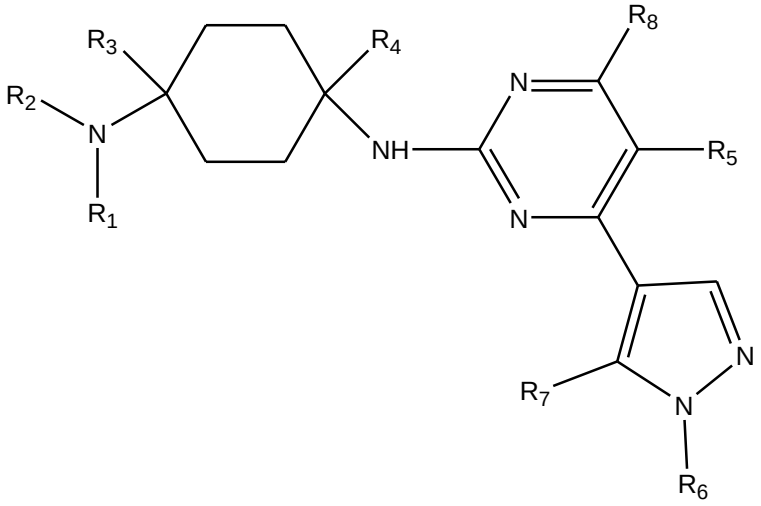
Claims

1. A compound having formula (I), or a stereoisomer or salt thereof:



(I)

wherein:

R_1 and R_2 are each independently selected from H; and straight and branched $C_1 – C_8$ alkyl, straight and branched $C_1 – C_5$ alkoxy, straight and branched $C_1 – C_5$ acyl, $C_5 – C_{15}$ aryl, and $C_3 – C_7$ heteroaryl, each optionally substituted by at least one of halide, hydroxyl, an ester, an ether, $C_5 – C_{15}$ aryl, $C_3 – C_7$ heteroaryl, and an amide; or

R_1 and R_2 together with the nitrogen atom they are connected to form a 4 – 7 membered saturated, unsaturated, or aromatic ring that may optionally include at least one of N, O, NH, C=N, C=O, and SO_2, and can optionally be substituted with at least one of straight or branched $C_1 – C_5$ alkyl, $C_5 – C_{15}$ aryl, $C_3 – C_7$ heteroaryl, hydroxyl, halide, and cyano;

R_3 and R_4 are each independently selected from H, and straight and branched $C_1 – C_8$ alkyl optionally substituted by at least one of halide, hydroxyl, alkoxy, $C_5 – C_{15}$ aryl, $C_3 – C_7$ heteroaryl, an ester, and an amide; or

R_1 or R_2 together with R_3 and the carbon and nitrogen atoms they are each connected to form a 4 – 7 membered saturated, unsaturated, or aromatic ring that may optionally include at least one of N, NH, O, C=N, C=O, and SO_2, and can optionally be substituted with at least one of straight or branched $C_1 – C_5$ alkyl, $C_5 – C_{15}$ aryl, $C_3 – C_7$ heteroaryl, hydroxyl, carbonyl, and halide;

R_5 and R_8 are each independently selected from H and halide; and straight and branched $C_1 – C_8$ alkyl, straight and branched $C_2 – C_8$ alkenyl, straight and branched $C_2 – C_8$ alkynyl, each optionally substituted by at least one halide;

R_6 is selected from straight and branched $C_1 – C_8$ alkyl, straight and branched $C_2 – C_8$ alkenyl, straight and branched $C_2 – C_8$ alkynyl, $C_5 – C_{10}$ cycloalkyl**,** and saturated and unsaturated 4 – 6 membered heterocyclyle, each optionally substituted by at least one of straight or branched $C_1 – C_8$ alkyl, $C_3 – C_7$ cycloalkyl, 4 – 6 membered heterocyclyle, $C_5 – C_{15}$ aryl, $C_3 – C_7$ heteroaryl, halide, hydroxyl, and $C_1 – C_5$ alkyl halide; and

R_7 is selected from straight and branched $C_1 – C_8$ alkyl, straight and branched $C_2 – C_8$ alkenyl, and straight and branched $C_2 – C_8$ alkynyl, each substituted by at least one $C_3 – C_7$ cycloalkyl, 4 – 6 membered heterocyclyle, $C_5 – C_{15}$ aryl, $C_3 – C_7$ heteroaryl, halide, hydroxyl, and $C_1 – C_5$ alkyl halide.

2. The compound according to claim 1, wherein R_1 and R_2 are each independently selected from H and straight or branched $C_1 – C_8$ alkyl optionally substituted by at least one of halide, $C_5 – C_{15}$ aryl, $C_3 – C_7$ heteroaryl, hydroxyl, an ester, an ether, and an amide.

3. The compound according to claim 1, wherein R_1 and R_2 are each independently selected from H and straight or branched $C_1 – C_5$ alkoxy optionally substituted by at least one of halide, hydroxyl, an ester, and an amide.

4. The compound according to claim 1, wherein R_1 and R_2 are each independently selected from H and $C_1 – C_5$ acyl optionally substituted by at least one of halide, hydroxyl, an ester, an ether, and an amide.

5. The compound according to claim 1, wherein R_1 and R_2 are each independently selected from H and $C_5 – C_{15}$ aryl optionally substituted by at least one of halide, hydroxyl, an ester, an ether, and an amide.

6. The compound according to any one of the preceding claims, wherein R_4 is H.

7. The compound according to any one of the preceding claims, wherein R_3 and R_4 are each H.

8. The compound according to any one of the preceding claims, wherein R_5 is selected from H, Cl, and straight and branched $C_1 – C_4$ alkyl.

9. The compound according to any one of the preceding claims, wherein R_5 is H.

10. The compound according to any one of the preceding claims, wherein R_8 is selected from H, Cl, and straight and branched $C_1 – C_4$ alkyl.

11. The compound according to any one of the preceding claims, wherein R_8 is H.

12. The compound according to any one of the preceding claims, wherein one of R_5 and R_8 is H.

13. The compound according to any one of the preceding claims, wherein at least one of R_1 and R_2 is H.

14. The compound according to any one of the preceding claims, wherein R_6 selected from straight and branched $C_1 – C_8$ alkyl, $C_5 – C_{10}$ cycloalkyl**,** and saturated and unsaturated 4 – 6 membered heterocyclyle; and R_7 is selected from straight and branched $C_1 – C_8$ alkyl substituted by at least one of $C_3 – C_7$ cycloalkyl, 4 – 6 membered heterocyclyle, $C_5 – C_{15}$ aryl, $C_3 – C_7$ heteroaryl, halide, hydroxyl, and $C_1 – C_5$ alkyl halide.

15. The compound according to any one of the preceding claims, wherein R_6 is selected from straight and branched $C_1 – C_8$ alkyl, $C_5 – C_{10}$ cycloalkyl, and 4 – 6 membered saturated heterocyclyle.

16. The compound according to any one of the preceding claims, wherein R_7 is straight or branched $C_1 – C_8$ alkyl substituted by at least one of $C_3 – C_7$ cycloalkyl and hydroxyl.

17. The compound according to claim 1, wherein R_6 is selected from straight and branched $C_1 – C_8$ alkyl, and saturated, unsaturated, and aromatic 4 – 6 membered heterocyclyle, each optionally substituted by at least one of straight or branched $C_1 – C_8$ alkyl, $C_3 – C_7$ cycloalkyl, halide, hydroxyl, and CF_3.

18. The compound according to any one of the preceding claims, wherein R_7 is straight or branched $C_1 – C_8$ alkyl substituted by at least one $C_3 – C_7$ cycloalkyl.

19. The compound according to claim 1, wherein R_1 and R_2 together with the nitrogen atom they are connected to form a 4 – 7 membered saturated ring optionally including at least one of N, O, NH, C=N, C=O, and SO_2; and optionally substituted with at least one of straight or branched $C_1 – C_5$ alkyl, hydroxyl, halide, and cyano.

20. The compound according to claim 1, wherein R_1 and R_2 together with the nitrogen atom they are connected to form a 4 – 7 membered saturated ring.

21. The compound according to claim 1, wherein R_1 and R_2 together with the nitrogen atom they are connected to form a 4 – 7 membered saturated ring including at least one of N and O.

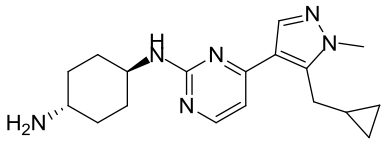
22. The compound according to claim 1, wherein R_1 and R_2 together with the nitrogen atom they are connected to form a 4 – 7 membered aromatic ring optionally including at least one of N and O.

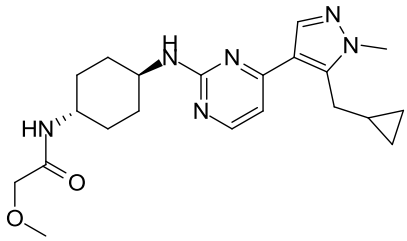
23. The compound according to any one of the preceding claims, wherein R_3 and R_4 are each H.

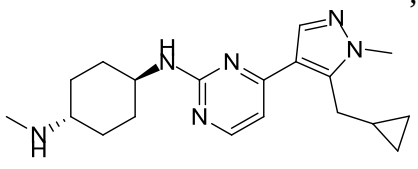
24. The compound according to claim 1, wherein R_1 or R_2 together with R_3 and the carbon and nitrogen atoms they are connected to form a 4 – 7 membered saturated ring that optionally includes at least one of N, NH, O, C=O, and SO_2, and can optionally be substituted with at least one of straight or branched C_1 – C_5 alkyl, hydroxyl, carbonyl, and halide.

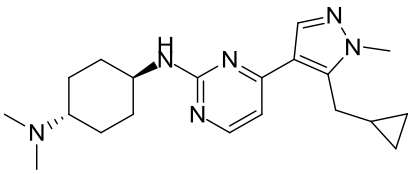
25. The compound according to claim 1, wherein R_1 or R_2 together with R_3 and the carbon and nitrogen atoms they are connected to form a 4 – 7 membered saturated ring that includes at least one of NH, O, and C=O.

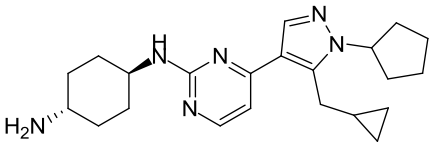
26. The compound according to claim 1, selected from:

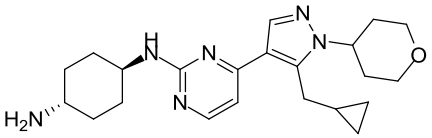
A14  ,

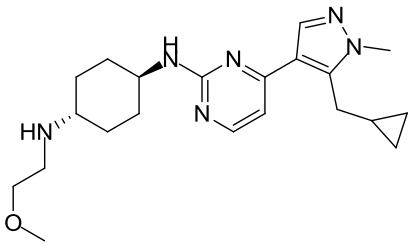
A29-1  ,

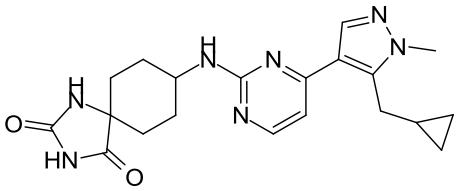
A27  ,

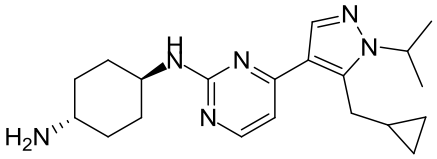
A28  ,

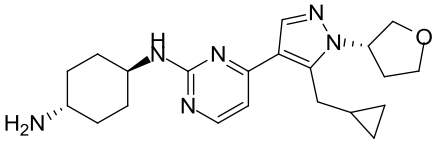
A36  ,

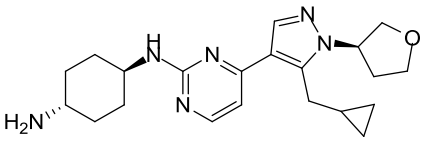
A39  ,

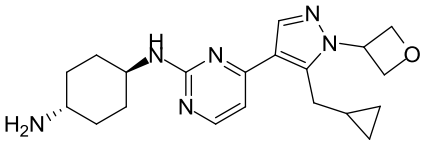
A29  ,

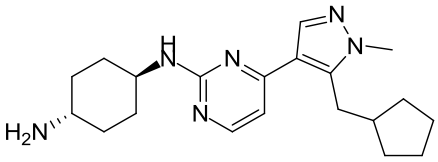
A19-4  ,

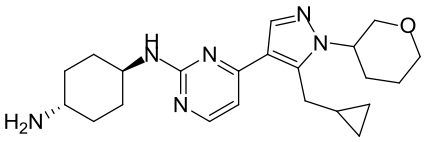
A35  ,

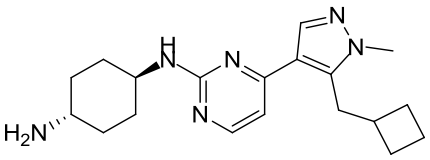
A41  ,

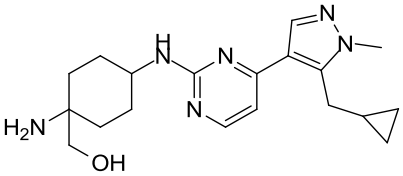
A42  ,

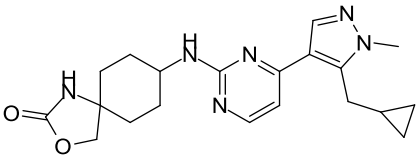
A43  ,

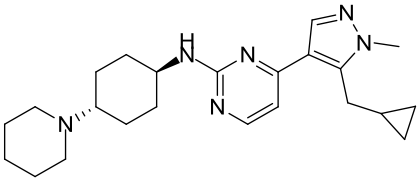
A46  ,

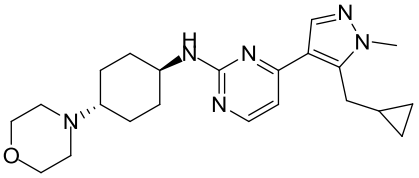
A38  ,

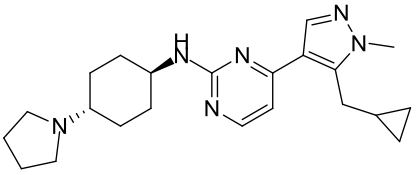
A45  ,

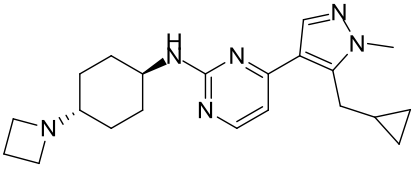
A19  ,

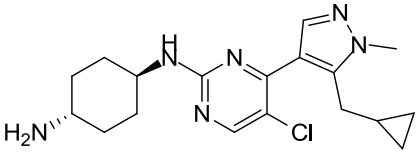
A26  ,

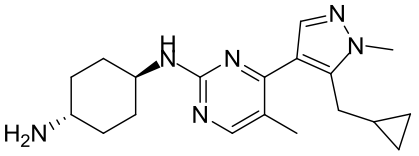
A47  ,

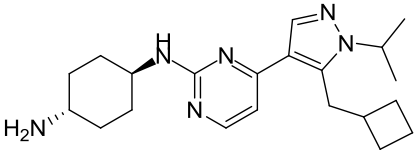
A48  ,

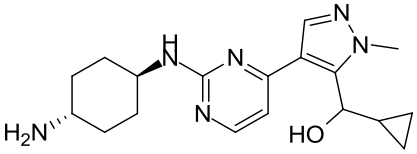
A49  ,

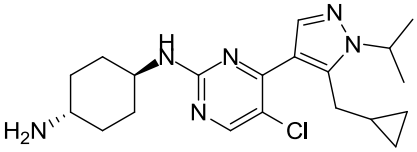
A50  ,

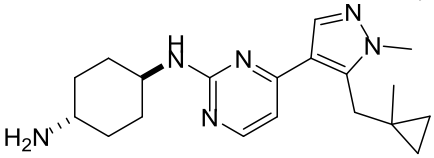
A51  ,

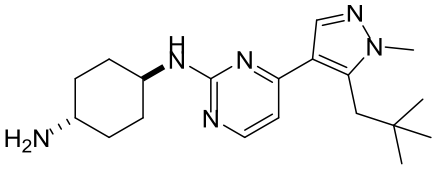
A52  ,

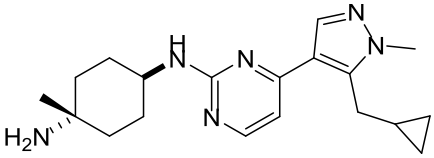
A53  ,

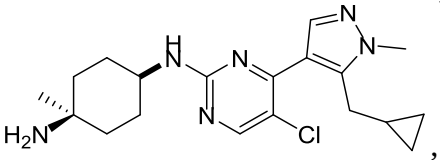
A58  ,

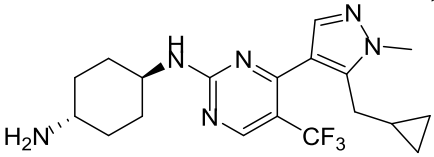
A59  ,

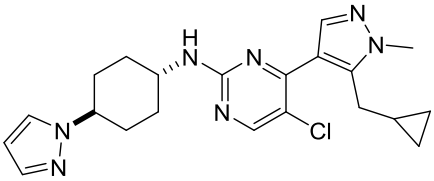
A56  ,

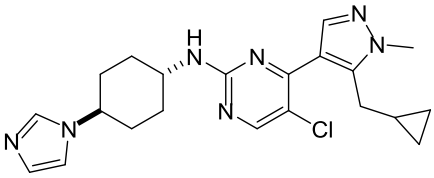
A57  ,

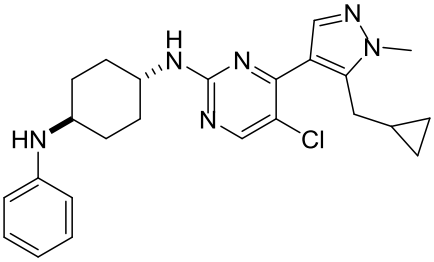
A30-1  ,

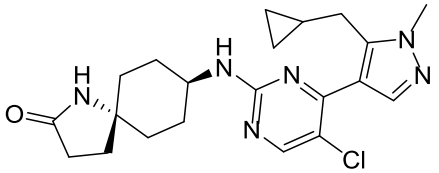
A30-2  ,

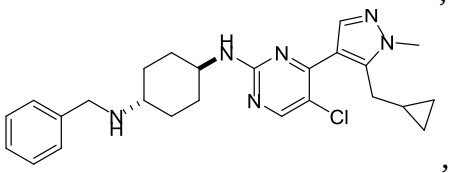
A60  ,

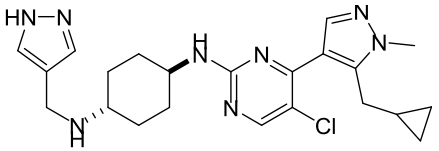
A64  ,

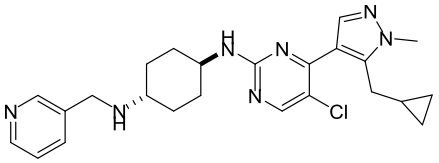
A65  ,

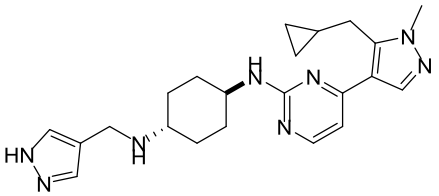
A68  ,

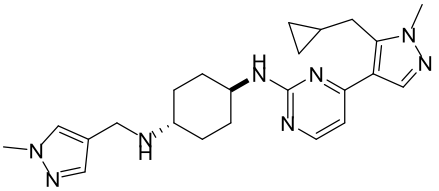
A71  ,

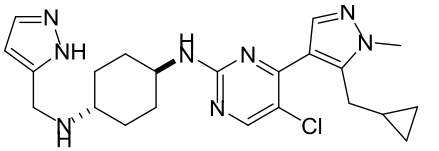
A74  ,

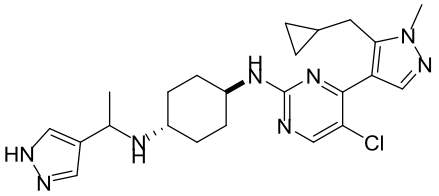
A75  ,

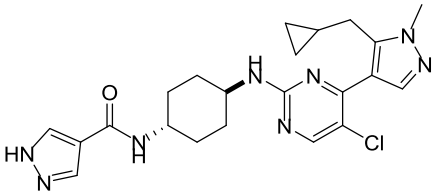
A76  ,

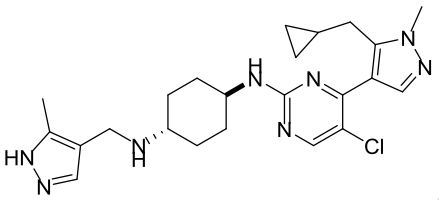
A80  ,

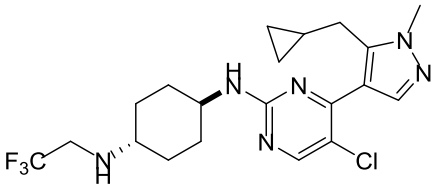
A81  ,

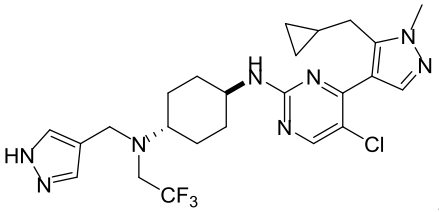
A82  ,

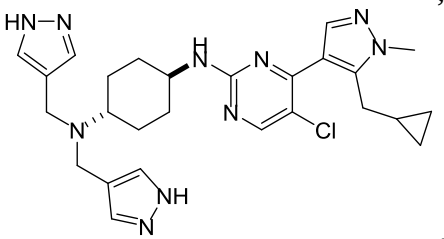
A83  ,

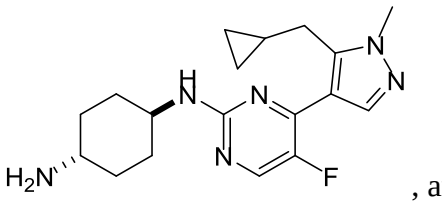
A87  ,

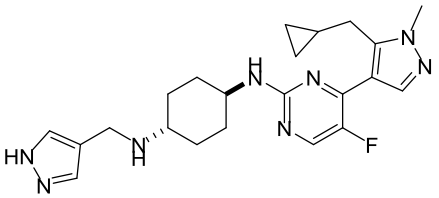
A91  ,

A94  ,

A95  ,

A96  ,

A86  , and

A85  ;

and salts thereof.

27. A composition comprising the compound according to any one of claims 1 to 26.

28. A compound according to any one of claims 1 to 26 for use in therapy.

29. A compound according to any one of claims 1 to 26 for use in inducing antitumor response.

30. A compound for use according to claim 29, wherein said antitumor response comprises cancer immunotherapy response.

31. A compound according to any one of claims 1 to 26 for use in the treatment of a malignant condition.

32. The compound for use according claim 31, wherein said malignant condition is cancer.

33. The compound for use according claim 31, wherein said malignant condition is selected from hematological malignancies, multiple myeloma, myelodysplastic syndrome (MDS), acute myeloid leukemia (AML), melanoma, ER-negative breast cancer, diffuse large B cell lymphoma (DLBCL), chronic myelogenous leukemia (CML), chronic lymphocytic leukemia (CLL), and head and neck cancer.

34. The compound for use according claim 32, wherein said cancer has WT p53.

35. A compound according to any one of claims 1 to 26 for use in the treatment of cancer having WT p53, wherein said WT p53 is a biomarker for said compound efficacy.

36. The compound for use according claim 32, wherein said cancer is selected from multiple myeloma, leukemia, malignant melanoma, breast cancer, prostate cancer, and colorectal cancer.

37. The compound for use according to any one of claims 31 to 36 in further inducing cancer immunotherapy response.

38. A compound according to any one of claims 1 to 26 for use in the treatment of an inflammatory or immune related disorder.

39. Use of the compound according to any one of claims 1 to 26 in the manufacture of a medicament for treating a malignant condition, wherein said malignant condition is selected from hematological malignancies, multiple myeloma, myelodysplastic syndrome (MDS), acute myeloid leukemia (AML), melanoma, ER-negative breast cancer, diffuse large B cell lymphoma (DLBCL), chronic myelogenous leukemia (CML), chronic lymphocytic leukemia (CLL), and head and neck cancer.

40. The use according to claim 39, wherein said malignant condition is cancer.

41. The use according to claim 40, wherein said cancer has WT p53.

42. The use according to claim 40, wherein said cancer is selected from leukemia, multiple myeloma, malignant melanoma, breast cancer, prostate cancer, and colorectal cancer.

43. Use of the compound according to any one of claims 1 to 26 in the manufacture of a medicament for inducing an immunotherapy response.

44. Use of the compound according to any one of claims 1 to 26 in the manufacture of a medicament for treating an inflammatory or immune related disorder.