-alkyl.

3. A compound of formula I according to claims 1 or 2, wherein R^1 is propyl or butyl.

4. A compound of formula I according to any one of claims 1 to 3, wherein R^2 is selected from the group consisting of C_{1-7}-alkyl, C_{3-7}-alkinyl, halogen-C_{1-7}-alkyl, C_{3-7}-cycloalkyl-C_{1-7}-alkyl and hydroxy-C_{1-7}-alkyl.

5. A compound of formula I according to any one of claims 1 to 4, wherein R^2 is C_{1-7}-alkyl.

6. A compound of formula I according to any one of claims 1 to 5, wherein R^4 is a 5- or 6-membered heteroaryl ring containing one, two or three heteroatoms selected from N, O or S and being unsubstituted or substituted by one or two groups selected from the group consisting of C_{1-7}-alkyl, halogen, halogen-C_{1-7}-alkyl, C_{1-7}-alkoxy, hydroxy-C_{1-7}-alkyl, amino-C_{1-7}-alkyl, C_{1-7}-alkyl-amino-C_{1-7}-alkyl, di-C_{1-7}-alkyl-amino-C_{1-7}-alkyl, amino-C_{2-7}-alkenyl, C_{1-7}-alkyl-amino-C_{2-7}-alkenyl, di-C_{1-7}-alkyl-amino-C_{2-7}-alkenyl, amino-C_{2-7}-alkinyl, C_{1-7}-alkyl-amino-C_{2-7}-alkinyl, di-C_{1-7}-alkyl-amino-C_{2-7}-alkinyl, benzyloxycarbonylamino-C_{1-7}-alkyl, amino-C_{1-7}-alkoxy, amino-C_{1-7}-alkoxy-C_{1-7}-alkoxy, amino-C_{1-7}-alkoxy-C_{1-7}-alkyl, amino-C_{1-7}-alkoxy-C_{1-7}-alkoxy-C_{1-7}-alkyl, C_{1-7}-alkylsulfonyl, heterocyclylcarbonyl and phenyl-C_{1-7}-alkyl, wherein phenyl is unsubstituted or substituted by C_{1-7}-alkoxy or amino-C_{1-7}-alkyl.

7. A compound of formula I according to any one of claim 1 to 6, wherein R^4 is a 5- or 6-membered heteroaryl ring containing one, two or three heteroatoms selected from N, O or S and being substituted by one or two groups selected from the group consisting of C_{1-7}-alkyl, halogen, C_{1-7}-alkoxy, hydroxy-C_{1-7}-alkyl, amino-C_{1-7}-alkyl, di-C_{1-7}-alkyl-amino-C_{1-7}-alkyl, amino-C_{2-7}-alkenyl, amino-C_{2-7}-alkinyl, benzyloxycarbonylamino-C_{1-7}-alkyl, amino-C_{1-7}-alkoxy and phenyl-C_{1-7}-alkyl, wherein phenyl is unsubstituted or substituted by C_{1-7}-alkoxy or amino-C_{1-7}-alkyl.

8. A compound of formula I according to any one of claims 1 to 7, wherein R^4 is a 5- or 6-membered heteroaryl ring is selected from the group consisting of imidazolyl, pyrazolyl, oxazolyl, thiazolyl, pyridyl, pyridazinyl and pyrimidinyl.

9. A compound of formula I according to any one of claims 1 to 8, wherein the 5- or 6-membered heteroaryl ring is pyridyl.

10. A compound of formula I according to any one of claims 1 to 5, wherein R^4 is phenyl, said phenyl being unsubstituted or substituted by one or two groups selected from the group consisting of C_{1-7}-alkyl, halogen, halogen-C_{1-7}-alkyl, C_{1-7}-alkoxy, hydroxy-C_{1-7}-alkyl, amino-C_{1-7}-alkyl, C_{1-7}-alkyl-amino-C_{1-7}-alkyl, di-C_{1-7}-alkyl-amino-C_{1-7}-alkyl, amino-C_{2-7}-alkenyl, C_{1-7}-alkyl-amino-C_{2-7}-alkenyl, di-C_{1-7}-alkyl-amino-C_{2-7}-alkenyl, amino-C_{2-7}-alkinyl, C_{1-7}-alkyl-amino-C_{2-7}-alkinyl, di-C_{1-7}-alkyl-amino-C_{2-7}-alkinyl, benzyloxycarbonylamino-C_{1-7}-alkyl, amino-C_{1-7}-alkoxy, amino-C_{1-7}-alkoxy-C_{1-7}-alkoxy, amino-C_{1-7}-alkoxy-C_{1-7}-alkyl, amino-C_{1-7}-alkoxy-C_{1-7}-alkoxy-C_{1-7}-alkyl, C_{1-7}-alkylsulfonyl, heterocyclylcarbonyl and phenyl-C_{1-7}-alkyl, wherein phenyl is unsubstituted or substituted by C_{1-7}-alkoxy or amino-C_{1-7}-alkyl.

11. A compound of formula I according to any one of claims 1 to 5 or 10, wherein R^4 is phenyl, said phenyl being unsubstituted or substituted by one or two groups selected from the group consisting of C_{1-7}-alkyl, halogen, halogen-C_{1-7}-alkyl, C_{1-7}-alkoxy, amino-C_{1-7}-alkyl, amino-C_{1-7}-alkoxy, amino-C_{1-7}-alkoxy-C_{1-7}-alkoxy, amino-C_{1-7}-alkoxy-C_{1-7}-alkyl, amino-C_{1-7}-alkoxy-C_{1-7}-alkoxy-C_{1-7}-alkyl, C_{1-7}-alkylsulfonyl and heterocyclylcarbonyl.

12. A compound of formula I according to any one of claims 1 to 5 or 10 to 11, wherein R^4 is phenyl substituted by one group selected from the group consisting of C_{1-7}-alkyl, halogen, halogen-C_{1-7}-alkyl, C_{1-7}-alkoxy, amino-C_{1-7}-alkyl, amino-C_{1-7}-alkoxy, amino-C_{1-7}-alkoxy-C_{1-7}-alkoxy, amino-C_{1-7}-alkoxy-C_{1-7}-alkyl, amino-C_{1-7}-alkoxy-C_{1-7}-alkoxy-C_{1-7}-alkyl, C_{1-7}-alkylsulfonyl and heterocyclylcarbonyl.

13. A compound of the formula I according to claim 1, wherein

R^1 is C_{3-7}-alkyl or C_{3-7}-cycloalkyl,

R^2 is selected from the group consisting of C_{1-7}-alkyl, C_{2-7}-alkenyl, C_{3-7}-alkinyl, hydroxy-C_{1-7}-alkyl, amino-C_{1-7}-alkoxy-C_{1-7}-alkoxy-C_{1-7}-alkyl, halogen-C_{1-7}-alkyl and C_{3-7}-cycloalkyl-C_{1-7}-alkyl;

R^3 is hydrogen;

R^4 is selected from the group consisting of

phenyl, said phenyl being unsubstituted or substituted by one or two groups selected from the group consisting of C_{1-7}-alkyl, halogen, halogen-C_{1-7}-alkyl, C_{1-7}-alkoxy, hydroxy-C_{1-7}-

alkyl, amino-C_{1-7}-alkyl, amino-C_{2-7}-alkenyl, amino-C_{2-7}-alkinyl, amino-C_{1-7}-alkoxy, amino-C_{1-7}-alkoxy-C_{1-7}-alkoxy, amino-C_{1-7}-alkoxy-C_{1-7}-alkoxy-C_{1-7}-alkyl, C_{1-7}-alkylsulfonyl and heterocyclylcarbonyl, or

heteroaryl, said heteroaryl being a 5- or 6-membered aromatic ring containing one, two or three heteroatoms selected from N, O or S and being unsubstituted or substituted by one or two groups selected from the group consisting of C_{1-7}-alkyl, halogen, halogen-C_{1-7}-alkyl, C_{1-7}-alkoxy, hydroxy-C_{1-7}-alkyl, amino-C_{1-7}-alkyl, amino-C_{2-7}-alkenyl, amino-C_{2-7}-alkinyl, amino-C_{1-7}-alkoxy, amino-C_{1-7}-alkoxy-C_{1-7}-alkoxy, amino-C_{1-7}-alkoxy-C_{1-7}-alkoxy-C_{1-7}-alkyl, C_{1-7}-alkylsulfonyl and heterocyclylcarbonyl,

or pharmaceutically acceptable salts thereof.

14. A compound of formula I according to claim 1, selected from the group consisting of

2-amino-*N4*,*N4*-dipropyl-*N8*-(3-pyridyl)-*3H*-1-benzazepine-4,8-dicarboxamide,

2-amino-*N4*,*N4*-dipropyl-*N8*-pyrimidin-5-yl-*3H*-1-benzazepine-4,8-dicarboxamide,

2-amino-*N4*,*N4*-dipropyl-*N8*-(4-pyridyl)-*3H*-1-benzazepine-4,8-dicarboxamide,

2-amino-*N4*,*N4*-dipropyl-*N8*-phenyl-*3H*-1-benzazepine-4,8-dicarboxamide,

2-amino-*N8*-[6-(aminomethyl)-3-pyridyl]-*N4*,*N4*-dipropyl-*3H*-1-benzazepine-4,8-dicarboxamide,

2-amino-*N8*-[5-(hydroxymethyl)-3-pyridyl]-*N4*,*N4*-dipropyl-*3H*-1-benzazepine-4,8-dicarboxamide,

2-amino-*N8*-[6-(hydroxymethyl)-3-pyridyl]-*N4*,*N4*-dipropyl-*3H*-1-benzazepine-4,8-dicarboxamide,

2-amino-*N8*-(3-methylsulfonylphenyl)-*N4*,*N4*-dipropyl-*3H*-1-benzazepine-4,8-dicarboxamide,

2-amino-*N4*,*N4*-dipropyl-*N8*-thiazol-5-yl-*3H*-1-benzazepine-4,8-dicarboxamide,

2-amino-*N8*-(4-chlorophenyl)-*N4*,*N4*-dipropyl-*3H*-1-benzazepine-4,8-dicarboxamide,

2-amino-*N4*,*N4*-dipropyl-*N8*-thiazol-2-yl-*3H*-1-benzazepine-4,8-dicarboxamide,

2-amino-*N8*-(3-methylimidazol-4-yl)-*N4*,*N4*-dipropyl-*3H*-1-benzazepine-4,8-dicarboxamide,

2-amino-*N8*-(4-fluorophenyl)-*N4*,*N4*-dipropyl-*3H*-1-benzazepine-4,8-dicarboxamide,

2-amino-*N8*-(m-tolyl)-*N4*,*N4*-dipropyl-*3H*-1-benzazepine-4,8-dicarboxamide,

2-amino-*N4*,*N4*-dipropyl-*N8*-[3-(pyrrolidine-1-carbonyl)phenyl]-*3H*-1-benzazepine-4,8-dicarboxamide,

2-amino-*N4,N4*-dipropyl-*N8*-[5-(pyrrolidine-1-carbonyl)-3-pyridyl]-*3H*-1-benzazepine-4,8-dicarboxamide,

2-amino-*N8*-[3-(2-aminoethyl)phenyl]-*N4,N4*-dipropyl-*3H*-1-benzazepine-4,8-dicarboxamide,

2-amino-*N8*-(5-methyl-3-pyridyl)-*N4,N4*-dipropyl-*3H*-1-benzazepine-4,8-dicarboxamide,

2-amino-*N8*-(3-fluorophenyl)-*N4,N4*-dipropyl-*3H*-1-benzazepine-4,8-dicarboxamide,

2-amino-*N8*-(5-fluoro-3-pyridyl)-*N4,N4*-dipropyl-*3H*-1-benzazepine-4,8-dicarboxamide,

2-amino-*N8*-(2-methyl-3-pyridyl)-*N4,N4*-dipropyl-*3H*-1-benzazepine-4,8-dicarboxamide,

2-amino-*N8*-(6-methyl-3-pyridyl)-*N4,N4*-dipropyl-*3H*-1-benzazepine-4,8-dicarboxamide,

2-amino-*N8*-(3,5-dimethylphenyl)-*N4,N4*-dipropyl-*3H*-1-benzazepine-4,8-dicarboxamide,

2-amino-*N8*-[4-(aminomethyl)phenyl]-*N4,N4*-dipropyl-*3H*-1-benzazepine-4,8-dicarboxamide,

2-amino-*N8*-[4-(2-aminoethyl)phenyl]-*N4,N4*-dipropyl-*3H*-1-benzazepine-4,8-dicarboxamide,

2-amino-*N4*-(3-hydroxypropyl)-*N8*-(m-tolyl)-*N4*-propyl-3H-1-benzazepine-4,8-dicarboxamide,

2-amino-*N8*-(o-tolyl)-*N4,N4*-dipropyl-*3H*-1-benzazepine-4,8-dicarboxamide,

2-amino-*N4,N4*-dipropyl-*N8*-(p-tolyl)-*3H*-1-benzazepine-4,8-dicarboxamide,

2-amino-*N8*-(3-ethylphenyl)-*N4,N4*-dipropyl-*3H*-1-benzazepine-4,8-dicarboxamide,

2-amino-*N8*-(3-methoxyphenyl)-*N4,N4*-dipropyl-*3H*-1-benzazepine-4,8-dicarboxamide,

2-amino-*N4,N4*-dipropyl-*N8*-[3-(trifluoromethyl)phenyl]-*3H*-1-benzazepine-4,8-dicarboxamide,

2-amino-*N8*-(3-chlorophenyl)-*N4,N4*-dipropyl-*3H*-1-benzazepine-4,8-dicarboxamide,

2-amino-*N8*-[5-(aminomethyl)-3-pyridyl]-*N4,N4*-dipropyl-*3H*-1-benzazepine-4,8-dicarboxamide,

2-amino-*N4,N4*-dipropyl-*N8*-pyridazin-4-yl-*3H*-1-benzazepine-4,8-dicarboxamide,

2-amino-*N8*-(6-ethoxy-3-pyridyl)-*N4,N4*-dipropyl-*3H*-1-benzazepine-4,8-dicarboxamide,

2-amino-*N8*-[3-(aminomethyl)phenyl]-*N4,N4*-dipropyl-*3H*-1-benzazepine-4,8-dicarboxamide,

2-amino-*N8*-(1-methylpyrazol-3-yl)-*N4,N4*-dipropyl-*3H*-1-benzazepine-4,8-dicarboxamide,

2-amino-*N8*-oxazol-2-yl-*N4,N4*-dipropyl-*3H*-1-benzazepine-4,8-dicarboxamide,

2-amino-*N4*-(3-hydroxypropyl)-*N4*-propyl-*N8*-(3-pyridyl)-*3H*-1-benzazepine-4,8-dicarboxamide,

2-amino-*N8*-(5-methoxy-3-pyridyl)-*N4,N4*-dipropyl-*3H*-1-benzazepine-4,8-dicarboxamide,

2-amino-*N8*-(m-tolyl)-*N4*-propyl-*N4*-prop-2-ynyl-*3H*-1-benzazepine-4,8-dicarboxamide,

2-amino-*N4,N4*-dibutyl-*N8*-(m-tolyl)-*3H*-1-benzazepine-4,8-dicarboxamide,

2-amino-*N8*-[3-(aminomethyl)-5-methyl-phenyl]-*N4,N4*-dipropyl-*3H*-1-benzazepine-4,8-dicarboxamide,

2-amino-*N8*-(5-ethoxy-3-pyridyl)-*N4,N4*-dipropyl-*3H*-1-benzazepine-4,8-dicarboxamide,

2-amino-*N8*-[3-[2-(2-aminoethoxy)ethoxy]phenyl]-*N4,N4*-dipropyl-*3H*-1-benzazepine-4,8-dicarboxamide,

2-amino-*N8*-[5-(5-aminopentoxy)-3-pyridyl]-*N4,N4*-dipropyl-*3H*-1-benzazepine-4,8-dicarboxamide,

2-amino-*N8*-[3-[2-(2-aminoethoxy)ethoxymethyl]phenyl]-*N4,N4*-dipropyl-*3H*-1-benzazepine-4,8-dicarboxamide,

2-amino-*N8*-[5-(3-aminoprop-1-ynyl)-3-pyridyl]-*N4,N4*-dipropyl-*3H*-1-benzazepine-4,8-dicarboxamide,

2-amino-*N4*-[3-[2-(2-aminoethoxy)ethoxy]propyl]-*N8*-(m-tolyl)-*N4*-propyl-3H-1-benzazepine-4,8-dicarboxamide,

2-amino-*N8*-[5-(3-aminopropyl)-3-pyridyl]-*N4,N4*-dipropyl-*3H*-1-benzazepine-4,8-dicarboxamide,

2-amino-*N8*-(m-tolyl)-*N4*-propyl-*N4*-(3,3,3-trifluoropropyl)-*3H*-1-benzazepine-4,8-dicarboxamide,

2-amino-*N8*-[5-[(E)-3-aminoprop-1-enyl]-3-pyridyl]-*N4,N4*-dipropyl-*3H*-1-benzazepine-4,8-dicarboxamide,

2-amino-*N4*-(cyclopropylmethyl)-*N8*-(m-tolyl)-*N4*-propyl-*3H*-1-benzazepine-4,8-dicarboxamide,

and pharmaceutically acceptable salts thereof.

15. A compound of formula I according to claim 1, selected from the group consisting of

2-amino-*N8*-[3-(2-aminoethyl)phenyl]-*N4,N4*-dipropyl-*3H*-1-benzazepine-4,8-dicarboxamide,

2-amino-*N4*-isobutyl-*N8*-(m-tolyl)-*N4*-propyl-*3H*-1-benzazepine-4,8-dicarboxamide,

2-amino-*N4*-[3-(3-aminopropoxy)propyl]-*N8*-(m-tolyl)-*N4*-propyl-3H-1-benzazepine-4,8-dicarboxamide,

2-amino-*N8*-[3-(5-aminopentyl)phenyl]-*N4,N4*-dipropyl-*3H*-1-benzazepine-4,8-dicarboxamide,

2-amino-*N8*-[4-(5-aminopentyl)phenyl]-*N4,N4*-dipropyl-*3H*-1-benzazepine-4,8-dicarboxamide,

2-amino-*N8*-[3-(3-aminopropyl)phenyl]-*N4,N4*-dipropyl-3*H*-1-benzazepine-4,8-dicarboxamide,

2-amino-*N4*-[[4-(aminomethyl)phenyl]methyl]-*N8*-(m-tolyl)-*N4*-propyl-*3H*-1-benzazepine-4,8-dicarboxamide,

2-amino-*N8*-[4-(3-aminopropyl)phenyl]-*N4,N4*-dipropyl-*3H*-1-benzazepine-4,8-dicarboxamide,

2-amino-*N8*-[4-(3-aminopropyl)phenyl]-*N4,N4*-dipropyl-*3H*-1-benzazepine-4,8-dicarboxamide,

2-amino-*N8*-[3-(2-aminoethyl)-4-fluoro-phenyl]-*N4,N4*-dipropyl-*3H*-1-benzazepine-4,8-dicarboxamide,

2-amino-*N8*-[3-(2-aminoethyl)-5-chloro-phenyl]-*N4,N4*-dipropyl-*3H*-1-benzazepine-4,8-dicarboxamide,

2-amino-*N4*-butyl-*N4*-(2-hydroxyethyl)-*N8*-(m-tolyl)-3*H*-1-benzazepine-4,8-dicarboxamide,

2-amino-*N8*-[5-(2-aminoethoxy)-3-pyridyl]-*N4,N4*-dipropyl-*3H*-1-benzazepine-4,8-dicarboxamide,

benzyl-*N*-[[5-[[2-amino-4-(dipropylcarbamoyl)-*3H*-1-benzazepine-8-carbonyl]amino]-3-pyridyl]methyl]carbamate,

2-amino-*N8*-[5-[(E)-3-aminoprop-1-enyl]-3-pyridyl]-*N4,N4*-dipropyl-3*H*-1-benzazepine-4,8-dicarboxamide,

2-amino-*N8*-[5-(2-phenylethyl)-3-pyridyl]-*N4,N4*-dipropyl-*3H*-1-benzazepine-4,8-dicarboxamide,

2-amino-*N8*-[5-[2-(4-methoxyphenyl)ethyl]-3-pyridyl]-*N4,N4*-dipropyl-*3H*-1-benzazepine-4,8-dicarboxamide,

2-amino-*N8*-[5-[2-[4-(aminomethyl)phenyl]ethyl]-3-pyridyl]-N4,N4-dipropyl-3*H*-1-benzazepine-4,8-dicarboxamide,

2-amino-*N8*-[5-(5-aminopentyl)-3-pyridyl]-*N4,N4*-dipropyl-*3H*-1-benzazepine-4,8-dicarboxamide,

2-amino-*N8*-[5-[2-(3-methoxyphenyl)ethyl]-3-pyridyl]-*N4,N4*-dipropyl-*3H*-1-benzazepine-4,8-dicarboxamide,

2-amino-*N8*-[5-(6-aminohexyl)-3-pyridyl]-*N4,N4*-dipropyl-3*H*-1-benzazepine-4,8-dicarboxamide,

2-amino-*N8*-[6-(3-aminopropyl)-3-pyridyl]-*N4,N4*-dipropyl-*3H*-1-benzazepine-4,8-dicarboxamide,

2-amino-*N8*-[5-(4-aminobutyl)-3-pyridyl]-*N4,N4*-dipropyl-*3H*-1-benzazepine-4,8-dicarboxamide,

2-amino-*N8*-[6-(4-aminobutyl)-3-pyridyl]-*N4,N4*-dipropyl-*3H*-1-benzazepine-4,8-dicarboxamide,

2-amino-*N8*-[5-[(dimethylamino)methyl]-3-pyridyl]-*N4,N4*-dipropyl-3*H*-1-benzazepine-4,8-dicarboxamide,

2-amino-*N4*-(cyclopropylmethyl)-*N8*-(5-ethoxy-3-pyridyl)-*N4*-propyl-3H-1-benzazepine-4,8-dicarboxamide,

2-amino-*N8*-[5-(2-aminoethyl)-3-pyridyl]-*N4,N4*-dipropyl-*3H*-1-benzazepine-4,8-dicarboxamide,

and pharmaceutically acceptable salts thereof.

16. A compound of formula I according to claim 1, selected from the group consisting of

2-amino-*N4,N4*-dipropyl-*N8*-(3-pyridyl)-*3H*-1-benzazepine-4,8-dicarboxamide,

2-amino-*N4,N4*-dipropyl-*N8*-pyrimidin-5-yl-*3H*-1-benzazepine-4,8-dicarboxamide,

2-amino-*N8*-(4-chlorophenyl)-*N4,N4*-dipropyl-*3H*-1-benzazepine-4,8-dicarboxamide,

2-amino-*N8*-(m-tolyl)-*N4,N4*-dipropyl-*3H*-1-benzazepine-4,8-dicarboxamide,

2-amino-*N4,N4*-dipropyl-*N8*-[3-(pyrrolidine-1-carbonyl)phenyl]-*3H*-1-benzazepine-4,8-dicarboxamide,

2-amino-*N8*-(6-methyl-3-pyridyl)-*N4,N4*-dipropyl-*3H*-1-benzazepine-4,8-dicarboxamide,

2-amino-*N8*-(3,5-dimethylphenyl)-*N4,N4*-dipropyl-*3H*-1-benzazepine-4,8-dicarboxamide,

2-amino-*N4*-(3-hydroxypropyl)-*N8*-(m-tolyl)-*N4*-propyl-3H-1-benzazepine-4,8-dicarboxamide,

2-amino-*N4,N4*-dipropyl-*N8*-(p-tolyl)-*3H*-1-benzazepine-4,8-dicarboxamide,

2-amino-*N8*-(3-ethylphenyl)-*N4,N4*-dipropyl-*3H*-1-benzazepine-4,8-dicarboxamide,

2-amino-*N8*-(3-methoxyphenyl)-*N4,N4*-dipropyl-*3H*-1-benzazepine-4,8-dicarboxamide,

2-amino-*N8*-(3-chlorophenyl)-*N4,N4*-dipropyl-*3H*-1-benzazepine-4,8-dicarboxamide,

2-amino-*N8*-[5-(aminomethyl)-3-pyridyl]-*N4,N4*-dipropyl-*3H*-1-benzazepine-4,8-dicarboxamide,

2-amino-*N4,N4*-dipropyl-*N8*-pyridazin-4-yl-*3H*-1-benzazepine-4,8-dicarboxamide,

2-amino-*N8*-(6-ethoxy-3-pyridyl)-*N4,N4*-dipropyl-*3H*-1-benzazepine-4,8-dicarboxamide,

2-amino-*N8*-(5-methoxy-3-pyridyl)-*N4,N4*-dipropyl-*3H*-1-benzazepine-4,8-dicarboxamide,

2-amino-*N8*-(5-ethoxy-3-pyridyl)-*N4,N4*-dipropyl-*3H*-1-benzazepine-4,8-dicarboxamide,

2-amino-*N8*-[3-[2-(2-aminoethoxy)ethoxymethyl]phenyl]-*N4,N4*-dipropyl-*3H*-1-benzazepine-4,8-dicarboxamide,

2-amino-*N8*-(m-tolyl)-*N4*-propyl-*N4*-(3,3,3-trifluoropropyl)-*3H*-1-benzazepine-4,8-dicarboxamide,

2-amino-*N4*-(cyclopropylmethyl)-*N8*-(m-tolyl)-*N4*-propyl-*3H*-1-benzazepine-4,8-dicarboxamide,

and pharmaceutically acceptable salts thereof.

17. A compound of formula I according to claim 1, selected from the group consisting of

2-amino-*N8*-[3-(2-aminoethyl)phenyl]-*N4,N4*-dipropyl-*3H*-1-benzazepine-4,8-dicarboxamide,

2-amino-*N4*-isobutyl-*N8*-(m-tolyl)-*N4*-propyl-*3H*-1-benzazepine-4,8-dicarboxamide,

2-amino-*N8*-[3-(3-aminopropyl)phenyl]-*N4,N4*-dipropyl-3*H*-1-benzazepine-4,8-dicarboxamide,

benzyl-*N*-[[5-[[2-amino-4-(dipropylcarbamoyl)-*3H*-1-benzazepine-8-carbonyl]amino]-3-pyridyl]methyl]carbamate,

2-amino-*N8*-[5-(2-phenylethyl)-3-pyridyl]-*N4,N4*-dipropyl-*3H*-1-benzazepine-4,8-dicarboxamide,

2-amino-*N4*-(cyclopropylmethyl)-*N8*-(5-ethoxy-3-pyridyl)-*N4*-propyl-3H-1-benzazepine-4,8-dicarboxamide,

and pharmaceutically acceptable salts thereof.

18. A compound of formula I according to any one of claims 1 to 17 for use as medicament.

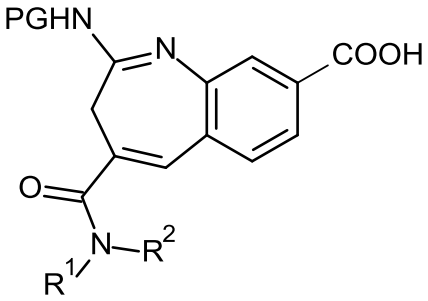
19. A compound of formula I according to any one of claims 1 to 17 for use as medicament for the treatment of diseases which can be mediated with TLR agonists.

20. A pharmaceutical composition comprising a compound of formula I according to any one of claims 1 to 17 and a pharmaceutically acceptable carrier and/or adjuvant.

21. The use of a compound of formula I according to any one of claims 1 to 17 for the preparation of a medicament for the treatment of diseases selected from the group consisting of cancer, autoimmune diseases, inflammation, sepsis, allergy, asthma, graft rejection, graft-versus-host disease, immunodeficiencies, and infectious diseases.

22. A process for the manufacture of a compound of formula I as defined in claim 1, which process comprises

a) coupling a compound of the formula II



II

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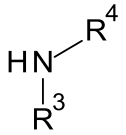
wherein R^1 and R^2 are as defined in claim 1 and PG is a protecting group, with a compound of the formula III



III

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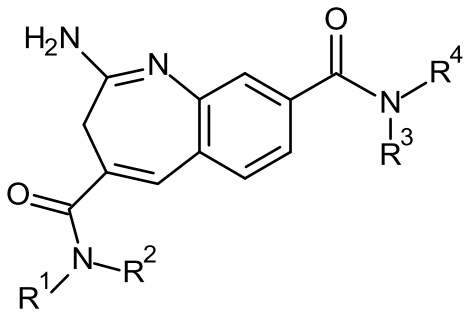
wherein R^3 and R^4 are as defined in claim 1, under basic conditions in the presence of a coupling agent and removing the protecting group PG under acidic conditions to obtain a compound of the formula I



I

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wherein R^1 to R^4 are as defined in claim 1, and, if desired, converting the compound obtained into a pharmaceutically acceptable salt.

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