

# Ultracytochemical localization of hydrogen peroxide production by dental plaque bacteria

Oyarzún, Alejandro

Smith, Patricio

This study looked for evidence of in vitro hydrogen peroxide (HP) synthesis in human dental plaque, using an ultracytochemical technique that included incubation in a  $CeCl_3$ -rich medium.

Supragingival dental plaque was obtained from periodontally healthy individuals and subgingival dental plaque from human periodontal disease sites. Specificity of the cytochemical reaction was demonstrated using catalase (as HP scavenger). HP production was indicated by an electron-dense precipitate localized at the cell envelope of unidentified Gram-positive and Gram-negative bacteria in both supra- and subgingival samples. The ultracytochemical reaction localized the HP production primarily to the plasma membrane and periplasmic space.