

## Lipase Gene Expression of Resistant and Sensitive *Candida Albicans* to Fluconazole Isolated from Patients Suffering from Oral Candidiasis and Vaginal Candidiasis

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### Abstract

**Background and Objective:** With the development of drug resistance in strains of fungi, there is a considerable resistance of *Candida albicans* strains to fluconazole. Molecular studies are developing to determine the relationship of such a drug resistance with the increased gene expression of enzymes produced in drug-resistant *Candida* isolates. We aimed to evaluate the relationship between extracellular lipase gene (LIP8) expression of *Candida albicans* isolated from candidiasis and sensitivity or resistance to fluconazole.

**Material and Methods:** Drug susceptibility of *Candida albicans* was performed in oral and vaginal candidiasis to determine the proportion of strains sensitive or resistant to fluconazole using NCCLS method. To evaluate and compare the expression of these genes in the susceptible and resistant strains, RT real-time PCR reaction was used.

**Results:** Of 46 *Candida albicans*, 20 were susceptible, 12 were semi-susceptible and 14 were resistant to fluconazole. By using PCR reaction, the results showed that the expression of this gene in fluconazole-susceptible isolates was moderate, while it was high in the isolates resistant to fluconazole.

**Conclusion:** The results of lipase gene (LIP8) expression showed that the additional expression of some genes of the enzymes responsible for virulence of *Candida* may also play a role in resistance to fluconazole.

**Keywords:** Candidiasis, Lipase Gene Expression, RT real-time PCR, Fluconazole