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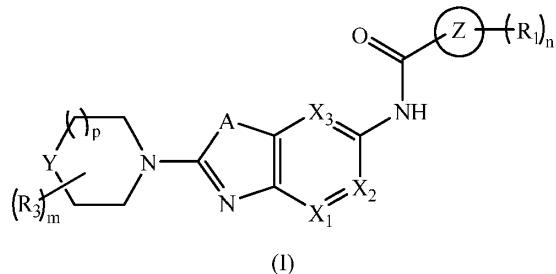
(54) Title **BICYCLIC HETEROCYCLYL DERIVATIVES AS IRAK4 INHIBITORS**

(56) References Cited: WO-A1-2010/071819, WO-A1-2013/042137, CATHERINE M. ALDER ET AL.: 'Identification of a Novel and Selective Series of Itk Inhibitors via a Template-Hopping Strategy' MED. CHEM. LETT. vol. 4, no. 10, 01 January 2013, pages 948 - 952, XP055357203 DOI: 10.1021/ML400206Q, WO-A2-2008/030584, WO-A2-2008/030579

Enclosed is a translation of the patent claims in Norwegian. Please note that as per the Norwegian Patents Acts, section 66i the patent will receive protection in Norway only as far as there is agreement between the translation and the language of the application/patent granted at the EPO. In matters concerning the validity of the patent, language of the application/patent granted at the EPO will be used as the basis for the decision. The patent documents published by the EPO are available through Espacenet (<http://worldwide.espacenet.com>) or via the search engine on our website here: <https://search.patentstyret.no/>

Patentkrav

1. Forbindelse med formel (I):



eller et farmasøytisk akseptabelt salt eller en stereoisomer av samme;

5 hvor,

X_1 og X_3 uavhengig er CH eller N; X_2 er CR₂ eller N; forutsatt at én og ingen flere enn én av X_1 , X_2 eller X_3 er N;

A er O eller S;

Y er -CH₂- eller O;

10 ring Z er aryl eller heterosyklyl;

R₁, ved hver forekomst, er uavhengig halo eller valgfritt substituert heterosyklyl;

hvor substituenten er alkyl, alkoksy, aminoalkyl, halo, hydroksyl, hydroksyalkyl eller -NR_aR_b;

R₂ er hydrogen, valgfritt substituert sykloalkyl, valgfritt substituert aryl, valgfritt substituert heterosyklyl eller -NR_aR_b; hvor substituenten er alkyl, amino, halo eller hydroksyl;

15 R₃, ved hver forekomst, er alkyl eller hydroksyl;

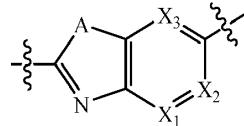
R_a og R_b er uavhengig hydrogen, alkyl, acyl eller heterosyklyl;

'm' og 'n' er uavhengig 0, 1 eller 2;

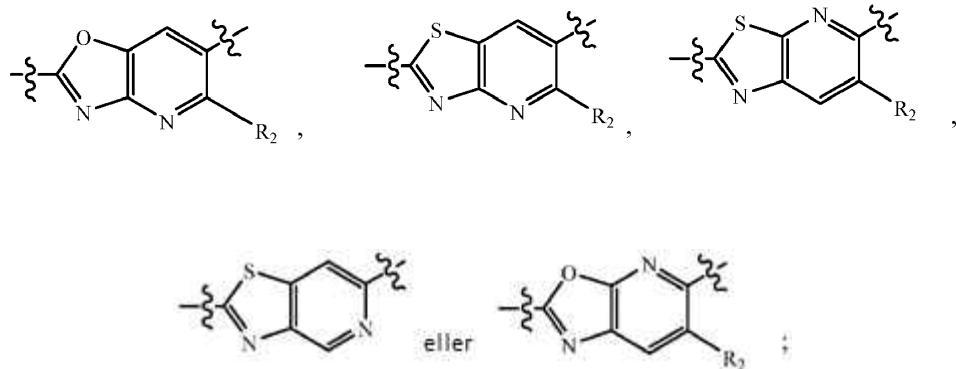
'p' er 0 eller 1.

2. Forbindelse ifølge formel (I) ifølge krav 1, eller et farmasøytisk akseptabelt salt eller en

20 stereoisomer av samme, hvor gruppen



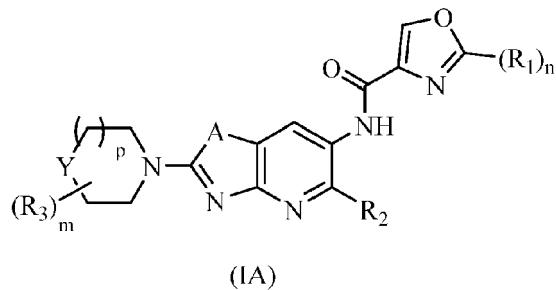
er



hvor R₂ er som definert i krav 1.

- 5 3. Forbindelse ifølge formel (I) eller et farmasøytisk akseptabelt salt av samme ifølge krav 1, hvor ringen Z er aryl eller 5- eller 6-leddet heterosykyl.
 4. Forbindelse ifølge formel (I) eller et farmasøytisk akseptabelt salt av samme ifølge ett av kravene 1 eller 3, hvor ring Z er en aryl- eller heterosykyl-gruppe valgt fra fenyl, furanyl, thienyl, pyrrolyl, pyrazolyl, imidazolyl, oksazolyl, isoksazolyl, thiazolyl, isothiazolyl, 1H-tetrazolyl, oksadiazolyl, triazolyl, pyridyl, pyrimidinyl, pyrazinyl, pyridazinyl, azetidinyl, oksetanyl, imidazolidinyl, pyrrolidinyl, oksazolidinyl, thiazolidinyl, pyrazolidinyl, tetrahydrofuranyl, piperidinyl, piperazinyl, tetrahydropyranyl, morfolinyl, thiomorfolinyl, 1,4-dioksanyl, dioksidothiomorfolinyl, oksapiperazinyl, oksapiperidinyl, tetrahydrofuryl, tetrahydropyranyl, tetrahydrothiofenyl, dihydropyranyl eller azabisyklo[3.2.1]oktanyl; som hver er valgfritt substituert med alkyl, alkoksy, halo, hydroksyl, hydroksyalkyl eller -NR_aR_b; og R_a og R_b er uavhengig hydrogen, alkyl eller acyl.

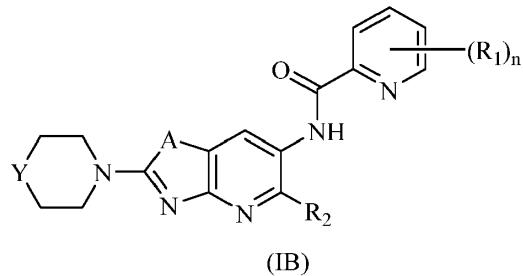
15 5. Forbindelse ifølge formel (I) ifølge krav 1, er en forbindelse med formel (IA):



eller et farmasøytisk akseptabelt salt eller en stereoisomer av samme;

hvor, A, Y, R₁, R₂, R₃, 'm', 'p' og 'n' er de samme som definert i krav 1.

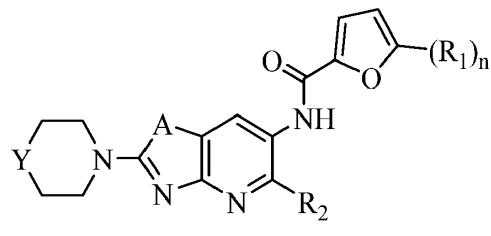
- 20 6. Forbindelse ifølge formel (I) ifølge krav 1 er en forbindelse med formel (IB):



eller et farmasøytisk akseptabelt salt eller en stereoisomer av samme;

hvor, A, Y, R₁, R₂ og 'n' er de samme som definert i krav 1.

7. Forbindelse ifølge formel (I) ifølge krav 1, er en forbindelse med formel (IC)



5

eller et farmasøytisk akseptabelt salt eller en stereoisomer av samme;

hvor, A, Y, R₁, R₂ og 'n' er de samme som definert i krav 1.

8. Forbindelse ifølge formel (I) eller et farmasøytisk akseptabelt salt av samme, ifølge ett av kravene 1, 5 eller 6 hvor R₂ er hydrogen.

10 9. Forbindelse ifølge formel (I) eller et farmasøytisk akseptabelt salt av samme, ifølge ett av kravene 1, 5, 6 eller 7, hvor R₂ er valgfritt substituert heterosyklyl valgt fra piperidinyl, pyrrolidinyl, morfolinyl, piperazinyl, azetidinyl, pyrazolyl, furanyl eller azabisyklo[3.2.1]oktanyl; hvor substituenten er hydroksyl, halo, alkyl eller amino.

10 10. Forbindelse ifølge formel (I) eller et farmasøytisk akseptabelt salt av samme, ifølge ett av kravene 15 1, 5, 6 eller 7 hvor R₂ er sykloalkyl.

11. Forbindelse ifølge formel (I) eller et farmasøytisk akseptabelt salt av samme, ifølge ett av kravene 1 til 10, hvor R₁ er valgfritt substituert heterosyklyl; hvor substituenten er alkyl, alkoxsy, aminoalkyl, halo, hydroksyl, hydroksyalkyl eller -NR_aR_b; R_a og R_b er uavhengig hydrogen eller acyl.

20 12. Forbindelse ifølge formel (I) eller et farmasøytisk akseptabelt salt av samme, ifølge krav 11, hvor R₁ er pyridyl, pyrazolyl, pyrrolidinyl eller piperidinyl.

13. Forbindelse ifølge formel (I) eller et farmasøytisk akseptabelt salt av samme, ifølge ett av kravene 1, 3, 4 eller 6, hvor R₁ er halo.

14. Forbindelse ifølge krav 1, hvori forbindelsene er valgt fra:

Eksempel nr.	IUPAC-navn
1.	6'-amino-N-(2-morfolinoksazol[6,5-b]pyridin-6-yl)-[2,3'-bipyridin]-6-karboksamid;
2.	6'-amino-N-(5-syklopropyl-2-morfolinoksazol[4,5-b]pyridin-6-yl)-[2,3'-bipyridin]-6-karboksamid hydroklorid;
3.	N-(5-syklopropyl-2-morfolinoksazol[4,5-b]pyridin-6-yl)-2-(2-metylpyridin-4-yl)oksazol-4-karboksamid hydroklorid;
4.	N-(2,5-di(piperidin-1-yl)oksazol[4,5-b]pyridin-6-yl)-6-(1H-pyrazol-4-yl)pikolinamid hydroklorid;
5.	N-(2,5-di(piperidin-1-yl)oksazol[4,5-b]pyridin-6-yl)-2-(2-metylpyridin-4-yl)oksazol-4-karboksamid;
6.	N-(2-morfolin-5-(piperidin-1-yl)oksazol[4,5-b]pyridin-6-yl)-6-(1H-pyrazol-4-yl)pikolinamid;
7.	2-(2-metylpyridin-4-yl)-N-(2-morfolin-5-(piperidin-1-yl)oksazol[4,5-b]pyridin-6-yl)oksazol-4-karboksamid;
8.	6-klor-N-(2-morfolin-5-(piperidin-1-yl)oksazol[4,5-b]pyridin-6-yl)pikolinamid;
9.	N-(2,5-di(piperidin-1-yl)oksazol[4,5-b]pyridin-6-yl)-6-(1-metyl-1H-pyrazol-4-yl)pikolinamid;
10.	2-(2-klorpyridin-4-yl)-N-(2,5-di(piperidin-1-yl)oksazol[4,5-b]pyridin-6-yl)oksazol-4-karboksamid;
11.	(S)-2-(2-metylpyridin-4-yl)-N-(2-morfolin-5-(pyrrolidin-3-ylamino)oksazol[4,5-b]pyridin-6-yl)oksazol-4-karboksamid;
12.	6'-amino-N-(2-morfolinoksazol[5,4-b]pyridin-5-yl)-[2,3'-bipyridin]-6-karboksamid;
13.	6'-amino-N-(2-morfolinthiazol[4,5-c]pyridin-6-yl)-[2,3'-bipyridin]-6-karboksamid;

Eksempel nr.	IUPAC-navn
14.	6'-amino-N-(2-morfolinthiazol[5,4-b]pyridin-5-yl)-[2,3'-bipyridin]-6-karboksamid;
15.	2-(2-metylpyridin-4-yl)-N-(2-morfolinthiazol[4,5-b]pyridin-6-yl)oksazol-4-karboksamid;
16.	6'-amino-N-(2-morfolinthiazol[4,5-b]pyridin-6-yl)-[2,3'-bipyridin]-6-karboksamid;
17.	N-(2-morfolinthiazol[4,5-b]pyridin-6-yl)-6-(1H-pyrazol-4-yl)pikolinamid;
18.	3-(4-(aminometyl)piperidin-1-yl)-5-fluor-N-(2-morfolinthiazol[4,5-b]pyridin-6-yl)benzamid;
19.	2-(4-(aminometyl)piperidin-1-yl)-5-fluor-N-(2-morfolinthiazol[4,5-b]pyridin-6-yl)benzamid;
20.	2-(2-metylpyridin-4-yl)-N-(2-morfolin-5-(piperidin-1-yl)thiazol[4,5-b]pyridin-6-yl)oksazol-4-karboksamid;
21.	N-(2-morfolin-5-(piperidin-1-yl)thiazol[4,5-b]pyridin-6-yl)-6-(1H-pyrazol-4-yl)pikolinamid;
22.	N-(2,5-di(piperidin-1-yl)thiazol[4,5-b]pyridin-6-yl)-6-(1H-pyrazol-4-yl)pikolinamid;
23.	N-(2,5-di(piperidin-1-yl)thiazol[4,5-b]pyridin-6-yl)-2-(2-metylpyridin-4-yl)oksazol-4-karboksamid;
24.	N-(2,5-dimorfolinoksazol[4,5-b]pyridin-6-yl)-2-(2-metylpyridin-4-yl)oksazol-4-karboksamid;
25.	N-(5-(4-metylpirerazin-1-yl)-2-morfolinoksazol[4,5-b]pyridin-6-yl)-2-(2-metylpyridin-4-yl)oksazol-4-karboksamid;
26.	N-(2,5-di(piperidin-1-yl)oksazol[4,5-b]pyridin-6-yl)-2-(6-metoksypyridin-3-yl)oksazol-4-karboksamid;

Eksempel nr.	IUPAC-navn
27.	N-(2,5-di(piperidin-1-yl)oksazol[4,5-b]pyridin-6-yl)-2-(2-metylpyridin-3-yl)oksazol-4-karboksamid;
28.	N-(2,5-di(piperidin-1-yl)oksazol[4,5-b]pyridin-6-yl)-2-(2-hydroksypyridin-3-yl)oksazol-4-karboksamid;
29.	2-(2-hydroksypyridin-3-yl)-N-(2-morfolin-5-(piperidin-1-yl)oksazol[4,5-b]pyridin-6-yl)oksazol-4-karboksamid;
30.	N-(2,5-di(piperidin-1-yl)oksazol[4,5-b]pyridin-6-yl)-2-(6-hydroksypyridin-3-yl)oksazol-4-karboksamid;
31.	2-(2-metoksypyridin-4-yl)-N-(2-morfolin-5-(piperidin-1-yl)oksazol[4,5-b]pyridin-6-yl)oksazol-4-karboksamid;
32.	2-(2-metylpyridin-3-yl)-N-(2-morfolin-5-(piperidin-1-yl)oksazol[4,5-b]pyridin-6-yl)oksazol-4-karboksamid;
33.	2-(3-metylpyridin-4-yl)-N-(2-morfolin-5-(piperidin-1-yl)oksazol[4,5-b]pyridin-6-yl)oksazol-4-karboksamid;
34.	N-(2,5-di(piperidin-1-yl)oksazol[4,5-b]pyridin-6-yl)-2-(3-metylpyridin-4-yl)oksazol-4-karboksamid;
35.	2-(6-metylpyridin-3-yl)-N-(2-morfolin-5-(piperidin-1-yl)oksazol[4,5-b]pyridin-6-yl)oksazol-4-karboksamid;
36.	6-(1-metyl-1H-pyrazol-4-yl)-N-(2-morfolin-5-(piperidin-1-yl)oksazol[4,5-b]pyridin-6-yl)pikolinamid;
37.	N-(2,5-di(piperidin-1-yl)oksazol[4,5-b]pyridin-6-yl)-2-(6-metylpyridin-3-yl)oksazol-4-karboksamid;
38.	(S)-N-(5-(3-aminopyrrolidin-1-yl)-2-morfolinoksazol[4,5-b]pyridin-6-yl)-2-(2-metylpyridin-4-yl)oksazol-4-karboksamid;

Eksempel nr.	IUPAC-navn
39.	(S)-N-(5-(3-hydroksypyrrolidin-1-yl)-2-morfolinoksazol[4,5-b]pyridin-6-yl)-2-(2-metylpyridin-4-yl)oksazol-4-karboksamid;
40.	(R)-N-(5-(3-aminopyrrolidin-1-yl)-2-morfolinoksazol[4,5-b]pyridin-6-yl)-2-(2-metylpyridin-4-yl)oksazol-4-karboksamid;
41.	(R)-N-(5-(3-hydroksypyrrolidin-1-yl)-2-morfolinoksazol[4,5-b]pyridin-6-yl)-2-(2-metylpyridin-4-yl)oksazol-4-karboksamid;
42.	(S)-2-(3-aminopyrrolidin-1-yl)-N-(2-morfolin-5-(piperidin-1-yl)oksazol[4,5-b]pyridin-6-yl)oksazol-4-karboksamid;
43.	(S)-6-(3-hydroksypyrrolidin-1-yl)-N-(2-morfolin-5-(piperidin-1-yl)oksazol[4,5-b]pyridin-6-yl)pikolinamid;
44.	(S)-6-(3-aminopyrrolidin-1-yl)-N-(2-morfolin-5-(piperidin-1-yl)oksazol[4,5-b]pyridin-6-yl)pikolinamid;
45.	(S)-2-(3-hydroksypyrrolidin-1-yl)-N-(2-morfolin-5-(piperidin-1-yl)oksazol[4,5-b]pyridin-6-yl)oksazol-4-karboksamid;
46.	(S)-N-(5-syklopropyl-2-morfolinoksazol[4,5-b]pyridin-6-yl)-2-(3-hydroksypyrrolidin-1-yl)oksazol-4-karboksamid;
47.	(S)-2-(3-aminopyrrolidin-1-yl)-N-(5-syklopropyl-2-morfolinoksazol[4,5-b]pyridin-6-yl)oksazol-4-karboksamid;
48.	2-(2-metylpyridin-4-yl)-N-(5-(piperidin-1-yl)-2-(pyrrolidin-1-yl)oksazol[4,5-b]pyridin-6-yl)oksazol-4-karboksamid hydroklorid;
49.	N-(2-(2,6-dimethylmorfolin)-5-(piperidin-1-yl)oksazol[4,5-b]pyridin-6-yl)-2-(2-metylpyridin-4-yl)oksazol-4-karboksamid hydroklorid;
50.	N-(2,5-di(piperidin-1-yl)thiazol[4,5-b]pyridin-6-yl)-6-(1-metyl-1H-pyrazol-4-yl)pikolinamid hydroklorid;

Eksempel nr.	IUPAC-navn
51.	6-(1-metyl-1H-pyrazol-4-yl)-N-(2-morfolin-5-(piperidin-1-yl)thiazol[4,5-b]pyridin-6-yl)pikolinamid;
52.	N-(2,5-di(piperidin-1-yl)thiazol[4,5-b]pyridin-6-yl)-2-(2-metylpyridin-3-yl)oksazol-4-karboksamid hydroklorid;
53.	N-(2-((2S,6R)-2,6-dimethylmorpholin)-5-(piperidin-1-yl)thiazol[4,5-b]pyridin-6-yl)-2-(2-metylpyridin-4-yl)oksazol-4-karboksamid;
54.	2-(2-metylpyridin-3-yl)-N-(2-morfolin-5-(piperidin-1-yl)thiazol[4,5-b]pyridin-6-yl)oksazol-4-karboksamid;
55.	2-(2-hydroksypyridin-3-yl)-N-(2-morfolin-5-(piperidin-1-yl)thiazol[4,5-b]pyridin-6-yl)oksazol-4-karboksamid;
56.	N-(2,5-di(piperidin-1-yl)thiazol[4,5-b]pyridin-6-yl)-2-(2-metoksypyridin-4-yl)oksazol-4-karboksamid;
57.	2-(6-metoksypyridin-3-yl)-N-(2-morfolin-5-(piperidin-1-yl)thiazol[4,5-b]pyridin-6-yl)oksazol-4-karboksamid;
58.	2-(2-metoksypyridin-4-yl)-N-(2-morfolin-5-(piperidin-1-yl)thiazol[4,5-b]pyridin-6-yl)oksazol-4-karboksamid;
59.	(S)-N-(5-(3-fluorpiperidin-1-yl)-2-morfolinthiazol[4,5-b]pyridin-6-yl)-2-(2-metylpyridin-4-yl)oksazol-4-karboksamid;
60.	2-(6-metylpyridin-3-yl)-N-(2-morfolin-5-(piperidin-1-yl)thiazol[4,5-b]pyridin-6-yl)oksazol-4-karboksamid;
61.	2-(3-metylpyridin-4-yl)-N-(2-morfolin-5-(piperidin-1-yl)thiazol[4,5-b]pyridin-6-yl)oksazol-4-karboksamid;
62.	(S)-6-(3-aminopyrrolidin-1-yl)-N-(2-morfolin-5-(piperidin-1-yl)thiazol[4,5-b]pyridin-6-yl)pikolinamid;

Eksempel nr.	IUPAC-navn
63.	(S)-6-(3-hydroksypyrrolidin-1-yl)-N-(2-morfolin-5-(piperidin-1-yl)thiazol[4,5-b]pyridin-6-yl)pikolinamid;
64.	(S)-6-(3-aminopyrrolidin-1-yl)-N-(2,5-di(piperidin-1-yl)thiazol[4,5-b]pyridin-6-yl)pikolinamid;
65.	(S)-N-(2,5-di(piperidin-1-yl)thiazol[4,5-b]pyridin-6-yl)-6-(3-hydroksypyrrolidin-1-yl)pikolinamid;
66.	(S)-2-(3-aminopyrrolidin-1-yl)-N-(2-morfolin-5-(piperidin-1-yl)thiazol[4,5-b]pyridin-6-yl)oksazol-4-karboksamid;
67.	(S)-N-(5-(3-aminopyrrolidin-1-yl)-2-morfolinthiazol[4,5-b]pyridin-6-yl)-2-(2-metylpyridin-4-yl)oksazol-4-karboksamid;
68.	(S)-2-(3-aminopyrrolidin-1-yl)-N-(5-syklopropyl-2-morfolinthiazol[4,5-b]pyridin-6-yl)oksazol-4-karboksamid;
69.	N-(5-syklopropyl-2-morfolinthiazol[4,5-b]pyridin-6-yl)-2-(2-metylpyridin-4-yl)oksazol-4-karboksamid;
70.	(S)-2-(3-hydroksypyrrolidin-1-yl)-N-(2-morfolin-5-(piperidin-1-yl)thiazol[4,5-b]pyridin-6-yl)oksazol-4-karboksamid;
71.	(S)-N-(5-(3-hydroksypyrrolidin-1-yl)-2-morfolinthiazol[4,5-b]pyridin-6-yl)-2-(2-metylpyridin-4-yl)oksazol-4-karboksamid;
72.	(S)-N-(5-syklopropyl-2-morfolinthiazol[4,5-b]pyridin-6-yl)-6-(3-hydroksypyrrolidin-1-yl)pikolinamid;
73.	(S)-N-(5-syklopropyl-2-morfolinthiazol[4,5-b]pyridin-6-yl)-2-(3-hydroksypyrrolidin-1-yl)oksazol-4-karboksamid;
74.	(S)-N-(5-syklopropyl-2-morfolinthiazol[4,5-b]pyridin-6-yl)-6-(1-(2-hydroksypropyl)-1H-pyrazol-4-yl)pikolinamid;

Eksempel nr.	IUPAC-navn
75.	(S)-N-(5-syklopropyl-2-morfolinthiazol[4,5-b]pyridin-6-yl)-2-(1-(2-hydroksypropyl)-1H-pyrazol-4-yl)oksazol-4-karboksamid;
76.	N-(5-(3-hydroksypyrrolidin-1-yl)-2-morfolinthiazol[4,5-b]pyridin-6-yl)-2-(6-metoksypyridin-3-yl)oksazol-4-karboksamid;
77.	(S)-N-(5-(3-hydroksypyrrolidin-1-yl)-2-morfolinthiazol[4,5-b]pyridin-6-yl)-2-(6-metoksypyridin-3-yl)oksazol-4-karboksamid;
78.	(R)-N-(5-(3-hydroksypyrrolidin-1-yl)-2-morfolinthiazol[4,5-b]pyridin-6-yl)-2-(6-metoksypyridin-3-yl)oksazol-4-karboksamid;
79.	(S)-N-(5-(azetidin-1-yl)-2-morfolinthiazol[4,5-b]pyridin-6-yl)-6-(3-hydroksypyrrolidin-1-yl)pikolinamid;
80.	N-(5-(3-hydroksyazetidin-1-yl)-2-morfolinthiazol[4,5-b]pyridin-6-yl)-2-(2-metylpyridin-4-yl)oksazol-4-karboksamid;
81.	(S)-N-(5-(3-hydroksypyrrolidin-1-yl)-2-morfolinthiazol[4,5-b]pyridin-6-yl)-5-(2-metylpyridin-4-yl)thiofen-2-karboksamid;
82.	(S)-N-(5-(3-hydroksypyrrolidin-1-yl)-2-morfolinthiazol[4,5-b]pyridin-6-yl)-5-(2-metylpyridin-4-yl)furan-2-karboksamid;
83.	(S)-N-(5-(3-hydroksypiperidin-1-yl)-2-morfolinthiazol[4,5-b]pyridin-6-yl)-2-(2-metylpyridin-4-yl)oksazol-4-karboksamid;
84.	N-(5-(4-hydroksypiperidin-1-yl)-2-morfolinthiazol[4,5-b]pyridin-6-yl)-2-(2-metylpyridin-4-yl)oksazol-4-karboksamid
85.	(R)-N-(5-(3-hydroksypyrrolidin-1-yl)-2-morfolinthiazol[4,5-b]pyridin-6-yl)-2-(2-metylpyridin-4-yl)oksazol-4-karboksamid;
86.	N-(5-(4-hydroksypiperidin-1-yl)-2-morfolinthiazol[4,5-b]pyridin-6-yl)-5-(2-metylpyridin-4-yl)furan-2-karboksamid;

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87.	N-(5-(azetidin-1-yl)-2-(piperidin-1-yl)thiazol[4,5-b]pyridin-6-yl)-2-(2-metylpyridin-4-yl)oksazol-4-karboksamid;
88.	2-(2-metylpyridin-4-yl)-N-(2-(piperidin-1-yl)-5-(pyrrolidin-1-yl)thiazol[4,5-b]pyridin-6-yl)oksazol-4-karboksamid;
89.	2-(2-metylpyridin-4-yl)-N-(2-morfolin-5-(pyrrolidin-1-yl)thiazol[4,5-b]pyridin-6-yl)oksazol-4-karboksamid;
90.	5-(2-metylpyridin-4-yl)-N-(2-morfolin-5-(piperidin-1-yl)thiazol[4,5-b]pyridin-6-yl)furan-2-karboksamid;
91.	N-(5-(azepan-1-yl)-2-morfolinthiazol[4,5-b]pyridin-6-yl)-2-(2-metylpyridin-4-yl)oksazol-4-karboksamid;
92.	2-(2-aminopyridin-4-yl)-N-(2-morfolin-5-(piperidin-1-yl)thiazol[4,5-b]pyridin-6-yl)oksazol-4-karboksamid hydroklorid;
93.	N-(5-(azetidin-1-yl)-2-morfolinthiazol[4,5-b]pyridin-6-yl)-2-(2-metylpyridin-4-yl)oksazol-4-karboksamid;
94.	(R)-N-(5-(3-hydroksypiperidin-1-yl)-2-morfolinthiazol[4,5-b]pyridin-6-yl)-2-(2-metylpyridin-4-yl)oksazol-4-karboksamid;
95.	(R)-N-(5-(3-hydroksypiperidin-1-yl)-2-morfolinthiazol[4,5-b]pyridin-6-yl)-5-(2-metylpyridin-4-yl)furan-2-karboksamid;
96.	(S)-6-(1-(2-hydroksypropyl)-1H-pyrazol-4-yl)-N-(2-morfolin-5-(piperidin-1-yl)thiazol[4,5-b]pyridin-6-yl)pikolinamid
97.	N-(5-(4-fluorpiperidin-1-yl)-2-morfolinthiazol[4,5-b]pyridin-6-yl)-5-(2-metylpyridin-4-yl)furan-2-karboksamid
98.	N-(5-(4-fluorpiperidin-1-yl)-2-morfolinthiazol[4,5-b]pyridin-6-yl)-2-(2-metylpyridin-4-yl)oksazol-4-karboksamid hydroklorid

Eksempel nr.	IUPAC-navn
99.	N-(5-(1-metyl-1H-pyrazol-4-yl)-2-morfolinthiazol[4,5-b]pyridin-6-yl)-2-(2-metylpyridin-4-yl)oksazol-4-karboksamid;
100.	N-(5-(3-fluorfenyl)-2-morfolinthiazol[4,5-b]pyridin-6-yl)-2-(2-metylpyridin-4-yl)oksazol-4-karboksamid;
101.	N-(5-(4-hydroksypiperidin-1-yl)-2-morfolinthiazol[4,5-b]pyridin-6-yl)-5-(2-metylpyridin-4-yl)furan-2-karboksamid;
102.	N-(5-(3-fluorpiperidin-1-yl)-2-morfolinthiazol[4,5-b]pyridin-6-yl)-5-(2-metylpyridin-4-yl)furan-2-karboksamid;
103.	(S)-N-(5-(3-hydroksypyrrolidin-1-yl)-2-morfolinoksazol[4,5-b]pyridin-6-yl)-2-(6-metoksypyridin-3-yl)oksazol-4-karboksamid;
104.	N-(5-(3-hydroksypyrrolidin-1-yl)-2-morfolinoksazol[4,5-b]pyridin-6-yl)-2-(2-metylpyridin-4-yl)oksazol-4-karboksamid;
105.	(R)-N-(5-(3-hydroksypyrrolidin-1-yl)-2-morfolinoksazol[4,5-b]pyridin-6-yl)-2-(6-metoksypyridin-3-yl)oksazol-4-karboksamid;
106.	N-(5-(3-hydroksypyrrolidin-1-yl)-2-morfolinoksazol[4,5-b]pyridin-6-yl)-2-(6-metoksypyridin-3-yl)oksazol-4-karboksamid;
107.	(S)-N-(5-(3-hydroksypyrrolidin-1-yl)-2-morfolinoksazol[4,5-b]pyridin-6-yl)-5-(2-metylpyridin-4-yl)furan-2-karboksamid;
108.	(S)-N-(5-(3-hydroksypyrrolidin-1-yl)-2-morfolinoksazol[4,5-b]pyridin-6-yl)-5-(2-metylpyridin-4-yl)thiofen-2-karboksamid;
109.	N-(5-(azetidin-1-yl)-2-(piperidin-1-yl)oksazol[4,5-b]pyridin-6-yl)-2-(2-metylpyridin-4-yl)oksazol-4-karboksamid;
110.	2-(2-metylpyridin-4-yl)-N-(2-(piperidin-1-yl)-5-(pyrrolidin-1-yl)oksazol[4,5-b]pyridin-6-yl)oksazol-4-karboksamid;

Eksempel nr.	IUPAC-navn
111.	5-(2-metylpyridin-4-yl)-N-(2-morfolin-5-(piperidin-1-yl)oksazol[4,5-b]pyridin-6-yl)furan-2-karboksamid;
112.	N-(5-(azetidin-1-yl)-2-morfolinoksazol[4,5-b]pyridin-6-yl)-2-(2-metylpyridin-4-yl)oksazol-4-karboksamid;
113.	2-(2-metylpyridin-4-yl)-N-(2-morfolin-5-(pyrrolidin-1-yl)oksazol[4,5-b]pyridin-6-yl)oksazol-4-karboksamid;
114.	N-(5-(4-hydroksypiperidin-1-yl)-2-morfolinoksazol[4,5-b]pyridin-6-yl)-5-(2-metylpyridin-4-yl)furan-2-karboksamid;
115.	(R)-N-(5-(3-hydroksypiperidin-1-yl)-2-morfolinoksazol[4,5-b]pyridin-6-yl)-5-(2-metylpyridin-4-yl)furan-2-karboksamid;
116.	N-(5-(furan-3-yl)-2-morfolinoksazol[4,5-b]pyridin-6-yl)-2-(2-metylpyridin-4-yl)oksazol-4-karboksamid;
117.	N-(5-(3-fluoropiperidin-1-yl)-2-morfolinoksazol[4,5-b]pyridin-6-yl)-2-(2-metylpyridin-4-yl)oksazol-4-karboksamid;
118.	N-(5-(4-hydroksypiperidin-1-yl)-2-morfolinoksazol[4,5-b]pyridin-6-yl)-2-(2-metylpyridin-4-yl)oksazol-4-karboksamid;
119.	N-(5-(4-fluoropiperidin-1-yl)-2-morfolinoksazol[4,5-b]pyridin-6-yl)-2-(2-metylpyridin-4-yl)oksazol-4-karboksamid;
120.	(S)-N-(5-(3-aminopiperidin-1-yl)-2-morfolinthiazol[4,5-b]pyridin-6-yl)-2-(2-metylpyridin-4-yl)oksazol-4-karboksamid;
121.	2-(2-metylpyridin-4-yl)-N-(2-morfolin-5-(1H-pyrazol-4-yl)thiazol[4,5-b]pyridin-6-yl)oksazol-4-karboksamid;
122.	N-(5-(6-fluorpyridin-3-yl)-2-morfolinthiazol[4,5-b]pyridin-6-yl)-2-(2-metylpyridin-4-yl)oksazol-4-karboksamid;

Eksempel nr.	IUPAC-navn
123.	N-(5-(3-hydroksy-8-azabisyklo[3.2.1]oktan-8-yl)-2-morfolinthiazol[4,5-b]pyridin-6-yl)-2-(2-metylpyridin-4-yl)oksazol-4-karboksamid;
124.	N-(2-(3-hydroksypiperidin-1-yl)-5-(piperidin-1-yl)thiazol[4,5-b]pyridin-6-yl)-2-(2-metylpyridin-4-yl)oksazol-4-karboksamid;
125.	2-(2-acetamidopyridin-4-yl)-N-(5-(4-hydroksypiperidin-1-yl)-2-morfolinthiazol[4,5-b]pyridin-6-yl)oksazol-4-karboksamid;
126.	N-(2-(3-hydroksypiperidin-1-yl)-5-(4-hydroksypiperidin-1-yl)thiazol[4,5-b]pyridin-6-yl)-2-(2-metylpyridin-4-yl)oksazol-4-karboksamid;
127.	2-(2-acetamidopyridin-4-yl)-N-(5-(3-hydroksypiperidin-1-yl)-2-morfolinthiazol[4,5-b]pyridin-6-yl)oksazol-4-karboksamid;
128.	2-(2-aminopyridin-4-yl)-N-(5-(3-hydroksypiperidin-1-yl)-2-morfolinthiazol[4,5-b]pyridin-6-yl)oksazol-4-karboksamid hydroklorid;
129.	5-(2-aminopyridin-4-yl)-N-(5-(4-hydroksypiperidin-1-yl)-2-morfolinthiazol[4,5-b]pyridin-6-yl)furan-3-karboksamid hydroklorid;
130.	2-(2-aminopyridin-4-yl)-N-(5-(4-hydroksypiperidin-1-yl)-2-morfolinthiazol[4,5-b]pyridin-6-yl)oksazol-4-karboksamid hydroklorid;
131.	2-(2-aminopyridin-4-yl)-N-(5-(4-fluorpiperidin-1-yl)-2-morfolinthiazol[4,5-b]pyridin-6-yl)oksazol-4-karboksamid hydroklorid;
132.	N-(5-(2-fluorpyridin-4-yl)-2-morfolinthiazol[4,5-b]pyridin-6-yl)-2-(2-metylpyridin-4-yl)oksazol-4-karboksamid;
133.	N-(5-(4-fluorpiperidin-1-yl)-2-(3-hydroksypiperidin-1-yl)thiazol[4,5-b]pyridin-6-yl)-2-(2-metylpyridin-4-yl)oksazol-4-karboksamid;
134.	N-(5-(4-aminopiperidin-1-yl)-2-(3-hydroksypiperidin-1-yl)thiazol[4,5-b]pyridin-6-yl)-2-(2-metylpyridin-4-yl)oksazol-4-karboksamid hydroklorid; og

Eksempel nr.	IUPAC-navn
135.	N-(5-(2-hydroksypyridin-4-yl)-2-morfolinthiazol[4,5-b]pyridin-6-yl)-2-(2-metylpyridin-4-yl)oksa ^z ol-4-karboksamid hydroklorid;

eller et farmasøytisk akseptabelt salt eller en stereoisomer av samme.

15. Farmasøytisk blanding, omfatter minst én forbindelse ifølge ett av kravene 1 til 14, eller et farmasøytisk akseptabelt salt eller en stereoisomer av samme og en farmasøytisk akseptabel bærer eller hjelpestoff.

5 16. Forbindelse ifølge ett av kravene 1 til 14, eller et farmasøytisk akseptabelt salt eller en stereoisomer av samme, for anvendelse som et medikament.

17. Forbindelse ifølge ett av kravene 1 til 14, for anvendelse i behandlingen av en IRAK4-formidlet lidelse eller sykdom eller tilstand.

10 18. Forbindelse for anvendelse ifølge krav 17, hvori den IRAK4-formidlede lidelsen eller sykdommen eller tilstanden er valgt fra gruppen bestående av kreft, en inflammatorisk lidelse, en autoimmun sykdom, metabolsk lidelse, en arvelig lidelse, en hormon-relatert sykdom, immunsiktig-lidelser, en tilstand forbundet med celledød, en destruktiv bein-lidelse, trombin-indusert plateaggregering, leversykdom og en kardiovaskulær lidelse.

15 19. Forbindelse for anvendelse ifølge krav 18, hvori kreften er valgt fra gruppen bestående av en fast tumor, godartet eller ondartet tumor, karsinom i hjernen, nyrene, leveren, magen, vagina, eggstokkene, gastriske tumorer, bryst, blære, kolon, prostata, pankreas, lunge, cervix, testis, huden, bein eller skjoldbruskjertel; sarkom, glioblastom, nevroblastom, multippel myelom, gastrointestinal kreft, en tumor i halsen og hodet, en epidermal hyperproliferasjon, psoriasis, prostata hyperplasi, en neoplas, adenom, adenokarsinom keratoakantom, epidermoid karsinom 20 stor-cellet karsinom, ikke-små-cellet lungekarsinom, lymfom, Hodgkins og Ikke-Hodgkins, en brystkarsinom, follikulær karsinom, papillær karsinom, seminom, melanom; hematologisk malignitet valgt fra leukemi, diffus stor-B-celle-lymfom (DLBCL), aktivert B-celle-liknende DLBCL, kronisk lymfocytisk leukemi (CLL), kronisk lymfocytisk lymfom, primær effusjon, lymfom, Burkitt-lymfom/leukemi, akutt lymfocytisk leukemi, B-celle pro-lymfocytisk leukemi, lymfoplasmacytisk 25 lymfom, Waldenströms makroglobulinemi (WM), marginal-sone milt-lymfom, intravaskulær stor B-cellelymfom, plasmacytom og multippel myelom.

20. Forbindelse for anvendelse ifølge krav 18, hvori den inflammatoriske lidelsen er valgt fra gruppen bestående av okular allergi, bindehinnekatarr, keratokonjunktivitt sicca, vernal bindehinnekatarr, allergisk rhinitt, autoimmune hematologiske lidelser (for eksempel hemolytisk anemi, aplastisk anemi, anemi i røde blodlegemer og idiopatisk trombocytopeni), systemisk lupus erythematosus, reumatoid artritt, polychondritt, skleroderma, Wegener granulamatose, dermatomyositt, kronisk aktiv hepatitt, myasthenia gravis, Steven- Johnson-syndrom, idiopatisk sprue, autoimmune inflammatorisk tarmsykdom (for eksempel, ulcerøs kolitt og Crohns sykdom), irritabel-tarm-syndrom, cøliaki-sykdom, periodontitt, hyalin-membran-sykdom, nyresykdom, glomerulær sykdom, alkoholrelatert leversykdom, multippel sklerose, endokrin oftalmopati, Graves sykdom, sarkoidose, alveolitt, kronisk hypersensibel pneumonitt, primær gallegirrhose, uveitt (tidligere og senere), Sjögrens syndrom, interstitial lungefibrose, psoriatisk artritt, systemisk idiopatisk artritt hos ungdom, nefritt, vaskulitt, divertikulitt, interstitiell cystitt, glomerulonefritt (for eksempel inkludert idiopatisk nevrotisk syndrom eller nevropati med minimal endring), kronisk granulomatøs sykdom, endometriose, leptospirose-nyresykdom, glaukom, netthinnnesykdom, hodepine, smerte, komplekst regionalt smertesyndrom, kardial hypertrofi, muskelsvinn, katabolske lidelser, fedme, retardert fostervekst, hyperkolesterol, hjertesykdom, kronisk hjertesvikt, mesoteliom, anhidrotisk ektodermal dysplasi, Behcets sykdom, incontinentia pigmenti, Pagets sykdom, pankreatitt, arvelig periodisk febersyndrom, astma, akutt lungeskade, akutt respiratorisk stresssyndrom, eosinofili, hyperfølsomheter, anafylaksi, fibrositt, gastritt, gastroenteritt, nasal sinusitt, okular allergi, silika-induserte sykdommer, kronisk obstruktiv lungesykdom (COPD), cystisk fibrose, syre-indusert lungeskade, pulmonal hypertensjon, polyneuropati, katarakter, muskel-inflammasjon i forbindelse med systemisk sklerose, inklusjonslegeme-myositt, myasteni gravis, tyreoiditt, Addisons sykdom, lichen planus, appendisitt, atopisk dermatitt, astma, allergi, blefaritt, bronkiolitt, bronkitt, bursitt, cervisitt, kolangitt, cholecystitt, kronisk transplantat-avvisning, kolitt, konjunktivitt, cystitt, dakryoadenitt, dermatitt, reumatoid artritt hos ungdom, dermatomyositt, encefalitt, endokarditt, endometritt, enteritt, enterokolitt, epikondylitt, epididymitt, fasciitis, purpura Henoch-Schönlein, hepatitt, hidradenitis suppurativa, immunoglobulin-A-nevropati, interstitiell lungesykdom, laryngitt, mastitt, meningitt, myelitt, myokarditt, myositt, nefritt, ooforitt, orkitt, osteitt, otitt, pankreatitt, parotitt, perikarditt, peritonitt, faryngitt, pleuritt, flebitt, pneumonitt, lungebetennelse, polymyositt, proktitt, prostatitt, pyelonefritt, rhinitt, salpingitt, sinusitt, stomatitt, synovitt, tendinitt, tonsillitt, ulcerøs kolitt, vaskulitt, vulvitt, alopeci areata, erythema multiforme, dermatitis herpetiformis skleroderma, vitiligo, hypersensitivitets-angiitt, urticaria, bulløs pemfigoid, pemfigus vulgaris, pemfigus foliaceus, paraneoplastisk pemfigus,

epidermolysis bullosa acquisita, akutt og kronisk gikt, kronisk gikt-artritt, psoriasis, psoriatisk artritt, reumatoid artritt, Cryopyrin-assosiert periodisk syndrom (CAPS) og osteoartritt.