

# In Vitro Antifungal Activity of Luliconazole, Efinaconazole, and Nine Comparators Against *Aspergillus* and *Candida* Strains Isolated from Otomycosis

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**Background:** *Aspergillus* and *Candida* species are the most commonly identified fungal pathogens in otomycosis. However, we usually encounter some difficulties in its treatment because many patients show resistance to antifungal agents and present a high recurrence rate.

**Objectives:** The current research was conducted to compare the in vitro activities of luliconazole (LUL), and efinaconazole (EFN) and the nine comparators on *Aspergillus* and *Candida* strains isolated from otomycosis.

**Methods:** The in vitro activities of nine common antifungal drugs (amphotericin B (AMB), voriconazole (VRC), fluconazole (FLU), itraconazole (ITC), ketoconazole (KTO), clotrimazole (CLO), nystatin (NYS), terbinafine (TRB), and caspofungin (CAS)) and two novel new azoles (LUL and EFN) against 108 clinical isolates of *Aspergillus* and *Candida* species obtained from otomycosis were assessed according to the CLSI broth microdilution document.

**Results:** The LUL and EFN had the geometric mean minimum inhibitory concentrations (GM MICs) of 0.098 and 0.109  $\mu\text{g}/\text{mL}$  against all *Aspergillus* strains, respectively. Furthermore, the GM MICs of all *Candida* isolates for LUL, EFN, CAS, CLO, VRC, AMB, ITC, KTO, FLU, NYS, and TRB were calculated to be 0.133, 0.144, 0.194, 0.219, 0.475, 0.537, 0.655, 1.277, 4.905, 9.372, and 13.592  $\mu\text{g}/\text{mL}$ , respectively. Additionally, 6 (35.29%), 2 (11.7%), and 1 (5.88%) *Candida* isolates were resistant to FLU, CAS, and VRC, respectively.

**Conclusions:** As the findings indicated, LUL and EFN showed the lowest GM MIC values against the examined species. Accordingly, these novel imidazole and triazole antifungal agents can be regarded as proper candidates for the treatment of otomycosis caused by *Aspergillus* and *Candida* strains.

**Keywords:** Luliconazole, Efinaconazole, Antifungal Susceptibility, Otomycosis