What is Claimed

1. Use of a pharmaceutical composition comprising a compound selected from (E) isomer, (Z) isomer, and a mixture of (E) and (Z) isomer of 2-[(3R)-3-[4-amino-3-(2-fluoro-4-phenoxy-phenyl)pyrazolo[3,4-d]pyrimidin-1-yl]piperidine-1-carbonyl]-4-methyl-4-[4-(oxetan-3-yl)piperazin-1-yl]pent-2-enenitrile, or a pharmaceutically acceptable salt of any of the foregoing compounds, in the preparation of a medicament for the treatment of pemphigus vulgaris in a mammal.

2. Use of a compound selected from (E) isomer, (Z) isomer, and a mixture of (E) and (Z) isomer of 2-[(3R)-3-[4-amino-3-(2-fluoro-4-phenoxy-phenyl)pyrazolo[3,4-d]pyrimidin-1-yl]piperidine-1-carbonyl]-4-methyl-4-[4-(oxetan-3-yl)piperazin-1-yl]pent-2-enenitrile, or a pharmaceutically acceptable salt of any of the foregoing compounds, in the preparation of a medicament for the treatment of pemphigus vulgaris or pemphigus foliaceus in a mammal in need thereof; wherein said medicament is to be used in place of or in combination with said corticosteroid therapy; wherein corticosteroid therapy is to be used as the first or second line therapy; and

wherein said (E) isomer, (Z) isomer, or a mixture of (E) and (Z) isomer of 2-[(3R)-3-[4-amino-3-(2-fluoro-4-phenoxy-phenyl)pyrazolo[3,4-d]pyrimidin-1-yl]piperidine-1-carbonyl]-4-methyl-4-[4-(oxetan-3-yl)piperazin-1-yl]pent-2-enenitrile, or a pharmaceutically acceptable salt of any of the foregoing compounds, is to be optionally administered in combination with a noncorticosteroidal immunosupressive and/or antiinflammatory agent.

3. Use of a compound selected from (E) isomer, (Z) isomer, and a mixture of (E) and (Z) isomer of 2-[(3R)-3-[4-amino-3-(2-fluoro-4-phenoxy-phenyl)pyrazolo[3,4-d]pyrimidin-1-yl]piperidine-1-carbonyl]-4-methyl-4-[4-(oxetan-3-yl)piperazin-1-yl]pent-2-enenitrile, or a pharmaceutically acceptable salt of any of the foregoing compounds, in the preparation of a medicament for the treatment of pemphigus vulgaris or pemphigus foliaceus in a mammal in need thereof; wherein said medicament is to be used in place of or in combination with said corticosteroid therapy, wherein said corticosteroid therapy is used as the first or second line maintenance therapy; and

wherein said (E) isomer, (Z) isomer, or a mixture of (E) and (Z) isomer of 2-[(3R)-3-[4-amino-3-(2-fluoro-4-phenoxy-phenyl)pyrazolo[3,4-d]pyrimidin-1-yl]piperidine-1-carbonyl]-4-methyl-4-[4-(oxetan-3-yl)piperazin-1-yl]pent-2-enenitrile, or a pharmaceutically

acceptable salt of any of the foregoing compounds, is to be optionally administered in combination with a noncorticosteroidal immunosupressive and/or antiinflammatory agent.

4. The use according to claim 1 to 3, wherein the compound is a substantially pure (E) or (Z) isomer of 2-[(3R)-3-[4-amino-3-(2-fluoro-4-phenoxy-phenyl)pyrazolo[3,4-d]pyrimidin-1-yl]piperidine-1-carbonyl]-4-methyl-4-[4-(oxetan-3-yl)piperazin-1-yl]pent-2-enenitrile; or a pharmaceutically acceptable salt of the compound, and wherein the mammal is a human.

5. The use according to Claim 4, wherein at least 85% w/w of 2-[(3R)-3-[4-amino-3-(2-fluoro-4-phenoxy-phenyl)pyrazolo[3,4-d]pyrimidin-1-yl]piperidine-1-carbonyl]-4-methyl-4-[4-(oxetan-3-yl)piperazin-1-yl]pent-2-enenitrile or at least 85% w/w of a pharmaceutically acceptable salt of 2-[(3R)-3-[4-amino-3-(2-fluoro-4-phenoxy-phenyl)pyrazolo[3,4-d]pyrimidin-1-yl]piperidine-1-carbonyl]-4-methyl-4-[4-(oxetan-3-yl)piperazin-1-yl]pent-2-enenitrile is the (E) isomer, preferably wherein at least 90% w/w of 2-[(3R)-3-[4-amino-3-(2-fluoro-4-phenoxy-phenyl)pyrazolo[3,4-d]pyrimidin-1-yl]piperidine-1-carbonyl]-4-methyl-4-[4-(oxetan-3-yl)piperazin-1-yl]pent-2-enenitrile or at least 90% w/w of a pharmaceutically acceptable salt of 2-[(3R)-3-[4-amino-3-(2-fluoro-4-phenoxy-phenyl)pyrazolo[3,4-d]pyrimidin-1-yl]piperidine-1-carbonyl]-4-methyl-4-[4-(oxetan-3-yl)piperazin-1-yl]pent-2-enenitrile is the (E) isomer.

6. The use according to any of Claims 1 to 5, wherein the compound is 2-[(3R)-3-[4-amino-3-(2-fluoro-4-phenoxy-phenyl)pyrazolo[3,4-d]pyrimidin-1-yl]piperidine-1-carbonyl]-4-methyl-4-[4-(oxetan-3-yl)piperazin-1-yl]pent-2-enenitrile.

7. A sulfonic acid or carboxylic acid salt of a compound selected from (E) isomer, (Z) isomer, and a mixture of (E) and (Z) isomer of 2-[(3R)-3-[4-amino-3-(2-fluoro-4-phenoxy-phenyl)pyrazolo[3,4-d]-pyrimidin-1-yl]piperidine-1-carbonyl]-4-methyl-4-[4-(oxetan-3-yl)piperazin-1-yl]pent-2-enenitrile, preferably wherein the sulfonic acid or carboxylic acid salt is mono- or di-methanesulfonic acid salt.

8. An amorphous form of a pharmaceutically acceptable salt of a compound selected from (E) isomer, (Z) isomer, and a mixture of (E) and (Z) isomer of 2-[(3R)-3-[4-amino-3-(2-fluoro-4-phenoxy-phenyl)pyrazolo[3,4-d]-pyrimidin-1-yl]piperidine-1-carbonyl]-4-methyl-4-[4-(oxetan-3-yl)piperazin-1-yl]pent-2-enenitrile.

9. The amorphous form of the pharmaceutically acceptable salt of the compound of Claim 8, wherein the pharmaceutically acceptable salt is a sulfonic acid or a carboxylic acid salt, preferably wherein the pharmaceutically acceptable salt is mono- or di-methanesulfonic acid salt.

10. The amorphous form of the pharmaceutically acceptable salt of the compound of Claim 8 or 9, wherein the amorphous form is substantially free of any crystalline form(s) of the pharmaceutically acceptable salt of said compound.

11. The amorphous form of the pharmaceutically acceptable salt of the compound of any of Claims 8-10, wherein at least about 90% w/w of the pharmaceutically acceptable salt of said compound is in amorphous form.

12. The sulfonic acid or carboxylic acid salt of the compound of Claim 7, wherein the pharmaceutically acceptable salt of said compound is a substantially pure (E) or (Z) isomer.

13. The amorphous form of the pharmaceutically acceptable salt of the compound of any of Claims 8-11, wherein the pharmaceutically acceptable salt of said compound is a substantially pure (E) or (Z) isomer.

14. The sulfonic acid or carboxylic acid salt of the compound of Claim 12, wherein at least about 80% w/w of the salt of the compound is the (E) isomer, preferably wherein at least about 90% w/w of the pharmaceutically acceptable salt of the compound is the (E) isomer.

15. The amorphous form of the pharmaceutically acceptable salt of the compound of Claim 13, wherein at least about 80% w/w of the pharmaceutically acceptable salt of the compound is the (E) isomer, preferably wherein at least about 90% w/w of the pharmaceutically acceptable salt of the compound is the (E) isomer.

16. A pharmaceutical composition comprising the sulfonic acid or carboxylic acid salt of any of Claims 7, 12 and 14 or the amorphous form of a pharmaceutically acceptable salt of any of Claims 8-11, 13 and 15.

17. Use of the pharmaceutical composition of Claim 16 in the preparation of a medicament for the treatment of pemphigus vulgaris in a mammal in need of such treatment.

18. The use according to Claim 17, wherein the mammal is a human.

19. Use of: a compound selected from (E) isomer, (Z) isomer, and a mixture of (E) and (Z) isomer of 2-[(3R)-3-[4-amino-3-(2-fluoro-4-phenoxy-phenyl)pyrazolo[3,4-d]pyrimidin-1-yl]piperidine-1-carbonyl]-4-methyl-4-[4-(oxetan-3-yl)piperazin-1-yl]pent-2-enenitrile; or a pharmaceutically acceptable salt of any of the foregoing compounds in the preparation of a medicament for the treatment of lupus nephritis in a mammal.

20. The use of claim 19, wherein the mammal is a human.

21. The use of claim 19, wherein the pharmaceutical composition comprises at least one compound which is a substantially pure (E) or (Z) isomer of 2-[(3R)-3-[4-amino-3-(2-fluoro-4-phenoxy-phenyl)pyrazolo[3,4-d]pyrimidin-1-yl]piperidine-1-carbonyl]-4-methyl-4-[4-(oxetan-3-yl)piperazin-1-yl]pent-2-enenitrile, and/or at least one pharmaceutically acceptable salt of the compound; and at least one pharmaceutically acceptable carrier or excipient.

22. The use of claim 21, wherein at least about 85% w/w of 2-[(3R)-3-[4-amino-3-(2-fluoro-4-phenoxy-phenyl)pyrazolo[3,4-d]pyrimidin-1-yl]piperidine-1-carbonyl]-4-methyl-4-[4-(oxetan-3-yl)piperazin-1-yl]pent-2-enenitrile or at least about 85% w/w of a pharmaceutically acceptable salt of 2-[(3R)-3-[4-amino-3-(2-fluoro-4-phenoxy-phenyl)pyrazolo[3,4-d]pyrimidin-1-yl]piperidine-1-carbonyl]-4-methyl-4-[4-(oxetan-3-yl)piperazin-1-yl]pent-2-enenitrile is the (E) isomer.

23. Use of a pharmaceutical composition comprising a compound selected from (E) isomer, (Z) isomer, and a mixture of (E) and (Z) isomer of 2-[(3R)-3-[4-amino-3-(2-fluoro-4-phenoxy-phenyl)pyrazolo[3,4-d]pyrimidin-1-yl]piperidine-1-carbonyl]-4-methyl-4-[4-(oxetan-3-yl)piperazin-1-yl]pent-2-enenitrile; or a pharmaceutically acceptable salt of any of the foregoing compounds in the preparation of a medicament for the treatment of pemphigus foliaceus in a mammal.

24. The use of claim 23, wherein the mammal is a human.

25. The use of claim 23, wherein the pharmaceutical composition comprises at least one compound which is a substantially pure (E) or (Z) isomer of 2-[(3R)-3-[4-amino-3-(2-fluoro-4-phenoxy-phenyl)pyrazolo[3,4-d]pyrimidin-1-yl]piperidine-1-carbonyl]-4-methyl-4-[4-(oxetan-3-yl)piperazin-1-yl]pent-2-enenitrile, and/or at least one pharmaceutically acceptable salt of the compound; and at least one pharmaceutically acceptable carrier or excipient.

26. The use of claim 25, wherein at least about 85% w/w of 2-[(3R)-3-[4-amino-3-(2-fluoro-4-phenoxy-phenyl)pyrazolo[3,4-d]pyrimidin-1-yl]piperidine-1-carbonyl]-4-methyl-4-[4-(oxetan-3-yl)piperazin-1-yl]pent-2-enenitrile or at least about 85% w/w of a pharmaceutically acceptable salt of 2-[(3R)-3-[4-amino-3-(2-fluoro-4-phenoxy-phenyl)pyrazolo[3,4-d]pyrimidin-1-yl]piperidine-1-carbonyl]-4-methyl-4-[4-(oxetan-3-yl)piperazin-1-yl]pent-2-enenitrile is the (E) isomer.

27. Use of a pharmaceutical composition comprising a compound selected from (E) isomer, (Z) isomer, and a mixture of (E) and (Z) isomer of 2-[(3R)-3-[4-amino-3-(2-fluoro-4-phenoxy-phenyl)pyrazolo[3,4-d]pyrimidin-1-yl]piperidine-1-carbonyl]-4-methyl-4-[4-(oxetan-3-yl)piperazin-1-yl]pent-2-enenitrile; or a pharmaceutically acceptable salt of any of the foregoing compounds in the preparation of a medicament for the treatment of pemphigus vulgaris in a mammal.

28. The use of claim 27, wherein the pharmaceutical composition comprises at least one compound which is a substantially pure (E) or (Z) isomer of 2-[(3R)-3-[4-amino-3-(2-fluoro-4-phenoxy-phenyl)pyrazolo[3,4-d]pyrimidin-1-yl]piperidine-1-carbonyl]-4-methyl-4-[4-(oxetan-3-yl)piperazin-1-yl]pent-2-enenitrile, and/or at least one pharmaceutically acceptable salt of the compound; and at least one pharmaceutically acceptable carrier or excipient.

29. The use of claim 28, wherein at least about 85% w/w of 2-[(3R)-3-[4-amino-3-(2-fluoro-4-phenoxy-phenyl)pyrazolo[3,4-d]pyrimidin-1-yl]piperidine-1-carbonyl]-4-methyl-4-[4-(oxetan-3-yl)piperazin-1-yl]pent-2-enenitrile or at least about 85% w/w of a pharmaceutically acceptable salt of 2-[(3R)-3-[4-amino-3-(2-fluoro-4-phenoxy-phenyl)pyrazolo[3,4-d]pyrimidin-1-yl]piperidine-1-carbonyl]-4-methyl-4-[4-(oxetan-3-yl)piperazin-1-yl]pent-2-enenitrile is the (E) isomer.