

Claims

We claim:

1. A pharmaceutical composition comprising therapeutically effective amount of Cannabidiol for use in treatment of Covid-19 infectious disease caused by Sars-
5 Cov-2 virus wherein administration of said pharmaceutical composition to the said patient suffering from Covid-19 produces an enhancement / augmentation of innate immunity of the patient due to at least one of the following effects,
 - i) infected patient cells undergo apoptosis early after infection;
 - ii) induction of interferon transcription in the patient;
 - 10 iii) induction of interferon-induced antiviral effectors in the patient.
2. The pharmaceutical composition according to the claim 1 wherein the enhancement / augmentation of innate immunity of the patient is due to apoptosis of the infected patient cells early after infection which renders them not available to the virus for replication and / or mutation.
- 15 3. The pharmaceutical composition according to the claim 2 wherein the enhancement / augmentation of innate immunity of the patient is due to a late apoptosis of the infected cells of the patient in addition to the apoptosis early after infection.
- 20 4. The pharmaceutical composition according to the claim 2 or 3 wherein the enhancement / augmentation of innate immunity of the patient is due to the apoptosis of the infected cells of the patient early after infection or apoptosis of the infected cells of the patient early after infection as well as late apoptosis of the infected cells of the patient thereby reducing or abolishing ability of the virus to evade host immunity.
- 25 5. The pharmaceutical composition according to the claim 1 wherein the enhancement / augmentation of innate immunity of the patient is due to induction of interferon transcription in the patient providing an innate, intracellular, anti-viral defense.

6. The pharmaceutical composition according to the claim 5 wherein the enhancement / augmentation of innate immunity of the patient is due to induction of Type II (gamma) or Type III (lambda) or both Type II and Type III Interferon transcription in such patients.
- 5 7. The pharmaceutical composition according to the claim 1 wherein the enhancement / augmentation of innate immunity of the patient is due to induction of interferon induced antiviral effector in the patient wherein the antiviral effector is one or more of OAS1, Mx1 and IFIT1 genes.
8. The pharmaceutical composition according to the claim 1 wherein the
10 enhancement / augmentation of innate immunity of the patient is due to induction of interferon induced antiviral effector in the patient wherein the antiviral effector is OAS1 gene.
9. A pharmaceutical composition comprising therapeutically effective amount of Cannabidiol for use in prophylaxis or prophylactic treatment of Covid-19 wherein
15 administration of said pharmaceutical composition to a mammal / human produces an enhancement / augmentation of innate immunity in such mammal / human due to at least one of the following effects,
- i) induction of interferon transcription in the mammal / human;
- iii) induction of interferon-induced antiviral effectors in the mammal / human.
- 20 10. The pharmaceutical composition of the claim 9 wherein enhancement / augmentation of innate immunity in mammal / human is not associated with apoptosis of cells.
11. The pharmaceutical composition of the claim 10 wherein enhancement / augmentation of innate immunity in mammal / human is due to induction of Type
25 II (gamma) or Type III (lambda) or both Type II and Type III Interferon transcription.
12. The pharmaceutical composition of the claim 10 wherein enhancement / augmentation of innate immunity in mammal / human is due to induction of

interferon induced antiviral effector wherein the antiviral effector is one or more of OAS1, Mx1 and IFIT1 genes.

13. The pharmaceutical composition of the claim 10 wherein enhancement / augmentation of innate immunity in mammal / human is due to induction of
5 interferon induced antiviral effector wherein the antiviral effector is OAS1 gene

14. A method of treating Covid-19 infectious disease caused by Sars-Cov-2 virus wherein said method comprises administering a pharmaceutical composition comprising therapeutically effective amount of cannabidiol to a patient wherein the administration of said pharmaceutical composition to the said patient produces an
10 enhancement / augmentation of innate immunity of the patient due to at least one of the following effects,

i) infected patient cells undergo apoptosis early after infection;

ii) induction of interferon transcription in the patient;

iii) induction of interferon induced antiviral effector in the patient.

15. The method of treating Covid-19 according to the claim 14 wherein the enhancement / augmentation of innate immunity of the patient is due to the apoptosis of infected patient cells early after infection which renders them not available to the virus for replication and / or mutation.

16. The method of treating Covid-19 according to the claim 12 wherein the
20 enhancement / augmentation of innate immunity of the patient is due to the late apoptosis of the infected cells of the patient in addition to the apoptosis of infected patient cells early after infection.

17. The method of treating Covid-19 according to the claim 12 wherein the enhancement / augmentation of innate immunity of the patient is due to the
25 apoptosis of infected patient cells early after infection or apoptosis of infected patient cells early after infection as well as late apoptosis of the infected cells of the patient. thereby reducing or abolishing ability of the virus to evade host immunity.

18. The method of treating Covid-19 according to the claim 14 wherein the enhancement / augmentation of innate immunity of the patient is due to induction of interferon transcription in the patient providing an innate, intracellular, anti-viral defense.
- 5 19. The method of treating Covid-19 according to the claim 14 wherein the enhancement / augmentation of innate immunity of the patient is due to induction of Type II (gamma) or Type III (lambda) or both Type II and Type III Interferon transcription in such patients.
- 10 20. The method of treating Covid-19 according to the claim 14 wherein the enhancement / augmentation of innate immunity of the patient is due to induction of interferon-induced antiviral effector in the patient wherein the antiviral effector is one or more of OAS1, Mx1 and IFIT1 genes.
- 15 21. The method of treating Covid-19 according to the claim 14 wherein the enhancement / augmentation of innate immunity of the patient is due to induction of interferon-induced antiviral effector in the patient wherein the antiviral effector is OAS1 gene.
- 20 22. A method of prophylaxis or prophylactic treatment of Covid-19 infectious disease caused by Sars-Cov-2 virus wherein said method comprises administering a pharmaceutical composition comprising therapeutically effective amount of Cannabidiol to a mammal / human wherein administration of said pharmaceutical composition produces an enhancement / augmentation of innate immunity in such mammal / human due to at least one of the following effects,
- i) induction of interferon transcription in the mammal / human;
- iii) induction of interferon-induced antiviral effectors in the mammal / human.
- 25 23. The method of prophylaxis or prophylactic treatment of the claim 22 wherein enhancement / augmentation of innate immunity in mammal / human is not associated with apoptosis of cells.
24. The method of prophylaxis or prophylactic treatment of the claim 23 wherein enhancement / augmentation of innate immunity in mammal / human is due to

induction of Type II (gamma) or Type III (lambda) or both Type II and Type III Interferon transcription.

25. The method of prophylaxis or prophylactic treatment of the claim 23 wherein enhancement / augmentation of innate immunity in mammal / human is due to
5 induction of interferon induced antiviral effector wherein the antiviral effector is one or more of OAS1, Mx1 and IFIT1 genes.

26. The method of prophylaxis or prophylactic treatment of the claim 23 wherein enhancement / augmentation of innate immunity in mammal / human is due to
induction of interferon induced antiviral effector wherein the antiviral effector is
10 OAS1 gene.

27. A pharmaceutical composition comprising therapeutically effective amount of Cannabidiol for preventing or reducing mutation of Sars-Cov-2 virus in a patient
by administration of said pharmaceutical composition to the said patient suffering
from Covid-19 by causing infected patient cells to undergo apoptosis early after
15 infection which renders them not available to the virus for mutation.

28. A method of preventing or reducing mutation of Sars-Cov-2 virus in a patient
wherein said method comprises administering a pharmaceutical composition
comprising therapeutically effective amount of cannabidiol to a patient suffering
from Covid-19 by causing infected patient cells to undergo apoptosis early after
20 infection which renders them not available to the virus for mutation.

29. A pharmaceutical composition comprising therapeutically effective amount of Cannabidiol for use in preventing or better preparing for Covid-19 infectious
disease in mammals / humans who are about to get infected with Covid-19
infectious disease wherein administration of said pharmaceutical composition to the
25 mammal / human produces an enhancement / augmentation of innate immunity in
such mammal / human due to at least one of the following effects,

i) induction of interferon transcription in the mammal / human;

iii) induction of interferon-induced antiviral effectors in the mammal / human;

wherein such induction is not associated with apoptosis of cells when virus is not present but enables cells to get primed / prepared for viral threat and wherein such cells are better able to prepare for infection including by causing an increase in the infectious dose of virions to the organism than the usual dose required to cause disease and wherein the cells undergo apoptosis early after infection which renders the cells not available to the virus for replication and / or mutation.

30. A method of preventing or better preparing for Covid-19 infectious disease in mammals / humans who are about to get infected with Covid-19 infectious disease wherein said method comprises administering a pharmaceutical composition comprising therapeutically effective amount of cannabidiol to the mammal / human wherein administration of said pharmaceutical composition to the mammal / human produces an enhancement / augmentation of innate immunity in such mammal / human due to at least one of the following effects,

- i) induction of interferon transcription in the mammal / human;
- iii) induction of interferon-induced antiviral effectors in the mammal / human;

wherein such induction is not associated with apoptosis of cells when virus is not present but enables cells to get primed / prepared for viral threat and wherein such cells are better able to prepare for infection including by causing an increase in the infectious dose of virions to the organism than usual dose required to cause disease and wherein the cells undergo apoptosis early after infection which renders the cells not available to the virus for replication and / or mutation.

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