Expression of a Cloned Human-Specific MSG Protein from *Pneumocystis carinii*

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Pneumocystis carinii is an opportunistic pathogen causing severe, life threatening pneumonnia in inimunocompromised people, particularly those suffering from AIDS. Mammals are the only known hosts of *P. carinii*, with a wide variety susceptible to its resultant pneumonia; however, *P. carinii* from humans is genetically and serologically distinct from other animal isolates (Stringer and Walzer, 1996). The fungus seems to interact with the type I pneumocyte, in part, through a 140 kDa glycoprotein, termed major surface glycoprotein (MSG) or glycoprotein A (gpA) (Linke et al., 1998). Primers were designed to amplify three overlapping fragments of a human-specific MSG protein using the polymerase chain reaction. Two of these fragments were subcloned into Pet--30 bacterial expression vectors and one showed expression of recombinant human MSG protein. These recombinant MSG proteins will allow clean preparations of human MSG proteins for antigenic studies involving the development of a bioassay for immune system recovery in the face of drug therapy and vaccine development.

Works Cited

Garbe, T.R. and J.R. Stringer (1994) "Molecular characterization of clustered variants of genes encoding major surface antigens of human*Pneumocystis carinii" Infection and Immunology* 62(8): 655-664.

Linke, M.J., Sunkin, S.M., Andrews, R.P., Stringer, J.R. and P.D. Walzer (1998) "Expression, structure and location of epitopes of the major surface glycoprotein of *Pneumocystis carinii f. sp. carinii" Clinical and Diagnostic La. Immunology* 5(l): 50-57.

Stringer, J.R. and P.D. Walzer (1996) "Molecular biology and epidemiology of *Pneumocystis carinii* infection in AIDS" AIDS 10: 561-571.