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(54) Title: DENDRIMER COMPOSITIONS AND METHODS FOR TREATMENT OF SEVERE ACUTE RESPIRATORY DISTRESS SYNDROME

(57) Abstract: A method for treating or preventing one or more symptoms of severe inflammation in the lung of a subject in need thereof includes administering to the subject a composition comprising dendrimers complexed, covalently conjugated, or intra-molecularly dispersed or encapsulated with one or more therapeutic or prophylactic agents, in an amount effective to treat, alleviate or prevent one or more symptoms of severe inflammation. The compositions and methods are useful for treating disorders characterized by cytokine storm, for example, for treating or preventing acute lung injury (ALI) and/or acute respiratory distress syndrome (ARDS) results in from ventilator use or infection such as with COVID-19, sepsis, and systemic bacterial infections in a subject in need thereof have been established. Preferably, the dendrimers are generation 4, 5, 6, 7, or 8 poly(amidoamine) (PAMAM) dendrimers, and the therapeutic agents are one or more anti-inflammatory and/or anti-oxidant agents such as N-acetyl cysteine.