

## Rapid and Specific Detection of most common Fungal Nail and Skin Infections

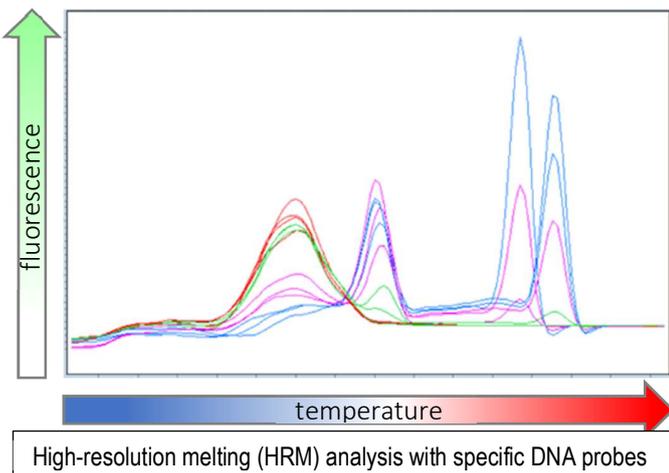
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### Challenge

Nail and skin infections by dermatophytes can be highly inflammatory and affect millions of people globally (prevalence 10 – 30%). When the fungal agent affects the nail it manifests chronically and often spreads to other parts of the human body. Prevalence increases with the changes in global lifestyle (synthetic shoes, commonly used aquatic facilities) and demography (age and age-related diseases increase risk of infection, diabetes). The optimal treatment depends on the fast and accurate detection of the pathogen involved. Standard methods are inspection, microscopic assessment of native samples and fungal culture. Fungal culture, however, takes several weeks and fails in up to 30% of cases when patients have already started self-medication.

### Technology

The novel technology provides a correct species diagnosis within 24-48 hours and is up to 30% more sensitive than fungal culture. In contrast to culture it can be used for therapy monitoring during ongoing treatment. Handling and shipping of patient material is straightforward and robust. Compared to other DNA-based test systems available on the market, it is the only real-time PCR method that can simultaneously detect the dermatophytes as a group and differentiate between closely related species.



This is achieved by the use of a novel DNA marker in combination with high resolution melting (HRM) analysis. This enables decision for most efficacious treatment, infection management to avoid re-infection by endemic or zoophilic pathogens, e.g. from an untreated pet, and epidemiologic monitoring. The method is based on a robust and cost-effective melting curve analysis using specific DNA probes with high discriminatory power.

### Commercial Opportunity

The technology is available for joint development or in-licensing. Further clinical validation can be realized in cooperation with an experienced university clinic in Germany.



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### **Developmental Status**

The species specificity of the new marker has been evaluated for the close related dermatophytes using the real-time PCR technology with HRM on the LightCycler® 480.

### **Patent Situation**

A priority claiming European patent application has been filed in February 2018.