

## RECENT PATENT APPLICATIONS RELATING TO CYTOKINE STORM

COVID-19 results in life-threatening pneumonia and acute respiratory distress syndrome (ARDS) in severe cases. Many studies indicate that an event called “cytokine storm” – an uncontrolled production of pro-inflammatory cytokines, may be linked to ARDS. Here, we present snapshots from some publications published in 2020 relating to this concept.

**Publication No**  
•CN111097390

**Title**  
•Blood Purification Adsorbent and Preparation Method Thereof and Hemoperfutor

**Summary**  
•The present invention discloses a blood purification adsorbent and hemoperfutor. The blood purification adsorbent is porous polyurethane aerogel. The blood purification adsorbent provided by the invention adopts a porous polyurethane aerogel material, and has the advantages of excellent mechanical properties, controllable pore size and distribution, the high specific surface area, the large adsorption capacity. It can adsorb bacterial endotoxin, tumor necrosis factors, interleukin 6 and other cytokines in blood plasma and can be used for treating endotoxemia, sepsis, cytokine storm and other diseases.

**Publication No**  
•EP3706773

**Title**  
•Maturation of Mucosal Defense and Gut/Lung Function in the Preterm Infant

**Summary**  
•The present invention relates to methods for maturing the mucosal defence and rebalancing the immune system preventing a cytokine storm; treatment or prevention of neonatal sepsis, necrotizing enterocolitis, acute and prolonged diarrhea, short bowel syndrome, respiratory illness, respiratory infection, respiratory failure, impaired neurodevelopment and extra uterine growth restriction.

**Publication No**  
•WO2020146770

**Title**  
•Methods for the Prevention or Treatment of Cytokine Storm, and for Preventing Diseases or Conditions Caused by Cytokine Storm

**Summary**  
•The present invention provides methods for treating, suppressing, or preventing detrimental cytokine and/or lipid mediator surges that can result from a variety of different diseases, conditions, and therapeutic treatments.

**Publication No**  
•US20200291082

**Title**  
•Prevention and Treatment of Graft-versus-host-disease with Defensins

**Summary**  
•The present invention relates to methods for treatment and/or prevention of acute as well as chronic graft-versus-host-disease (GVHD) its associated complications and rebalance of the immune system with normalization of cytokine production of IFN- $\gamma$ , TNF- $\alpha$ , IL-4, IL-5, IL-6, IL-8, IL-9, IL-10 and IL-13 and prevention and/or treatment of cytokine storm.

Publication No

•CN110684118

Title

•T Cell Antigen Coupler Targeting CD19, Expression Vector And Application Thereof

Summary

•The invention discloses a T cell antigen coupler targeting CD19 and an expression vector and application thereof, and belongs to the field of tumor immune drugs. According to the T cell antigen coupler targeting CD19, the cytokine storm produced during the treatment process of T cells can be reduced.

Publication No

•US20200009191

Title

•Combination Immune Therapy and Cytokine Control Therapy For Cancer Treatment

Summary

•The present invention relates methods of use thereof included those for inhibiting or reducing the incidence of cytokine release syndrome or cytokine storm in a subject undergoing CAR T-cell therapy, methods of treating a cancer or tumor, methods of reducing tumor load, methods of reducing the rate of a cancer or a tumor, and extending the survival of a patient from a cancer or tumor.

Publication No

•WO2020164166

Title

•General-purpose CAR-T Cell, and Preparation Method Therefor and Use Thereof

Summary

•The present invention provides physiological general-purpose CAR-T cell enabling the expression of a CAR to be controlled by an endogenous promoter, and a preparation method therefor and an antitumor use thereof. The CAR-T can be allogeneically transfused, the expression of the CAR is at a physiological level and uniform, and there is no significant cytokine storm.

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