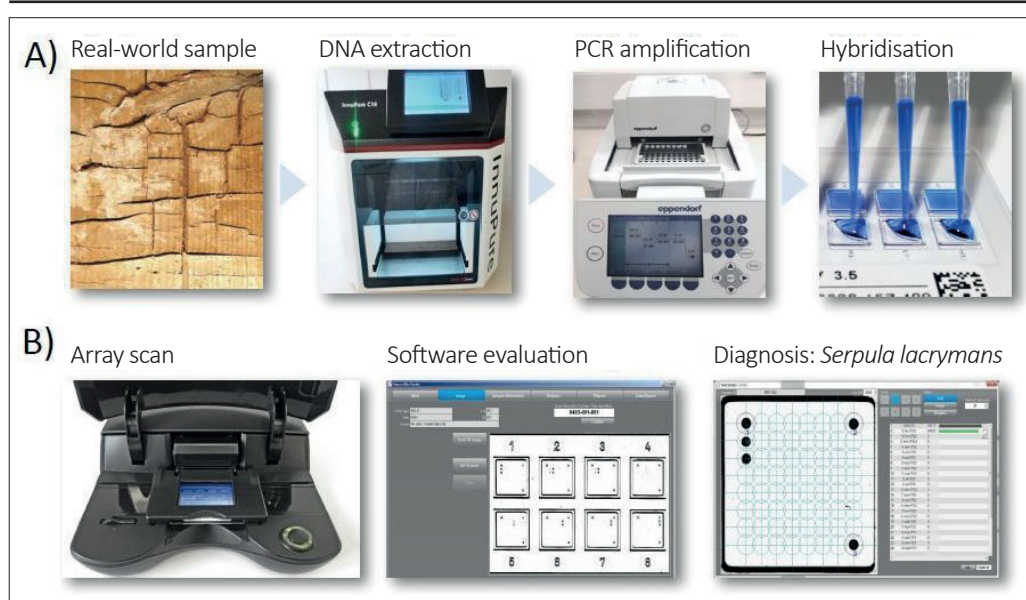


Novel DNA macroarrays for the diagnosis of fifty house rot fungi

Two DNA macroarray kits, WDF 1.0 and WDF Plus 1.0 (WDF = wood-decay fungi), have been developed in cooperation between the Mykolabor Dresden and Chipron GmbH (Berlin) for reliable and inexpensive diagnostics of the 50 most important house rot fungi (wood-destroying basidiomycetes and mould fungi). The DNA chip technology that was developed combines genus-spanning PCR amplification of short strains of the fungal DNA with a simple and cost-effective, non-fluorescence-based DNA macroarray hybridisation platform. In addition, a special protocol based on the innuPREP Plant DNA Kit IPC16 with the InnuPure® C16 automatic DNA extraction system was developed for various practical samples.

The two diagnostic kits enable an increase in analytical sensitivity and a high sample throughput at low time expenditure. The functional principle is shown in the figure.

Functional principle



Areas of application

The novel DNA macroarrays for fungal diagnostics have been produced by Chipron GmbH since 2016, and the Mykolabor Dresden accompanied the market launch as a reference laboratory. Since 2005, the Mykolabor Dresden has been offering the molecular biological fungal determination using different methods (yes/no test for dry rot, sequencing and DNA chip technology) and, for three years, the DNA macroarray technology as a service. The successful analysis of more than 600 real-world samples has confirmed the practical suitability of the novel DNA diagnostics in comparison to conventional methods for the determination of fungi.

Potential users are in particular testing and analytical laboratories, experts as well as research institutions that are active in the fields of wood and building protection, tree diagnostics and phytopathology or mycology. General fields of application are the forestry and the timber industry, the building industry, the real estate industry as well as gardening and landscaping.

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