P25 Establishment of ELISA for AgI/II protein detection using monoclonal anti-AgI/II antibody

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Streptococcus mutans has been known as a causative agent for dental caries. As well as acid production yielding the demineralization of tooth enamel, adherence and colonization of S. mutans to the teeth are also important for their virulence. S. mutans attaches the dental pellicle by an adhesion from surface protein called as Antigen I/II. A secretory IgA for intact AgI/II or its salivary-protein-binding segment has been found to block adherence of S. mutans. Therefore, it will be of most importance to detect the level of AgI/II molecules in saliva regarding dental caries and other systemic disease.

The aim of this study was to evaluate the establishment of secretory AgI/II by ELISA using monoclonal anti-AgI/II antibody for prediction of dental caries. Firstly, through the expression pattern of AgI/II of S. mutans GS-5, we suggest that AgI/II of S. mutans GS-5 file up in culture media time dependently. So, we tested the reaction of between recombinant AgI/II-N, or native AgI/II and monoclonal anti-AgI/II antibody by ELISA. As a result, our monoclonal anti-AgI/II antibody can detect 1ng recombinant AgI/II-N and predict amount of the native AgI/II.

In conclusion, through ELISA against AgI/II using our monoclonal anti-AgI/II antibody, we can detect the AgI/II in native condition. Also, we thought that analysis of secretory AgI/II can be utilized for prediction of disease associated S. mutans.