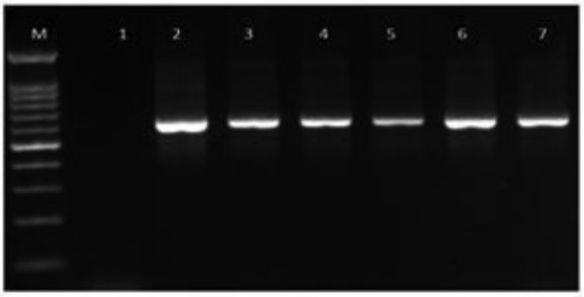
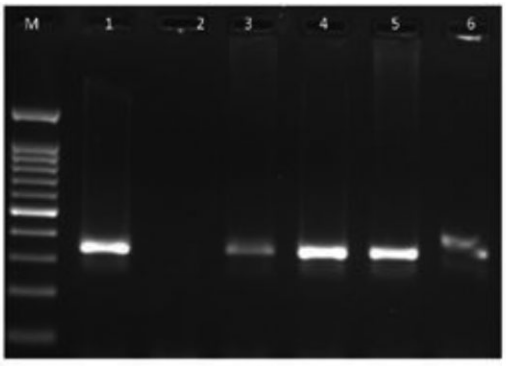


Picture 1. Lane M showing 100 bp DNA Ladder, lane 1 as a negative control, lane 2 showing 600 bp amplified PCR product of fungus DNA, Lane 3,4,5,6,7 showing 600 bp amplified PCR product of fungal DNA.



Picture 2. Lane M showing 100 bp DNA Ladder, lane 1 showing 350 bp amplified PCR product of Candida, Lane 2 showing as a negative control. Lane 3,4,5,6 showing 350 bp amplified PCR product of Candida.

P414

Diagnostic allele-specific PCR for the identification of *Candida auris* clades and common resistance mutations

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Poster session 3, September 23, 2022, 12:30 PM - 1:30 PM

Candida auris (*C. auris*) is an opportunistic pathogenic yeast that emerged worldwide during the past decade. This fungal pathogen poses a significant public health threat due to common multidrug resistance (MDR), alarming hospital outbreaks, and frequent misidentification. Genomic analyses have identified five distinct clades that are linked to five geographic areas of origin and characterized by differences in several phenotypic traits such as virulence and drug resistance.

Typing of *C. auris* strains and the identification of clades can be a powerful tool in molecular epidemiology and might be of clinical importance by estimating outbreak and MDR potential. As *C. auris* has caused global outbreaks, including in low-income countries, typing *C. auris* strains quickly and inexpensively is highly valuable. We report five allele-specific multiplex polymerase chain reaction (AS-multiplex PCR) assays for the identification of *C. auris* and each of the five described clades of *C. auris* based on conserved mutations in the internal transcribed spacer (ITS) rDNA region and a clade-specific gene cluster. Additionally, we developed AS-PCR assays for the identification of SNPs in FKS1 and ERG11 that are commonly linked to echinocandin and azole resistance respectively.

This PCR method provides a fast, cheap, sequencing-free diagnostic tool for the identification of *C. auris*, *C. auris* clades, and common resistance mutations.

P415

High positive and rapid detection of clinical urine samples of fungal infection based on modified calcium fluorescence

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Successful management of urinary fungal infection depends upon the detection positive and efficiency. The aim of this study was to evaluate the detection positive and efficiency of modified calcium fluorescent white (m-CFW) staining in direct detection of *Candida* spp. in urine samples of patients with suspected fungal infection. We collected 100 clinical urine samples from different departments and analyzed the detection positive rate of the methods of culture, KOH, sequence, and modified CFW. The results indicated that the positive rate of the methods was 12%, 8%, 14%, and 15%, respectively. The positive rate of modified CFW staining was significantly higher than that of ordinary microscopic examination and fungal culture ($P < .05$). Modified CFW in the detection of fungi in urine can significantly improve the positive rate of fungi in clinical urine samples and shorten the detection time. It has a certain reference value for clinical diagnosis and medication.