Oral Diseases (2009) 15, 119. doi:10.1111/j.1601-0825.2008.01470.x

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LETTER TO THE EDITOR

A real-time PCR probe for the quantitative detection of *Porphyromonas gingivalis*

Dear Editor,

Kato and co-workers recently published an article in *Oral Diseases* describing the quantitative detection of volatile sulfur compound (VSC)-producing microorganisms in oral specimens using real-time polymerase chain reaction (PCR) (Kato *et al*, 2005). The authors reported the sets of primers and probes used in real-time PCR assays to quantify four putative periodontal pathogens (*Porphyromonas gingivalis*, *Fusobacterium nucleatum*, *Tannerella forsythia* and *Treponema denticola*) in microbial plaque, which are also implicated in oral malodour by producing VSC compounds.

We applied two real-time PCRs for the quantitative analysis of *F. nucleatum* and *P. gingivalis* in microbial plaque using the species-specific primers and probes depicted in Table 1 of the above-mentioned article. We successfully amplified *F. nucleatum*, but no fluorescence signal was observed in the real-time PCR for *P. gingivalis*. However, a PCR product of the expected size (126 bp) was obtained when we applied a conventional PCR for the amplification of the 16S rRNA gene of *P. gingivalis* using the same primer sets, suggesting that the cause of failure was, most probably, the probe. Subsequently, the nucleotide sequence of *P. gingivalis* probe (Pg 1238T) was checked using the BLAST tool (http://www.ncbi.nlm.nih.gov/blast). It became apparent that the sequence was very different from *P. gingivalis*, presenting 100% identity with another microorganism, *Aggregatibacter actinomycetemcomitans* (formerly *Actinobacillus actinomycetemcomitans*, LKTA and LKTC genes for leukotoxin, with GenBank accession number X16829).

We concluded that this discrepancy was the cause of the failure, and we would like to report this observation hoping to help scientists, who plan to use this real-time PCR in the future.

DA Apatzidou[1], A Papa[2]
[1]*Department of Preventive Dentistry, Periodontology and Biology of Implants, Dental School, Aristotle University of Thessaloniki, Greece.*
[2]*A Department of Microbiology, Medical School, Aristotle University of Thessaloniki, Greece*
E-mail: perioapatzidou@yahoo.gr

Reference

Kato H, Yoshida A, Awano S, Ansai T, Takehara T (2005). Quantitative detection of volatile sulfur compound-producing microorganisms in oral specimens using real-time PCR. *Oral Diseases* **11:** 67–71.