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SUWIT PALANGSAK : DETECTION OF *PREVOTELLA INTERMEDIA* BY PCR. THESIS ADVISORS : RUDEE SURARIT Ph.D., WORANUT WEERAPRADIST M.S., SONGSAK PETMITR Ph.D., BOONYANIT THAWEBOON M.S. 72 p.
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The identification of *Prevotella intermedia* by conventional methods is difficult, time consuming, lacking of specificity or sensitivity and sometimes unreliable. Therefore, polymerase chain reaction (PCR) methods for detection of *P. intermedia* were developed for rapid and easy identification of this periodontopathogen in subgingival plaque samples. Two primer pairs were designed from signature sequences of hemagglutinin and 16S rRNA genes. The developed assays are highly specific with a detection limit of 10 bacterial cells and also allow (semi-)quantification of *P. intermedia* in clinical specimens.

The hemagglutinin-based and 16S rRNA-based PCR detection methods were used to investigate the presence of *P. intermedia* in subgingival plaque samples. The samples were taken from randomly selected teeth in 7 adult periodontitis patients (29 sites total) as well as in 10 healthy subjects (20 sites total). The prevalence of *P. intermedia* in periodontitis subjects was 100% of subjects and 55.2% of sites which was significantly higher than in healthy subjects (30% of subjects and 15% of sites) at $p< 0.05$. A trend of increased occurrence of *P. intermedia* was observed in the sites with probing depth > 4 mm or clinical attachment level ≥ 2 mm. This study demonstrates the utility of PCR detection method for identifying *P. intermedia* and indicates a strong association between *P. intermedia* and adult periodontitis.