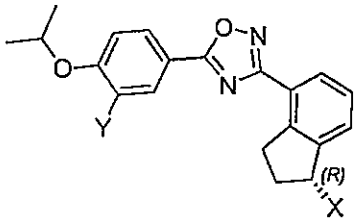
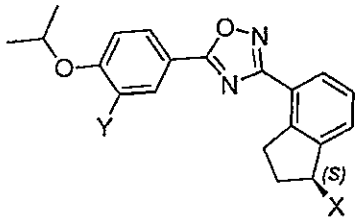
CLAIMS

1. A compound of Formula I-R or Formula I-S or a mixture thereof in any ratio:



I-R



I-S

or pharmaceutically acceptable salt thereof,

wherein

X is $-NH_2$, $-NHC(=O)CH_3$ or $-NHCH_2COOH$, and

Y is –CN.

2. The compound of claim 1 wherein X is $-NH_2$.

3. The compound of claim 1 wherein X is $-NHC(=O)CH_3$.

4. The compound of claim 1 wherein X is $-NHCH_2COOH$.

5. The compound of claim 1 wherein the compound is a racemic mixture of Formula I-R and Formula I-S.

6. The compound of claim 1 wherein the compound is enriched in Formula I-R compared to Formula I-S.

7. The compound of claim 6 wherein the compound is a substantially enantiomerically pure form of Formula I-R.

8. The compound of claim 7 wherein the level of enrichment of Formula I-R with respect to Formula I-S is at least 95%.

9. The compound of claim 7 wherein the level of enrichment of Formula I-R with respect to Formula I-S is at least 99%.

10. The compound of claim 1 wherein the compound is enriched in Formula I-S compared to Formula I-R.

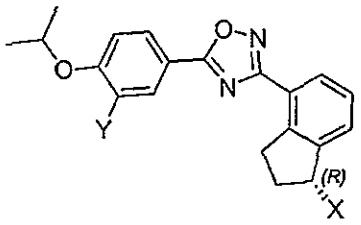
11. The compound of claim 10 wherein the compound is a substantially enantiomerically pure form of Formula I-S.

12. The compound of claim 11 wherein the level of enrichment of Formula I-S with respect to Formula I-R is at least 95%.

13. The compound of claim 11 wherein the level of enrichment of Formula I-S with respect to Formula I-R is at least 99%.

14. A composition comprising a compound of any one of claims 1-13 in combination with a pharmaceutically acceptable carrier or diluent.

15. An isolated optical isomer of Formula I-R:



I-R

or pharmaceutically acceptable salt thereof,

wherein

X is $-NH_2$, $-NHC(=O)CH_3$ or $-NHCH_2COOH$, and

Y is –CN.

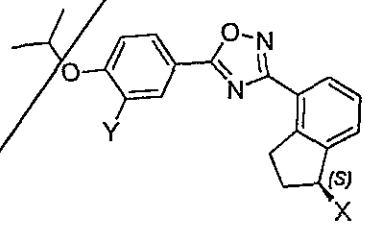
16. The isomer of claim 15 wherein X is $-NH_2$.

17. The isomer of claim 15 wherein X is $-NHC(=O)CH_3$.

18. The isomer of claim 15 wherein X is $-NHCH_2COOH$.

19. A composition comprising an isomer of any one of claims 15-18 in combination with a pharmaceutically acceptable carrier or diluent.

20. An isolated optical isomer of Formula I-S:



I-S

or pharmaceutically acceptable salt thereof,

wherein

X is $-NH_2$, $-NHC(=O)CH_3$ or $-NHCH_2COOH$, and

Y is –CN.

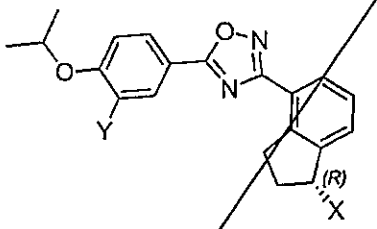
21. The isomer of claim 20 wherein X is $-NH_2$.

22. The isomer of claim 20 wherein X is $-NHC(=O)CH_3$.

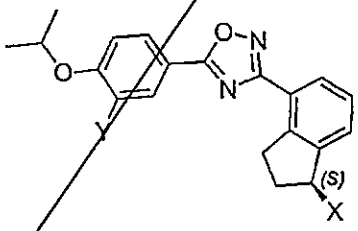
23. The isomer of claim 20 wherein X is $-NHCH_2COOH$.

24. A composition comprising an isomer of any one of claims 20-23 in combination with a pharmaceutically acceptable carrier or diluent.

25. Use of an effective amount of a compound of Formula I-R or Formula I-S, or a pharmaceutically acceptable salt thereof, in the manufacture of a medicament for treating inflammatory bowel disease (IBD) in a patient, wherein Formula I-R and Formula I-S are:



I-R



I-S

wherein

X is $-NH_2$,$-NHCH_2CH_2OH$, $-NHC(=O)CH_3$ or $-NHCH_2COOH$, and

Y is $-CN$.

26. The use of claim 25 wherein X is $-NH_2$.

27. The use of claim 25 wherein X is $-NHCH_2CH_2OH$.

28. The use of claim 25 wherein X is -NHC(=O)CH_3.

29. The use of claim 25 wherein X is –$NHCH_2COOH$.

30. The use of any one of claims 26 to 29 wherein the compound is a racemic mixture of Formula I-R and Formula I-S.

31. The use of any one of claims 26 to 29 wherein the compound is enriched in Formula I-R compared to Formula I-S.

32. The use of claim 31 wherein the compound is a substantially enantiomerically pure form of Formula I-R.

33. The use of claim 32 wherein the level of enrichment of Formula I-R with respect to Formula I-S is at least 95%.

34. The use of claim 32 wherein the level of enrichment of Formula I-R with respect to Formula I-S is at least 99%.

35. The use of claim 25 wherein the compound is enriched in Formula I-S compared to Formula I-R.

36. The use of claim 35 wherein the compound is a substantially enantiomerically pure form of Formula I-S.

37. The use of claim 36 wherein the level of enrichment of Formula I-S with respect to Formula I-R is at least 95%.

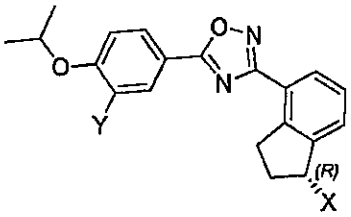
38. The use of claim 36 wherein the level of enrichment of Formula I-S with respect to Formula I-R is at least 99%.

39. The use of any one of claims 25-38 wherein the IBD is ulcerative colitis.

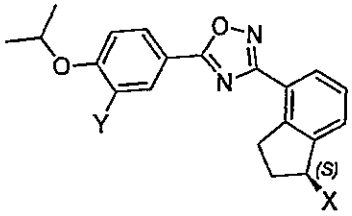
40. The use of any one of claims 25-38 wherein the IBD is Crohn's disease.

Claims

1. A compound of Formula I-R or Formula I-S or a mixture thereof in any ratio:



I-R



I-S

or pharmaceutically acceptable salt thereof,

wherein

X is $-NH_2$, or $-NHCH_2COOH$, and

Y is –CN.

2. The compound of claim 1 wherein X is $-NH_2$.

3. The compound of claim 1 wherein X is $-NHCH_2COOH$.

4. The compound of claim 1 wherein the compound is a racemic mixture of Formula I-R and Formula I-S.

5. The compound of claim 1 wherein the compound is enriched in Formula I-R compared to Formula I-S.

6. The compound of claim 5 wherein the compound is a substantially enantiomerically pure form of Formula I-R.

7. The compound of claim 6 wherein the level of enrichment of Formula I-R with respect to Formula I-S is at least 95%.

8. The compound of claim 6 wherein the level of enrichment of Formula I-R with respect to Formula I-S is at least 99%.

9. The compound of claim 1 wherein the compound is enriched in Formula I-S compared to Formula I-R.

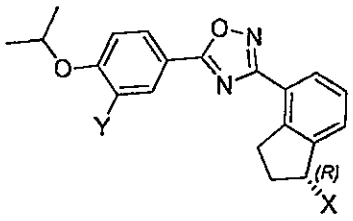
10. The compound of claim 9 wherein the compound is a substantially enantiomerically pure form of Formula I-S.

11. The compound of claim 10 wherein the level of enrichment of Formula I-S with respect to Formula I-R is at least 95%.

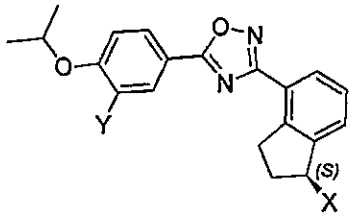
12. The compound of claim 10 wherein the level of enrichment of Formula I-S with respect to Formula I-R is at least 99%.

13. A composition comprising a compound of any one of claims 1-12 in combination with a pharmaceutically acceptable carrier or diluent.

14. A compound of Formula I-R or Formula I-S, or a pharmaceutically acceptable salt thereof for use in a method for treating an inflammatory bowel disease (IBD) at a frequency and for a duration of time sufficient to provide a beneficial effect to the patient,



I-R



I-S

wherein

X is $-NH_2$,-$NHCH_2CH_2OH$, or $-NHCH_2COOH$, and

Y is –CN.

15. The compound for use of claim 14 wherein X is $-NH_2$.

16. The compound for use of claim 14 wherein X is $-NHCH_2CH_2OH$.

17. The compound for use of claim 14 wherein X is $-NHCH_2COOH$.

18. The compound for use of claim 14 wherein the compound is a racemic mixture of Formula I-R and Formula I-S.

19. The compound for use of claim 14 wherein the compound is enriched in Formula I-R compared to Formula I-S.

20. The compound for use of claim 19 wherein the compound is a substantially enantiomerically pure form of Formula I-R.

21. The compound for use of claim 20 wherein the level of enrichment of Formula I-R with respect to Formula I-S is at least 95%.

22. The compound for use of claim 20 wherein the level of enrichment of Formula I-R with respect to Formula I-S is at least 99%.

23. The compound for use of claim 14 wherein the compound is enriched in Formula I-S compared to Formula I-R.

24. The compound for use of claim 23 wherein the compound is a substantially enantiomerically pure form of Formula I-S.

25. The compound for use of claim 24 wherein the level of enrichment of Formula I-S with respect to Formula I-R is at least 95%.

26. The compound for use of claim 24 wherein the level of enrichment of Formula I-S with respect to Formula I-R is at least 99%.

27. The compound for use of any one of claims 14-26 wherein the IBD is ulcerative colitis.

28. The compound for use of any one of claims 14-26 wherein the IBD is Crohn's disease.