

# Improvement of New PCR Assay Targeting Mutations for Fast Recognition of Azole Resistant Mould Fungus, *Aspergillus fumigatus* †

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**Abstract:** Allergenic mould fungus, *Aspergillus fumigatus* well known for its invasive aspergillosis disease is intrinsically resistant to most of the fluconazole group of medicines. It was studied that the mutations encoding 14a-sterol demethylase has the capacity to make triazole-resistant to this clinical fungal isolates. The present study is a multiplex allele-specific PCR assay targeting mutations for rapid detection of azole-resistant *A. fumigatus* for suitable patient management. During the present work clinical and wild isolates of *A. fumigatus* were employed to evaluate MAS-PCR, which was confirmed by direct DNA sequencing of cyp5 IA98 region from selected isolates of *A. fumigatus*. MAS-PCR assay was successfully developed to simplify the rapid detection of L98H mutation in cyp51A gene that confers the resistance to triazoles in *A. fumigatus* strains. The assay would help in primary acknowledgement of triazole-resistant *A. fumigatus* strains for proper management of patients with invasive aspergillosis.

**Keywords:** MAS-PCR assay; *Aspergillus fumigatus*; triazole-resistant; invasive aspergillosis.

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## Conflicts of Interest

The authors declare no conflict of interest.