CLAIMS

What is claimed is:

1. A method of preventing a disease resulting from a dengue virus (DENV) infection in a human subject, comprising:

a) administering to the human subject at least one initial dose of about 40 to about 600 mg of a compound of Formula (I) or a pharmaceutically acceptable salt thereof, or a pharmaceutical composition comprising about 40 to about 600 mg of a compound of Formula (I) or a pharmaceutically acceptable salt thereof; and

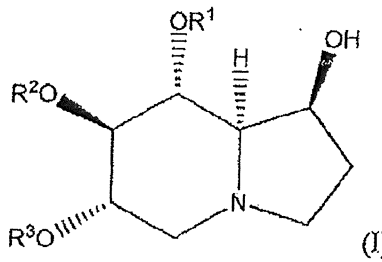
b) administering to the human subject a plurality of subsequent doses of about 25 to about 400 mg of a compound of Formula (I) or a pharmaceutically acceptable salt thereof, or a pharmaceutical composition comprising about 25 to about 400 mg of a compound of Formula (I) or a pharmaceutically acceptable salt thereof,

wherein not more than 600mg of a compound of Formula (I) is administered per day,

wherein the human subject is asymptomatic at the time of administration of the at least one initial dose,

wherein said subsequent doses are administered once, twice, three, or four times per day during potential exposure of at least one serotype of dengue virus, and

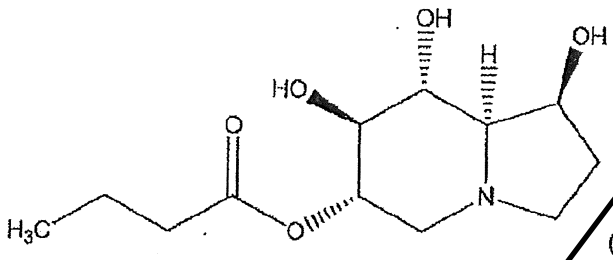
wherein Formula (I) has the following structure,



(I),

wherein R^1, R^2, and R^3 are independently H, (C_1-C_{14}) acyl, (C_1-C_{14}) alkenylacyl, (C_3-C_8) cycloalkylacyl, (C_1-C_{14}) haloalkylacyl (C_1-C_8) alkoxyacyl, or (C_6-C_{10}) arylacyl.

2. The method of Claim 1, wherein the compound of Formula (I), is a compound of Formula (II):



(II),

3. A method of preventing a disease resulting from a dengue virus (DENV) infection in a human subject, comprising:

a) administering to the human subject at least one initial dose of about 40 to about 600 mg of a compound of Formula (III) or a pharmaceutically acceptable salt thereof, or a pharmaceutical composition comprising about 40 to about 600 mg of a compound of Formula (III) or a pharmaceutically acceptable salt thereof, ; and

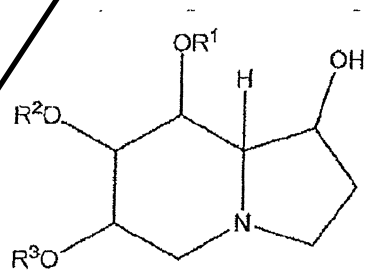
b) administering to the human subject a plurality of subsequent doses of about 25 to about 400 mg of a compound of Formula (III) or a pharmaceutically acceptable salt thereof, or a pharmaceutical composition comprising about 25 to about 400 mg of a compound of Formula (III) or a pharmaceutically acceptable salt thereof,

wherein not more than 600mg of a compound of Formula (III) is administered per day,

wherein the human subject is asymptomatic at the time of administration of the at least one initial dose,

wherein said subsequent doses are administered once, twice, three, or four times per day during potential exposure of at least one serotype of dengue virus, and

wherein Formula (III) has the following structure,



(III),

wherein R^1, R^2, and R^3 are independently H, (C_1-C_{14}) acyl, (C_1-C_{14}) alkenylacyl, (C_3-C_8) cycloalkylacyl, (C_1-C_{14}) haloalkylacyl (C_1-C_8) alkoxyacyl, or (C_6-C_{10}) arylacyl.

4. The method of any one of Claims 1-3, wherein the human subject is an adult or a child.

5. The method of any one of Claims 1-3, wherein the compound of Formula (I), the compound of Formula (II), or the compound of Formula (III) is converted to castanospermine after administration to a human subject.

6. The method of any one of Claims 1-5, wherein a steady state Cmin serum or plasma concentration of between about 0.4 and about 2.0 microgram/mL of castanospermine in an adult or child human subject is attained after administrations of initial and subsequent doses.

7. The method of any one of Claims 1-5, wherein a steady state Cmin serum or plasma concentration of between about 1.0 and about 2.0 microgram/mL of castanospermine in an adult or child human subject is attained after administrations of the initial and subsequent doses.

8. The method of any one of Claims 1-5, wherein a steady state Cmin serum or plasma concentration of between about 1.0 and about 1.5 microgram/mL of castanospermine in an adult or child human subject is attained after administrations of the initial and subsequent doses.

9. The method of any one of Claims 1-5, wherein a steady state Cmin serum or plasma concentration of between about 1.5 and about 2.0 microgram/mL of castanospermine in an adult or child human subject is attained after administrations of the initial and subsequent doses.

10. The method of any one of Claims 1-5, wherein a steady state Cmin serum or plasma concentration of between about 1.25 and about 1.75 microgram/mL of castanospermine in an adult or child human subject is attained after administrations of the initial and subsequent doses.

11. The method of any one of Claims 1-5, wherein a steady state Cmin serum or plasma concentration of between about 0.4 and about 1 microgram/mL of castanospermine in an adult or child human subject is attained after administrations of the initial and subsequent doses.

12. The method of any one of Claims 1-5, wherein a steady state Cmin serum or plasma concentration of between about 0.75 and about 1.25 microgram/mL of castanospermine in an adult or child human subject is attained after administrations of the initial and subsequent doses

13. The method of any one of Claims 1-12, wherein the dengue virus infection comprises at least one dengue virus selected from DENV1, DENV2, DENV3, and DENV4.

14. The method of any one of Claims 1 -13, wherein the dengue virus infection is a secondary dengue infection.

15. The method of any one of Claims 1-14, wherein the compound, or the pharmaceutical composition, is administered orally or sublingually.

16. The method of any one of Claims 1-15, wherein the human subject is administered an initial dose of about 150 mg and is administered a subsequent dose of about 100 mg every 6 hours, 8 hours, or 12 hours for between about 5 days to about 30 days.

17. The method of any one of Claims 1-15, wherein the human subject is administered an initial dose of about 150 mg and is administered a subsequent dose of about 150 mg every 6 hours for between about 5 days to about 30 days.

18. The method of any one of Claims 1-15, wherein the human subject is administered an initial dose of about 150 mg and is administered a subsequent dose of about 150 mg every 8 hours for between about 5 days to about 30 days.

19. The method of any one of Claims 1-15, wherein the human subject is administered an initial dose of about 150 mg and is administered a subsequent dose of about 150 mg every 12 hours for between about 5 days to about 30 days.

20. The method of any one of Claims 1-15, wherein the human subject is administered an initial dose of about 150 mg and is administered a subsequent dose of about 200 mg every 6 hours, 8 hours, or 12 hours for between about 5 days to about 30 days.

21. The method of any one of Claims 1-15, wherein the human subject is administered an initial dose of about 200 mg and is administered a subsequent dose of about 100 mg every 6 hours, 8 hours, or 12 hours for between about 5 days to about 30 days.

22. The method of any one of Claims 1-15, wherein the human subject is administered an initial dose of about 200 mg and is administered a subsequent dose of about 150 every 6 hours, 8 hours, or 12 hours for between about 5 days to about 30 days.

23. The method of any one of Claims 1-15, wherein the human subject is administered an initial dose of about 200 mg and is administered a subsequent dose of about 200 mg every 6 hours, 8 hours, or 12 hours for between about 5 days to about 30 days.

24. The method of any one of Claims 1-15, wherein the human subject is administered a single or a divided dose of about 25 to about 300 mg of the compound or the pharmaceutical composition, for between about 5 days to about 30 days.

25. The method of Claim 24, wherein the human subject is administered a divided dose of about 40 to about 300 mg per day of the compound, or the pharmaceutical composition, for about between about 5 days to about 30 days.

CLAIMS

1. Use of a compound of Formula (II), a pharmaceutically acceptable salt thereof, or a pharmaceutical composition comprising a compound of Formula (II) in the preparation of a medicament for the prevention of a disease resulting from a dengue virus (DENV) infection in a human subject, wherein

at least one initial dose of about 40 to about 600 mg of a compound of Formula (II) or a pharmaceutically acceptable salt thereof, or a pharmaceutical composition comprising about 40 to about 600 mg of a compound of Formula (II) or a pharmaceutically acceptable salt thereof is to be administered to the human subject; and

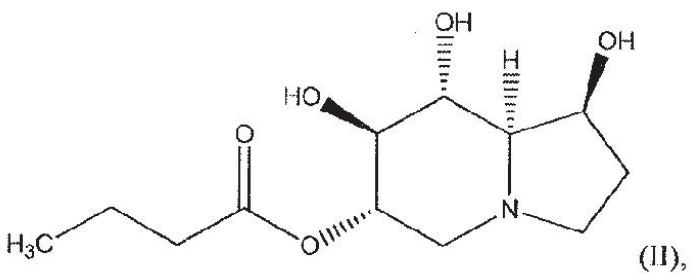
a plurality of subsequent doses of about 25 to about 400 mg of a compound of Formula (II) or a pharmaceutically acceptable salt thereof, or a pharmaceutical composition comprising about 25 to about 400 mg of a compound of Formula (II) or a pharmaceutically acceptable salt thereof is to be administered to the human subject,

wherein not more than 600 mg of a compound of Formula (II) is to be administered per day,

wherein the human subject is asymptomatic at the time of the at least one initial dose,

wherein said subsequent doses are to be administered once, twice, three, or four times per day during potential exposure of at least one serotype of dengue virus, and

wherein Formula (II) has the following structure,



(II),

2. The use of Claim 1, wherein the human subject is an adult.

3. The use of Claim 1, wherein the human subject is a child.

4. The use of any one of Claims 1-3, wherein the compound of Formula (II) is converted to castanospermine in the human subject.

5. The use of any one of Claims 1-4, wherein a steady state Cmin serum or plasma concentration of between about 0.4 and about 2.0 microgram/mL of castanospermine is attained in the human subject after the initial and subsequent doses.

6. The use of any one of Claims 1-4, wherein a steady state Cmin serum or plasma concentration of between about 1.0 and about 2.0 microgram/mL of castanospermine is attained in the human subject after the initial and subsequent doses.

7. The use of any one of Claims 1-4, wherein a steady state Cmin serum or plasma concentration of between about 1.0 and about 1.5 microgram/mL of castanospermine is attained in the human subject the initial and subsequent doses.

8. The use of any one of Claims 1-4, wherein a steady state Cmin serum or plasma concentration of between about 1.5 and about 2.0 microgram/mL of castanospermine is attained in the human subject after the initial and subsequent doses.

9. The use of any one of Claims 1-4, wherein a steady state Cmin serum or plasma concentration of between about 1.25 and about 1.75 microgram/mL of castanospermine is attained in the human subject after the initial and subsequent doses.

10. The use of any one of Claims 1-4, wherein a steady state Cmin serum or plasma concentration of between about 0.4 and about 1 microgram/mL of castanospermine is attained in the human subject after the initial and subsequent doses.

11. The use of any one of Claims 1-4, wherein a steady state Cmin serum or plasma concentration of between about 0.75 and about 1.25 microgram/mL of castanospermine is attained in the human subject after the initial and subsequent doses.

12. The use of any one of Claims 1-11, wherein the dengue virus infection comprises at least one dengue virus selected from DENV1, DENV2, DENV3, and DENV4.

13. The use of any one of Claims 1-12, wherein the dengue virus infection is a secondary dengue infection.

14. The use of any one of Claims 1-13, wherein the compound, or the pharmaceutical composition, is to be administered orally or sublingually.

15. The use of any one of Claims 1-14, wherein an initial dose of about 150 mg and a subsequent dose of about 100 mg every 6 hours, 8 hours, or 12 hours for between about 5 days to about 30 days are to be administered to the human subject.

16. The use of any one of Claims 1-14, wherein an initial dose of about 150 mg and a subsequent dose of about 150 mg every 6 hours for between about 5 days to about 30 days are to be administered to the human subject.

17. The use of any one of Claims 1-14, wherein n initial dose of about 150 mg and a subsequent dose of about 150 mg every 8 hours for between about 5 days to about 30 days are to be administered to the human subject.

18. The use of any one of Claims 1-14, wherein an initial dose of about 150 mg and a subsequent dose of about 150 mg every 12 hours for between about 5 days to about 30 days are to be administered to the human subject.

19. The use of any one of Claims 1-14, wherein an initial dose of about 150 mg and a subsequent dose of about 200 mg every 6 hours, 8 hours, or 12 hours for between about 5 days to about 30 days are to be administered to the human subject.

20. The use of any one of Claims 1-14, wherein an initial dose of about 200 mg and a subsequent dose of about 100 mg every 6 hours, 8 hours, or 12 hours for between about 5 days to about 30 days are to be administered to the human subject.

21. The use of any one of Claims 1-14, wherein an initial dose of about 200 mg and a subsequent dose of about 150 every 6 hours, 8 hours, or 12 hours for between about 5 days to about 30 days are to be administered to the human subject.

22. The use of any one of Claims 1-14, wherein an initial dose of about 200 mg and a subsequent dose of about 200 mg every 6 hours, 8 hours, or 12 hours for between about 5 days to about 30 days are to be administered to the human subject.

23. The use of any one of Claims 1-14, wherein a single or a divided dose of about 25 to about 300 mg of the compound or the pharmaceutical composition, for between about 5 days to about 30 days are to be administered to the human subject.

24. The use of Claim 23, wherein a divided dose of about 40 to about 300 mg per day of the compound, or the pharmaceutical composition, for about between about 5 days to about 30 days is to be administered to the human subject.