micro-IDent®*plus* beats real-time PCR!

HAIN LIFESCIENCE

Clinically tested, scientifically recognized, proven in dental practice again and again!

In a scientific study conducted at the University of Bern, Switzerland in which **micro-IDent®*plus*** was compared with a real-time PCR, our test system was rated as the superior method for the individual diagnosis, treatment planning, and monitoring of periodontitis patients. **micro-IDent®*plus*** was rated as the better testing system, particularly for microbiological diagnosis of patients in dental practices as well as for post-treatment monitoring!

This shows once again: **micro-IDent®*plus*** is not just a standard testing system, but **the** test for the detection of periodontopathogenic bacteria. That is affirmed by scientific studies as well as our customers' satisfaction and the international market leadership status of the test. The reason is simple: the results are clinically relevant and leave no question unanswered.

Marker pathogen analysis with **micro-IDent®** and **micro-IDent®*plus*** supply data on quality and quantity of up to 11 periodontopathogenic species and their affiliation to so-called „bacterial complexes". The antibiotic threshold levels show which patients would benefit from adjuvant antibiotics and which therapy would be most effective for any given patient.

Furthermore, studies* at the Forsyth Institute in Boston prove that the **micro-IDent®*plus*** DNA test reliably distinguishes which patients are healthy and which have periodontal disease.

• Exact Diagnosis • Reliable Therapy • Satisfied Patients

* Haffajee et al (2009): J. Clin. Periodontol. 36(8):642-649.

Comparison of real-time polymerase chain reaction and **DNA•STRIP** technology in microbiological evaluation of periodontitis treatment

Eick S, Straube A, Guentsch A, Pfister W, Jentsch H. (2011), Diagnostic Microbiology and Infectious Disease 69(1):12-20

Objective:

The impact of a commercially available test (**micro-IDent®*plus***, Hain Lifescience, Nehren, Germany) for the detection of periodontopathogenic bacteria on diagnosis and treatment of severe chronic periodontitis was evaluated in comparison with a quantitative in-house real-time PCR.

Material and methods:

300 subgingival plaque samples from systemically healthy patients with generalized chronic periodontitis were collected with paper points. All patients demonstrated an attachment loss > 5 mm at more than 30% of sites and an age of > 35 years. Plaque samples from each subject were collected from 3 periodontal pockets (PD > 5 mm). At the selected sites, supragingival plaque was carefully removed, after which the sample sites were isolated with cotton rolls and gently air-dried. Baseline of the study was set after hygiene phase and immediately before scaling and root planning (SRP). Subjects were monitored at baseline as well as at 3, 6, and 12 months after SRP. At all these points in time, samples were obtained for microbiological analysis. After extracting DNA, *A. actinomycetemcomitans* (Aa), *P. gingivalis* (Pg), *T. forsythia* (Tf), *T. denticola* (Td), *P. intermedia* (Pi) and six other periodontopathogens were determined blinded by a) the semiquantitative **micro-IDent®*plus*** based on **DNA•Strip** technology (Hain Lifescience, Nehren) as well as b) an in-house real-time PCR.

Results:

The 300 subgingival plaque samples were analyzed by both methods. Even though the real-time PCR was more accident-sensitive than **micro-IDent®*plus*** all correlations between the two methods were highly significant. Using **micro-IDent®*plus*** as reference, the sensitivity values for the real-time PCR ranged between 55.5% and 88.7%, the specificity was between 33.7% and 93.8%. The sensitivity of **micro-IDent®*plus*** using real-time PCR as reference ranged for the most important periodontopathogenic bacteria Aa, Pg, Tf, Td and Pi between 77.6% and 96.4%, specificity ranged between 42.5% and 82.8%.

Analysis of **micro-IDent®*plus*** results showed significant differences between all points in time for all species except for *Prevotella intermedia.* Compared to baseline, the bacterial loads were lower for Pg, Tf, Pm, Fn, Cr, En and Cs at all follow-ups. As in real-time results, *A. actinomycetemcomitans* was temporarily elevated 3 months after baseline. Td, Pi, and Ec were found to be at lower loads at the 6- and 12-month follow-ups.

Conclusion:

There was a significant correlation between **micro-IDent®*plus*** and real-time PCR; the accordance of the results reached a maximal coefficient (R) of 0.74. Both methods showed the changed numbers of periodontopathogens after treatment, and thus reflected treatment success. In part, the difference was more visible using **micro-IDent®*plus*** analysis resulting from the used threshold and the semi-quantitative analysis. Because periodontopathogens are found in low numbers also in periodontally healthy subjects, a threshold as in the **micro-IDent®*plus*** is helpful. For these reasons, the semi-quantitative **DNA•Strip** technology is more suitable for microbial analysis in individual diagnosis, treatment schedule, and control of periodontitis patients than the real-time assay.

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