What is Claimed:

1. Use of an anti-viral effective amount of a TPA compound in the manufacture of a clinically therapeutic or prophylactic medicament for treating or preventing a sudden acute respiratory syndrome (SARS) coronavirus infection in a mammalian subject with elevated risk of SARS coronavirus infection, or presenting with active SARS coronavirus infection, to prevent or reduce SARS viral infection and/or reduce or eliminate SARS viral load detectable in the subject.

2. Use of claim 1. wherein the SARS coronavirus is a human SARS (hSARS) coronavirus selected from SARS-CoV-2 (COV1D-19), SARS-CoV, and middle east respiratory syndrome (MERS) coronaviruses.

3. Use of claim 2, wherein the hSARS coronavirus is SARS-CoV-2 (COVID-19).

4. Use of claim 1 or 2, wherein the anti-viral TPA compound is manufactured in the medicament for eliciting an anti-viral response sufficient to prevent or reduce SARS-CoV-2 viral infection and/or reduce or eliminate SARS viral load compound, and to concurrently prevent or reduce one or more clinical symptoms of COVID-19 disease.

5. Use of claim 1 or 2, wherein the TPA compound is manufactured in an amount and dosage form for reducing or eliminating one or more indicia of SARS coronavirus infection severity selected from: 1) viral load or titer in an upper or lower respiratory cell, tissue or sample of the subject; 2) viral load or titer in a non-respiratory, ACE-2 positive cell, tissue or sample of the subject, or in a blood plasma of the subject; 3) viral attachment and/or entry into lung or other tissues/cells; 4) viral replication in a lung or other ACE-2 positive cell, tissue or organ of the subject; and/or 5) viral shedding from an upper respiratory tract tissue or sample of an infected subject, each of said indices determinable by observing or measuring an incidence or value of the subject index in an *in vitro* sample from one or more TPA-treated

subjects in comparison to incidence or value of the same index in one or more comparable, placebo-treated control subject(s).

6. Use of claim 1. wherein the SARS coronavirus is a human SARS (hSARS) coronavirus selected from SARS-CoV-2 (COVID-19), SARS-CoV and middle east respiratory syndrome (MERS) coronaviruses, and wherein the TPA compound is manufactured in the medicament for reducing hSARS viral load or titer in a an upper and/or lower respiratory tract of the subject.

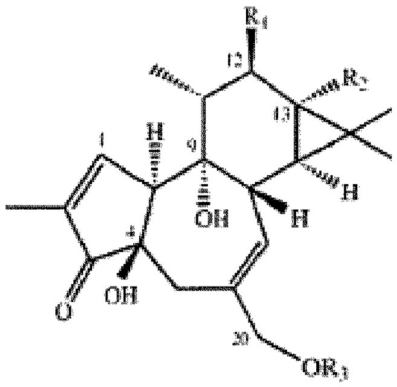
7. Use of claim 1, wherein the SARS virus is a human SARS (hSARS) coronavirus selected from SARS-CoV-2 (COVID-19), SARS-CoV, and middle east respiratory syndrome (MERS) coronaviruses. and wherein the TPA compound is manufactured in the medicament for reducing hSARS viral load or titer in a non-respiratory, ACE-2 positive cell, tissue or organ of the subject.

8. Use of claim 1, wherein the SARS virus is SARS-CoV-2 (COVID-19), and wherein the anti-viral TPA compound is manufactured in the medicament for eliciting an anti-viral response in the subject that prevents or reduces SARS-CoV-2 viral infection and/or reduces or eliminates SARS viral load, as determined by SARS-CoV-2 DNA or other quantitative measure of SARS-CoV-2 levels in nasopharyngeal swab samples taken pre- and post-treatment from infected subjects, or by comparison of suitable test and control samples.

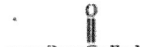
9. Use of claim 8. wherein viral load as determined by SARS-CoV-2 DNA or other quantitative measure of SARS-CoV-2 viral load in nasopharyngeal swab samples, compared between pre- and post-treatment samples from an individual or group of treated patient(s), or between treated and placebo-treated control subjects, is decreased by an average of 25-50% or 75-95% or more among treated subjects.

10. Use of claim 8, wherein viral load as determined by SARS-CoV-2 DNA or other quantitative measure of SARS-CoV-2 load in nasopharyngeal swab samples from subjects screened as positive for SARS-CoV-2 infection before TPA treatment, is decreased within two weeks after TPA treatment by 100% (corresponding to total clearance of detectable SARS-CoV- 2 virus in the upper respiratory tract, indicative of a non-contagious status) in at least 50% of TPA-treated subjects.

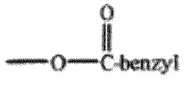
11. Use of claim 1, wherein the anti-viral TPA compound is selected from compounds of Formula 1. below, and anti-viral active analogs, derivatives, complexes, conjugates, salts, enantiomers and mixtures thereof:



Formula I

wherein R_1 and R_2 are selected from the group consisting of hydrogen; 

,wherein the alkyl group contains 1 to 15 carbon atoms, 

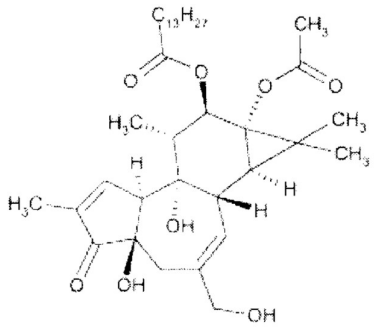


and substituted derivatives thereof and R_3 may be hydrogen,


or substituted derivatives thereof,

wherein the "lower alkyl" or "lower alkenyl" can contain 1-7 carbons and may be straight or branched, and are optionally unsubstituted or substituted by chlorine, fluorine, or another halogen, or nitro. amino or other active functionality.

12. Use of claim 1, wherein the anti-viral TPA compound is selected from Formula II below and anti-viral active analogs, derivatives, complexes, conjugates, salts, enantiomers and mixtures thereof.



Formula II

13. Use of claim 1, wherein the anti-viral TPA compound is a phorbol ester selected from: phorbol 13-butyrate; phorbol 12-decanoate; phorbol 13-decanoate; phorbol 12,13-diacetate; phorbol 13,20-diacetate; phorbol 12,13 -dibenzoate; phorbol 12,13-dibutyrate; phorbol 12,13-didecanoate; phorbol 12,13-dihexanoate; phorbol 12.13-dipropionate; phorbol 12-myristate; phorbol 13-myristate; phorbol 12.13.20-triacetate; 12-deoxyphorbol 13-angelate; 12-deoxyphorbol 13-angelate 20-acelate; 12-deoxyphorbol 13-isobutyrate; 12-deoxyphorbol 13-isobutyrate-20-acetate; 12-deoxyphorbol 13-phenylacetate; 12-deoxyphorbol 13-phenylacetate 20-acetate; 12-deoxyphorbol 13-tetradecanoate; phorbol 12-tigliate 13-decanoate; 12-deoxyphorbol 13-acetate; phorbol 12-acetate; phorbol 13-acetate; and anti-viral active analogs, derivatives, complexes, conjugates, salts, enantiomers and mixtures thereof.

14. Use of claim 1. wherein the anti-viral TPA compound is 12-0-tetradecanoylphorbol-13-acetate.

15. A pharmaceutical composition or kit for use in prevention or treatment of acute respiratory syndrome (ARDS) in a mammalian subject comprising an anti-ARDS effective TPA compound formulated or packaged with a secondary therapeutic or prophylactic drug or agent selected from anti-IL-6 drugs, biologic agents kinase modulating drugs and sudden acute respiratory syndrome (SARS)-2 (SARS-CoV-2 or COVID-19) coronavirus vaccine agents.

16. The pharmaceutical composition or kit of claim 15, wherein the anti-IT-6 drug or biologic agent is an anti-IL-6 monoclonal antibody or Fab fragment, a soluble IL-6 receptor or receptor analog, or a cognate anti-IL-6 specific binding or deactivating domain thereof.

17. The pharmaceutical composition or kit of claim 15, wherein the anti-IL-6 drug or biologic is selected from siltuximab, sarilumab (Kevzara), and tocilizumab (TCZ).

18 The pharmaceutical composition or kit of claim 15, wherein the anti-IL-6 drug or biologic is an anti-IL-6 drug that blocks or inhibits IL-6 directly, or indirectly inhibits, lowers, or alters a pro-inflammatory activity of IL-6, wherein the anti-IL-6 drug is andrographolide.

19. The pharmaceutical composition or kit of claim 15, wherein the kinase modulating drug or agent directly or indirectly inhibits, lowers, activates or alters an immune or inflammatory activity of one or more kinases involved in mediating or suppressing inflammatory responses, or regulating differentiation, proliferation, activation, inflammatory cytokine synthesis, and/or apoptotic activity of immune and/or inflammatory effector cells, including lymphocytes, monocyte/macrophage cells and/or neutrophils, wherein the kinase modulator drug or agent modulates a mitogen activated protein kinase (MAPK), janus kinase (JAK) and/or protein kinase C (PKC).

20. A pharmaceutical composition or kit for use in prevention or treatment of acute respiratory syndrome (ARDS) in a mammalian subject comprising an anti-ARDS effective TPA compound formulated or packaged with a secondary therapeutic or prophylactic drug or agent selected from: an interferon drug or agent; an intravenous formulated immunoglobulin; a SARS-CoV-2-specific neutralizing antibody. Fab fragment or antibody binding domain; a C5a-specific antibody Fab fragment or antibody binding domain: thalidomide: fingolimod; anti-angiogenic drugs; hydroxychloroquine; and glucocorticoids, and combinations thereof.