Autoantibodies of Autoimmune Patients and Protects from Exaperimental Autoimmune Disease", Blood, 1997, Vol. 90, No. 10, 4004-4013; and Cesena, HY. "Immune-modulation by polyclonal IgM treatment reduces atherosclerosis in hypercholesterolemic apoE -/- mice", Atherosclerosis, 2012, Vol. 220, 59-65).

Septic conditions and other complications of microbial infections are often associated with an over-stimulation of the immune system, and are often impossible to control due to their exaggerated magnitude and quick evolution. Therefore, there remains a need for effective treatment regimens to reduce, inhibit or prevent over-stimulation of the immune system.

SUMMARY

In one aspect, the present disclosure refers to use of a composition comprising plasma-derived IgM in the manufacture of a medicament for treating immune complications produced by infections in patients in need thereof, characterized in that the infection is produced by ~~*Pseudomonas aeruginosa,*~~ *Staphylococcus aureus,* ~~*Klebsiella pneumoniae,*~~ *Streptococcus pneumoniae, Clostridium difficile, Clostridium botulinum*, or combinations thereof, and characterized in that the composition used has at least 90% (w/v) of IgM purity.

In another aspect, the present disclosure refers to use of plasma-derived IgM in the manufacture of a medicament for the immunomodulation of an infection in a patient in need thereof in the treatment or prevention of infections or infection-related symptoms or conditions, characterized in that it comprises a composition comprising IgM to be administered, characterized in that the infection is produced by ~~*Pseudomonas aeruginosa,*~~ *Staphylococcus aureus,* ~~*Klebsiella pneumoniae,*~~ *Streptococcus pneumoniae, Clostridium difficile, Clostridium botulinum*, or combinations thereof, and characterized in that the composition used has at least 90% (w/v) of IgM purity.

CLAIMS

1. Use of a composition comprising plasma-derived IgM in the manufacture of a medicament for treating immune complications produced by infections in patients in need thereof, characterized in that the infection is produced by ~~*Pseudomonas aeruginosa,*~~ *Staphylococcus aureus,* ~~*Klebsiella pneumoniae,*~~ *Streptococcus pneumoniae,* *Clostridium difficile,* *Clostridium botulinum,* or combinations thereof, and characterized in that the composition used has at least 90% (w/v) of IgM purity.

2. The use according to claim 1, characterized in that treatment of immune complications is performed through immunomodulation.

3. The use according to claim 2, characterized in that immunomodulation is performed through inhibition NF-κB induction, through the inhibition of proliferation of peripheral blood mononuclear cells or combination thereof.

4. The use according to claim 1, characterized in that the composition has a 95% (w/v) of IgM purity.

5. The use according to claim 1, characterized in that the dose to be administered of the composition is from 75 mg IgM/kg patient to 1 g IgM/kg patient.

6. The use according to claim 5, characterized in that the composition is to be administered at least once a week.

~~7. The use according to claim 1, characterized in that IgM is recombinant, plasma-derived, cell culture-derived, transgenic or chemically synthesized.~~

~~8. The use according to claim 7, characterized in that IgM is plasma-derived IgM.~~

~~9.~~7. The use according to claim 1, characterized in that the composition comprising IgM is to be administered alone.

~~10.~~8. The use according to claim 1, characterized in that the composition comprising IgM is to be administered together with one or more other compositions or molecules selected from anti-inflammatory molecules, small molecule antibiotics, molecules that are antimicrobial in nature, natural or synthetic peptide antimicrobials, proteins with antimicrobial properties, other immunomodulators or combinations thereof.

~~11.~~9. The use according to claim ~~10~~8, characterized in that said other compositions or molecules are vancomycin, meropenem, lactoferrin or combinations thereof.

~~12.~~10. Use of plasma-derived IgM in the manufacture of a medicament for the immunomodulation of an infection in a patient in need thereof in the treatment or prevention of infections or infection-related symptoms or conditions, characterized in that it comprises a composition comprising IgM to be administered, characterized in that the infection is produced by ~~*Pseudomonas aeruginosa,*~~ *Staphylococcus aureus,* ~~*Klebsiella pneumoniae,*~~ *Streptococcus pneumoniae, Clostridium difficile,*

*Clostridium botulinum*, or combinations thereof, and characterized in that the composition used has at least 90% (w/v) of IgM purity.

~~13. The use according to claim 12, characterized in that immunomodulation is used for the treatment or the prevention of infections or infection-related symptoms or conditions~~.

~~14.~~11. The use according to claim ~~12~~10, characterized in that immunomodulation is performed through inhibition NF-κB induction, through the inhibition of proliferation of peripheral blood mononuclear cells or combination thereof.

~~15.~~12. The use according to claim ~~12~~10, characterized in that the composition has a 95% (w/v) of IgM purity.

~~16.~~13. The use according to claim ~~12~~10, characterized in that the dose to be administered of the composition is from 75 mg IgM/kg patient to 1 g IgM/kg patient.

~~17.~~14. The use according to claim ~~16~~13, characterized in that the composition is administered at least once a week.

~~18. The use according to claim 12, characterized in that IgM is recombinant, plasma-derived, cell culture-derived, transgenic or chemically synthesized.~~

~~19. The use according to claim 18, characterized in that IgM is plasma-derived IgM.~~

~~20.~~15. The use according to claim ~~12~~10, characterized in that the composition comprising IgM is to be administered alone.

~~21.~~16. The use according to claim ~~12~~10, characterized in that the composition comprising IgM is to be administered together with one or more other compositions or molecules selected from anti-inflammatory molecules, small molecule antibiotics, molecules that are antimicrobial in nature, natural or synthetic peptide antimicrobials, proteins with antimicrobial properties, other immunomodulators or combinations thereof.

~~22.~~17. The use according to claim ~~12~~10, characterized in that said other compositions or molecules are vancomycin, meropenem, lactoferrin or combinations thereof.