

O0788 **The development of a real-time PCR assay for the rapid identification of *Candida auris***

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Background: *Candida auris* is a multidrug resistant, emerging agent of invasive fungal infection in the intensive care setting, and has been responsible for recent outbreaks in healthcare settings. Laboratory identification of *Candida auris* is difficult and is often misidentified as *Candida haemulonii*. Real-time PCR methods for the detection of *C. auris* could provide quick results for both colonisation and infection, help to control spread in the clinical setting and, with accurate identification, could lead to more appropriate patient management. A real-time PCR for the detection of *Candida auris* complements the current Bruker offering within invasive fungal disease.

Materials/methods: The development of the real-time PCR for the detection of *C. auris* includes specific, targeted primer and probe mastermixes and a variety of controls; positive, negative and internal controls. The real-time PCR assay is designed in an easy to use format with minimum hands on time and results generated in less than 2 hours from extraction. The specific primer and probe sequences have been designed to target *C. auris* Mating Factor (MF α 1) gene. Initial feasibility studies have demonstrated a limit of detection of 20 input copies (ipc) of plasmid DNA using standardised Fungiplex real-time PCR conditions.

Results: Known plasmid concentrations were tested for the *C. auris* real-time PCR assay with a reproducible limit of detection of 20 ipc. Table 1 shows Ct values for each target and corresponding internal amplification control when tested on the LightCycler 480 II real-time PCR instrument.

Table 1: Ct values of *C. auris* MF α 1 plasmid targets at known concentrations

<i>C. auris</i> plasmid target concentration	Average Ct	
	MF α 1	Internal Control
20 ipc	36.6	30.9
30 ipc	37.1	31.0
2x10 ² ipc	33.3	30.5
2x10 ³ ipc	30.3	29.7
2x10 ⁴ ipc	26.8	30.4
2x10 ⁵ ipc	23.8	37.5
2x10 ⁶ ipc	20.2	40.0
IAC	N/A	31.2

Conclusions: The Bruker *Candida auris* real-time PCR assay exhibits excellent analytical sensitivity at low sample concentrations and is being further developed to produce a kit to identify *Candida auris* in a clinical setting.