

O-Linked Oligosaccharides are Immunodominant Epitopes of the Peptidorhamnomannan Present in the *Scedosporium prolificans* Mycelium

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Scedosporium prolificans is an emerging opportunistic filamentous fungus associated with localized or disseminated infections.

Peptidorhamnomannans (PRMs) are common cell-wall components that are distributed throughout the genus *Scedosporium*. Oligosaccharides O-linked to Peptidorhamnomannans were isolated and characterized by our group.

Antibodies recognizing such a structure could, therefore, recognize both N-linked high molecular weight polysaccharides and the O-linked oligosaccharide groups of their PRMs. To verify this, we now compare the antigenicity of de-O-glycosylated PRM with the intact one using rabbit anti-*S. prolificans* serum. Results consistently showed that 80% of the reactivity was lost after β -elimination of PRM. The antigenicity of the oligosaccharides was evaluated by investigating their ability to inhibit the reaction between PRM and rabbit anti-*S. prolificans* mycelium hyperimmune serum in an ELISA hapten system. Up to 70% inhibition was obtained with the hexasaccharide fraction which contains an α -Rhap-(1 \rightarrow 2)- α -Rhap-(1 \rightarrow 3)- α -Rhap-(1 \rightarrow 3)- terminal group. Thus, O-glycosidically linked oligosaccharide chains, despite being the less abundant carbohydrate component of the *S. prolificans* PRM, may account for a significant part of the antigenicity, associated with the rhamnomannan component.

Besides the contribution of these oligosaccharides to the antigenicity of the PRM, the role played by the intact surface glycoconjugate in adhesion of its conidia to macrophages was studied. Removal of the PRM by hot buffer extraction gave rise to a significant decrease in the phagocytic index, preliminary results showed its involvement in macrophage-conidia cell interactions.

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