Vaccine Against Pneumocystis and Streptococcal Infections

Novel polypeptides and immunogenic conjugates capable of inducing passive and active immunity against Pneumocystis carinii and Streptococcus pneumoniae infections.

Problem Solved by this Technology
Pneumocystis pneumonia (PCP), caused by an opportunistic pathogen Pneumocystis carinii, is a significant cause of morbidity and mortality in immunocompromised populations. Existing anti-PCP treatments involve the use of antibiotics and concomitant steroids, which have adverse side effects and poor compliance.

Applications of this Technology
Researchers at University of Rochester developed novel polypeptides and immunogenic conjugates that are capable of eliciting active and passive immunity against PCP. Dr. Gigliotti and colleagues at University of Rochester discovered a conserved immunogenic epitope on P. carinii and S. pneumoniae that is dually recognized by a monoclonal antibody (4F11). In-vivo experiments demonstrated the antibody’s ability to confer passive PCP prophylaxis and, in addition, protective immune response against pneumocystis. The researchers developed several novel polypeptides that could efficiently elicit robust immunity against PCP. These results suggest that the described novel polypeptides and immunogenic conjugates are candidates for a potential vaccine to prevent or a potential therapeutic agent to treat P. carinii and S. pneumoniae infections.

Intellectual Property Status
U.S. patent 7,815,918, Poly-peptides and Immunogenic Conjugates Capable of Inducing Antibodies Against Pathogens, and Uses Thereof issued 19 October 2010.
Additional applications pending in Canada and Europe.

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