

Passive Intranasal Monoclonal Antibody Prophylaxis Against Murine *Pneumocystis Carinii* Pneumonia

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Technology description

Description

This research has identified a conserved immunogenic epitope on *P. carinii* and *Streptococcus pneumoniae* that is dually recognized by a monoclonal antibody, 4F11. The peptide containing the protective epitope can be utilized to develop a vaccine to prevent or treat disease caused by *P. carinii* or *S. pneumoniae*. Recent work has demonstrated that immunization with a recombinant protein containing the antigen produces an antibody response that recognizes *P. carinii* antigens in a mouse model. Additionally, the 4F11 antibody recognizing the epitope can be used for passive immunization against these infections. *Pneumocystis carinii* is a life-threatening cause of pneumonitis among patients who are immunocompromised because of malignancies, AIDS, or congenital immunodeficiency disorders. *P. carinii* pneumonia also occurs in children who are immunocompromised on the basis of malnutrition; thus the global significance of *P. carinii* pneumonia is potentially great. Although there are drug treatments for *P. carinii* pneumonia, poor compliance, adverse side effects, and recurrent infections remain a problem and warrant the development of new treatments and strategies to prevent this disease.

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