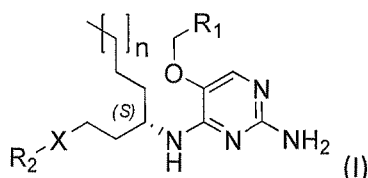


Compounds indicating activity on Toll-Like receptors have been previously described such as purine derivatives in WO 2006/117670, adenine derivatives in WO 98/01448 and WO 99/28321, and pyrimidines in WO 2009/067081.

- 5 However, there exists a strong need for novel Toll-Like receptor modulators having preferred selectivity, higher potency, higher metabolic stability, and an improved safety profile compared to the compounds of the prior art.

The present disclosure provides a compound of formula (I)



- 10 or a pharmaceutically acceptable salt, tautomer(s), stereo-isomeric forms, solvate or polymorph thereof, wherein

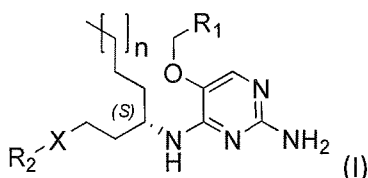
X represents S, S=O or O=S=O,

R₁ is hydrogen, (C₁₋₆)-alkyl, (C₁₋₆)-alkoxy or aryl,

R₂ is (C₁₋₃)-alkyl or (C₃₋₆)-cycloalkyl and

n = 1 or 2.

- 15 In one aspect, there is provided a compound of compound of formula (I)



or a pharmaceutically acceptable salt, tautomer(s), or solvate thereof, wherein

X represents S, S=O or O=S=O,

R₁ is hydrogen, (C₁₋₆)-alkyl, (C₁₋₆)-alkoxy or aryl,

- 20 R₂ is (C₁₋₃)-alkyl or (C₃₋₆)-cycloalkyl and

n = 1 or 2.

The compounds of formula (I) and their pharmaceutically acceptable salts, tautomer(s), stereo-isomeric forms, solvate or polymorph thereof have activity as pharmaceuticals, in particular as modulators of Toll-Like Receptors (especially TLR7 and/or TLR8 activity).

- 5 The present disclosure provides a pharmaceutical composition comprising a compound of formula (I) or a pharmaceutically acceptable salt, tautomer, stereo-isomeric form, solvate or polymorph thereof together with one or more pharmaceutically acceptable excipients, diluents or carriers. In a further aspect, the present disclosure provides a pharmaceutical composition comprising a compound
10 of formula (I) or a pharmaceutically acceptable salt, tautomer(s), or solvate thereof according to the current disclosure together with one or more pharmaceutically acceptable excipients, diluents or carriers.

- The present disclosure provides a compound of formula (I) or a pharmaceutically acceptable salt, solvate, tautomer, stereo-isomeric form or polymorph thereof
15 according to the current disclosure, or a pharmaceutical composition comprising said compound of formula (I) or a pharmaceutically acceptable salt, solvate, tautomer, stereo-isomeric form or polymorph thereof for use as a medicament. In a further aspect, the present disclosure provides a compound of formula (I) or a pharmaceutically acceptable salt, tautomer(s), or solvate thereof according to the
20 current disclosure or a pharmaceutical composition according to the current disclosure for use as a medicament.

The disclosure also provides a compound of formula (I) or its pharmaceutically acceptable salt, solvate, tautomer, stereo-isomeric form or polymorph thereof, or a pharmaceutical composition comprising said compound of formula (I) or a pharmaceutically acceptable salt, solvate, tautomer, stereo-isomeric form or polymorph thereof for use in the treatment of a disorder where the modulation of TLR's, more specifically TLR7 and /or TLR8, is involved.

The term "(C₁₋₆)-alkyl" or "(C₁₋₃)-alkyl refers to a straight-chain, branched-chain or cyclic saturated aliphatic hydrocarbon containing the specified number of carbon atoms.

The term "aryl" means an aromatic ring structure optionally comprising one or two heteroatoms selected from N, O and S, in particular from N and O. Said aromatic ring structure may have 4, 5, 6 or 7 ring atoms. In particular, said aromatic ring structure may have 5 or 6 ring atoms.

The term "(C₁₋₆)-alkoxy refers to an alkyl (carbon and hydrogen chain) group singular bonded to oxygen like for instance a methoxy group or ethoxy group.

The term "(C₃₋₆)-cycloalkyl" means refers to a carbocyclic ring containing the specified number of carbon atoms.

As used herein, any chemical formula with bonds shown only as solid lines and not as solid wedged or hashed wedged bonds, or otherwise indicated as having a particular configuration (e.g. *R*, *S*) around one or more atoms, contemplates each possible stereoisomer, or mixture of two or more stereoisomers.

The terms "stereoisomers", "stereoisomeric forms" or "stereochemically isomeric forms" hereinbefore or hereinafter are used interchangeably.

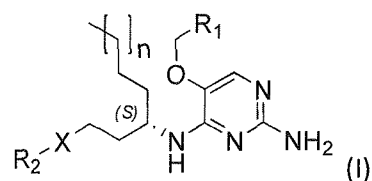
The invention includes all stereoisomers of the compounds of the invention either as a pure stereoisomer or as a mixture of two or more stereoisomers.

Enantiomers are stereoisomers that are non-superimposable mirror images of each other. A 1:1 mixture of a pair of enantiomers is a racemate or racemic mixture.

Diastereomers (or diastereoisomers) are stereoisomers that are not enantiomers, i.e. they are not related as mirror images. If a compound contains a double bond, the substituents may be in the *E* or the *Z* configuration. If a compound contains an at least disubstituted non-aromatic cyclic group, the substituents may be in the *cis* or *trans* configuration.

Claims

1. A compound of formula (I)



or a pharmaceutically acceptable salt, tautomer(s), or solvate thereof, wherein

5 X represents S, S=O or O=S=O,

R_1 is hydrogen, (C_{1-6}) -alkyl, (C_{1-6}) -alkoxy or aryl,

R_2 is (C_{1-3}) -alkyl or (C_{3-6}) -cycloalkyl and

$n = 1$ or 2 .

10 2. A pharmaceutical composition comprising a compound of formula (I) or a pharmaceutically acceptable salt, tautomer(s), or solvate thereof according to claim 1 together with one or more pharmaceutically acceptable excipients, diluents or carriers.

15 3. A compound of formula (I) or a pharmaceutically acceptable salt, tautomer(s), or solvate thereof according to claim 1 or a pharmaceutical composition according to claim 2 for use as a medicament.