Effect of coating the wells of a polystyrene microtiter plate with xanthorrhizol on the biofilm formation of *Streptococcus mutans*

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Abstract

Colonization on the surface of tooth by *Streptococcus mutans* is an important step in the initiation of dental plaque. Polystyrene microtiter plates have been employed to study bacterial colonization and biofilm formation of periodontal bacteria. The objective of this work was to evaluate the effect of coating the wells of a polystyrene microtiter plate with xanthorrhizol isolated from java turmeric (*Curcuma xanthorrhiza* Roxb.) on *Strep. mutans* biofilm formation. Our studies demonstrated that coating of a polystyrene microtiter plate with 5 µg/ml of xanthorrhizol resulted in significant (up to 60%) reduction of adherent cells compared to that of cells in uncoated wells. This result suggests that xanthorrhizol displays potent activity in preventing *Strep. mutans* biofilm formation.

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