What is claimed is:

1. A method of treating acute respiratory distress syndrome (ARDS) or cytokine storm syndrome (CSS) in a subject comprising administering to the subject a therapeutically effective amount of negatively charged particles, wherein the negatively charged particles are free from other therapeutically active agents.

2. The method of claim 1, wherein the ARDS or the CSS are the result of direct lung-injury or indirect lung- injury.

3. The method of claim 1, wherein the ARDS or the CSS are the result of pneumonia, lung inflammation, bacterial infection, viral infection, fungal infection, opportunistic infection, sepsis, aspiration of gastric contents, traumatic injury, burn injury, pancreatitis, pulmonary contusion, hemorrhagic shock, near drowning, blood transfusion, inhalation injury, cytokine release syndrome (CRS), severe inflammatory response syndrome (SIRS), hypercytokinemia, macrophage activation syndrome (MAS), reactive hemophagocytic syndrome, secondary hemophagocytic lymphohistiocytosis (sHLH), a traumatic injury, or combinations thereof.

4. The method of claim 3, wherein the ARDS or the CSS are the result of the viral infection, and wherein the viral infection is due to a DNA virus, an RNA virus, or a retrovirus.

5. The method of claim 4, wherein the DNA virus is a single-stranded DNA (ssDNA) virus, or a double-stranded (dsDNA) virus, and wherein the RNA virus is a double-stranded RNA virus, a single-stranded RNA (ssRNA) (+) virus, ssRNA (-) virus, or a circular ssRNA virus.

6. The method of claims 4 or 5, wherein the DNA virus, the RNA virus, or the retrovirus is a respiratory virus.

7. The method of any one of claims 4-6, wherein the DNA virus, the RNA virus, or the retrovirus is selected from the group consisting of: Adeno- associated virus, Aichi virus, Australian Bat Lyssavirus, BK polyomavirus, Banna virus, Barmah forest virus, Bunyavirus snowshoe hare, Cercopithecine herpes virus, Chandipura virus, Chikungunya virus, Cosavirus A, Cowpox virus, Coxsackievirus, Crimean-Congo hemorrhagic fever virus, Coronavirus,

Dengue virus, Dhori virus, Dugbe virus, Duvenhage virus, Eastern equine encephalitis virus, Echovirus, Encephalomyocarditis virus, Epstein- Barr virus, European Bat Lyssavirus, GB virus C/Hepatitis G virus, Hantaan virus, Hendra virus, Hepatitis A virus, Hepatitis B virus, Hepatitis C virus, Hepatitis delta virus, Human adenovirus, Human astrovirus, Human coronavirus, Human cytomegalovirus, Human enterovirus 68,70, Human herpesvirus 1, Human herpesvirus 2, Human herpesvirus 6, Human herpesvirus 7, Human Immunodeficiency Virus (HIV), Human papillomavirus 1, Human papillomavirus 2, Human papillomavirus 16,18, Human parainfluenza virus, Human parvovirus B19, Human respiratory syncytial virus, Human rhinovirus, Human SARS coronavirus, Human spumarterovirus, Human T-lymphotropic virus, Human torovirus, Influenza A virus, Influenza B virus, Influenza C virus, Isfahan virus, JC polyomavirus, Japanese encephalitis virus, Junin arenavirus, KI Polyomavirus, Kunjin virus, Lagos bat virus, Lake Victoria Marburgvirus, Langat virus, Lassa virus, Lordsdale virus, Louping ill virus, Lymphocytic choriomeningitis virus, Machupo virus, Mayaro visu, MERS coronavirus, Measles virus, Mengo encephalomyocarditis, Merkell cell polyomavirus, Mokola virus, Molluscum contagiosum virus, Monkeypox virus, Mumps virus, Murray valley encephalitis virus, New York virus, Nipah virus, Norwalk virus, O'Nyong-nyong virus, Orf virus, Oropouche virus, Pichinde virus, Poliovirus, Punta toro phlebovirus, Puumala virus, Rabies virus, Rift valley fever virus, Rosavirus A, Ross river virus, Rotavirus A, Rotavirus B, Rotavirus C, Rubella virus, Sagiyama, Salivirus A, Sandfly fever sicilian virus, Sapporo virus, SARS coronavirus-2, Semliki forest virus, Seoul virus, Simian foamy virus, Simian virus 5, Sindbis virus, Southampton virus, St. Louis encephalitis virus, Tick- borne Powassan virus, Torque teno virus, Toscana virus, Uukuniemi virus, Varicella-zoster virus, Variola virus, Venezuelan equine encephalitis virus, WU polyomavirus, Yaba Monkey tumor virus, Yaba-like disease virus, Yellow fever virus, and Zika virus.

8. The method of claim 3, wherein the ARDS or the CSS are the result of the bacterial infection, and wherein the bacterial infection is due to Staphylococcus, Streptococcus, Mycobacterium, Bacillus, Salmonella, Vibrio, Spirochete, Neisseria, Diplococcus, Pseudomonas, Clostridium, Treponaema, Spirillum, or combinations thereof.

9. The method of claim 1, wherein the ARDS or the CSS are due to one or more immune-targeted therapies.

10. The method of claim 9, wherein the one or more immune-targeted therapies is an antibody, a protein therapeutic, a peptide, a cytokine, an immune signaling modulator, an mRNA, an oncolytic virus, or a cell-based therapy.

11. The method of claim 10, wherein the one or more immune-targeted therapies comprise the antibody, and wherein the antibody is a monoclonal antibody, a polyclonal antibody, a bi-specific antibody, a tri-specific antibody, or a bi-specific T-cell engager (BiTE) antibody.

12. The method of claim 11, wherein the antibody targets CD2, CD3, CD20, CD27, CD28, CD30, CD40L, CD137, OX-40, GITR, LIGHT, DR3, SLAM, ICOS, LILRB2, LILRB3, LILRB4, PD-1, PD-L1, CTLA-4, IL-12, or IL-15,RTK, EGFR, VEGF, VEGFR, PDGF, PDGFR, HER2/Neu, ER, PR, TGF-β1, TGF-β2, TGF-β3, SIRP-α, PD-1, PD-L1, CTLA-4, CD3, CD25, CD19, CD20, CD39, CD47, CD73, FAP, IL-1β, IL-2R, IL-12, IL-15, IL-15R, IL-23, IL-33, IL-2R, IL-4Rα T-cells, B-cells, NK cells, macrophages, monocytes, or neutrophils.

13. The method of claim 10, wherein the one or more immune-targeted therapies comprise the cytokine, and wherein the cytokine is selected from IFN-a, IFN-y, IL-2, IL-10, IL-12, IL-15, IL-15/IL-15Ra, IL-18, IL-21, GM-CSF, or variants thereof.

14. The method of claim 10, wherein the one or more immune-targeted therapies comprise the immune signaling modulator, and wherein the immune signaling modulator targets one or more of: IL- 1R, IL-2Ra, IL-2Rα, IL-2Ry, IL-3Ra, CSF2RB, IL-4R, IL-5Ra, CSF2RB, IL-6Ra, gp130, IL-7Ra, IL-9R, IL-10Rα, IL-10Rα, IL-12Rα1, IL-12Rα2, IL-13Rα1, IL-13Rα2, IL-15Rα, IL- 21R, IL23R, IL-27Rα, IL-31Ra, OSMR, CSF-1R, GM-CSF-R, cell-surface IL-15, IL-10Ra, IL-10Rα, IL-20Rα, IL-20Rα, IL-22Rα1, IL-22Rα2, IL-22Rα, IL-28RA, TLR, JAK, BTK, TYK, SYK, MAPK, PI3K, NFKB, NFAT, STAT, or a kinase.

15. The method of claim 10, wherein the one or more immune-targeted therapies comprise the cell-based therapy, and wherein the cell-based therapy comprises allogenic, autologous, or iPSC-derived cells.

16. The method of claim 10, wherein the one or more immune-targeted therapies comprise the cell-based therapy, and wherein the cell-based therapy comprises one or more of: T- cells, NK-cells, red blood cells, stem cells, antigen-presenting cells, macrophages, or dendritic cells.

17. The method of any one of the preceding claims, wherein the negatively charged particles comprise one or more biodegradable polymers.

18. The method of any one of claims 1-17, wherein the negatively charged particles comprise one or more of: polyglycolic acid (PGA), polylactic acid (PLA), polystyrene, poly (lactic-co-glycolic acid) (PLGA), chitosan, polysaccharide, a lipid, diamond, iron, zinc, cadmium, gold, or silver.

19. The method of claim 18, wherein the negatively charged particles comprise the PLGA.

20. The method of claim 18, wherein the negatively charged particles that comprise PLGA comprise a ratio of poly lactic acid:poly glycolic acid ranging from about 90:10 to about 10:90, from about 50:50 to about 90:10, about 50:50 to about 80:20; from about 90:10 to about 50:50, or from about 80:20 to about 50:50.

21. The method of claim 20, wherein the negatively charged particles that comprise the PLGA comprise the ratio of poly lactic acid: poly glycolic acid ranging from about 50:50.

22. The method of any one of claims 1-21, wherein the negatively charged particles further comprise carboxyl groups on a surface.

23. The method of any one of claims 1-22, wherein the negative zeta potential ranges from about -100 mV and about -1 mV.

24. The method of claim 23, wherein the negative zeta potential ranges from about -80 mV and about -30 mV.

25. The method of any one of claims 1-24, wherein the negatively charged particles have a mean diameter ranging from about 0.1 μm to about 10 μm.

26. The method of claim 25, wherein the mean diameter of the negatively charged particle ranges from about 300 nm to about 800 nm.

27. The method of any one of claims 1-26, wherein the administering of the negatively charged particles to the subject improves one or more symptoms associated with the ARDS or CSS.

28. The method of claim 27, wherein the one or more symptoms associated with the ARDS or the CSS are selected from the group consisting of lung inflammation, atelectasis, distressed breathing, fatigue, low blood pressure, fever, headache, hypoxemia, respiratory acidosis, hypercapnia, edema, pulmonary edema, alveolar edema, multi-organ dysfunction, brain damage, lung damage, liver damage, kidney damage, heart damage, edema, cerebral edema, pulmonary edema, alveolar edema, respiratory distress, hypoxemia, respiratory acidosis, hypertriglyceridemia, leukopenia, cytopenia, and elevated levels of inflammatory markers.

29. The method of claim 28, wherein the inflammatory markers consist of IL-1β, IL-2, IL-6, IL-7, IL-8, IL-10, TNF-α, IFN-γ, IP-10, MIP-1β, MCP-1, GM-CSF, c-reactive protein, d-dimer, ferritin, neutrophil extracellular traps (NETs), and combinations thereof.

30. The method of any one of claims 1-29, wherein the administering of the negatively charged particles reduces accumulation of inflammatory mediators in circulation or at sites of inflammation.

31. The method of any of the preceding claims, wherein the negatively charged particles are administered intravenously.

32. A method of treating acute inflammation in hospitalized adults with systemic inflammation, sepsis, or pneumonia associated with respiratory viral infections in a subject in need thereof, comprising administering negatively charged particles that are free from attached or encapsulated drug, wherein the negatively charged particles comprise one or more biodegradable, pharmaceutically acceptable polymers; and particles are administered at a dose of between 1 mg/kg to 10 mg/kg.

33. The method of claim 32, wherein respiratory viral infection is associated with influenza and SARS-CoV-2.

34. The method of any one of claims 32-33, wherein the negatively charged particles are administered at a dose level of between 1 mg/kg to 6 mg/kg.

35. The method of any one of claims 32-34, wherein the negatively charged particles are administered at a dose level of 5 mg/kg.

36. The method of any one of claims 32-35, wherein the negatively charged particles are administered at a dose level of between 50 mg to 400 mg.

37. The method of any one of claims 32-36, wherein the negatively charged particles comprise one or more biodegradable polymers.

38. The method of any one of claims 32-37, wherein the negatively charged particles comprise Poly (lactic-co-glycolic acid) (PLGA), poly (lactic acid) (PLA), poly (glycolic acid) (PGA), or polystyrene.

39. The method of any one of claims 32-38, wherein the negatively charged particles comprise PLGA.

40. The method of any one of claims 32-39, wherein the negatively charged particles have a zeta potential is between about -30 mV and -80 mV.

41. The method of any one of claims 32-40, wherein the negatively charged particles have an average diameter between 0.3μm and 3μm, or between 0.3μm and 1μm.

42. The method of any one of claims 32-41, wherein the administering of the negatively charged particles to the subject in need thereof leads to a reduction from baseline in the levels of serum c-reactive protein.

43. The method of claim 42, wherein the levels of serum c-reactive protein are reduced by 2, 5, 10, 15, 20, 25, 30, 35, 40, 45, 50, 55, 60, 65, 70, 75, 80, 85, 90, 95, or 100-fold compared to baseline.

44. The method of any one of claims 32-43, wherein the administering of the negatively charged particles to the subject in need thereof leads to a reduction from baseline in the levels of serum ferritin.

45. The method of claim 44, wherein the levels of the serum ferritin are reduced by 2, 5, 10, 15, 20, 25, 30, 35, 40, 45, 50, 55, 60, 65, 70, 75, 80, 85, 90, 95, or 100-fold compared to baseline.

46. The method of any one of claims 32-45, wherein the administering of the negatively charged particles to the subject in need thereof leads to a reduction from baseline in the levels of serum d-dimer.

47. The method of claim 46, wherein the levels of the serum d-dimer protein are reduced by 2, 5, 10, 15, 20, 25, 30, 35, 40, 45, 50, 55, 60, 65, 70, 75, 80, 85, 90, 95, or 100-fold compared to baseline.

48. The method of any one of claims 32-47, wherein the administering of the negatively charged particles to the subject in need thereof leads to a reduction from baseline in the number of neutrophils in blood.

49. The method of claim 48, wherein the number of neutrophils in the blood are reduced by 2, 5, 10, 15, 20, 25, 30, 35, 40, 45, 50, 55, 60, 65, 70, 75, 80, 85, 90, 95, or 100-fold compared to baseline.

50. The method of any one of claims 32-49, wherein the administering of the negatively charged particles to the subject in need thereof leads to an increase from baseline in the number of lymphocytes in blood.

51. The method of claim 50, wherein the number of lymphocytes in the blood are increased by 2, 5, 10, 15, 20, 25, 30, 35, 40, 45, 50, 55, 60, 65, 70, 75, 80, 85, 90, 95, or 100-fold compared to baseline.

52. The method of any one of claims 32-51, wherein the administering of the negatively charged particles to the subject in need thereof leads to a decrease from baseline in the neutrophil to lymphocyte ratio (NLR).

53. The method of claim 52, wherein the administering of the negatively charged particles to the subject in need thereof leads to an NLR of ≤ 4.

54. The method of any one of claims 32-53, wherein the administering of the negatively charged particles to the subject in need thereof leads to an increase from baseline in a SpO_2/FiO_2 ratio.

55. The method of claim 54, wherein the SpO_2/FiO_2 ratio if ≥ 300 mmHg.

56. The method of any one of claims 32-55, wherein the administering of the negatively charged particles to the subject in need thereof leads to a reduction in the number of hospitalization days.

57. The method of any one of claims 32-56, wherein the administering of the negatively charged particles to the subject in need thereof leads to an increase in the number of ventilator-free days.

58. The method of any one of claims 32-57, wherein the administering of the negatively charged particles to the subject in need thereof leads to a reduced risk of mortality.

59. The method of any one of claims 32-58, wherein the administering of the negatively charged particles to the subject in need thereof leads to improved lung function compared to baseline.