

论著

荧光定量PCR检测不同状态下白念珠菌CPH1、EFG1基因的表达

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摘要: 目的 检测转录因子CPH1和EFG1基因在游离态及生物膜态呼吸道白念珠菌临床分离株的表达差异,探讨其在生物膜形成过程中的作用。方法 选取10株白念珠菌临床分离株,分别提取游离态及生物膜态白念珠菌总RNA,用荧光定量PCR的方法测定两种状态下CPH1和EFG1基因的表达,用 $\Delta\Delta Ct$ 的方法计算其相对表达量。结果 白念珠菌生物膜态转录因子EFG1的表达是游离态表达水平的1.42~7.14倍,差异有显著意义($P<0.05$),而转录因子CPH1的表达有8株菌生物膜态较游离态增高,1株降低,1株无明显变化,差异无显著意义($P>0.05$)。结论 白念珠临床株转录因子CPH1和EFG1参与生物膜形成的调控,并需在体内实验中进一步研究。

关键词: 白念珠菌 生物膜 转录因子

Detecting CPH1,EFG1 gene expression of planktonic cells and biofilm of *Candida albicans* with fluorescent quantitative PCR assay

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Abstract: Objective To investigate the role of gene expression of transcription factor CPH1 and EFG1 in biofilm formation by detecting the difference of CPH1,EFG1 mRNA expression between biofilm and planktonic cells of *C.albicans*.Methods Ten *C.albicans* strains isolated from respiratory tract were used. The total RNA of planktonic and biofilm cells were extracted separately, the mRNA expression of CPH1,EFG1 were measured with fluorescent quantitative PCR assay.The $\Delta\Delta Ct$ that show relative value of mRNA expression were calculated.Results In this study,the mRNA expression of EFG1 in biofilm cells was 1.42~7.14 times higher than that in planktonic cells($P<0.05$).The mRNA expression of CPH1 was up-regulated in biofilm cells of 8 isolates, down-regulated in 1 isolate and show no difference in 1 isolate ($P>0.05$).Conclusion The study show that transcription factors CPH1,EFG1 participated in the regulation of biofilm formation in clinical isolates, and further research in vivo is needed to provide more proffs.

Keywords: *Candida albicans* biofilm transcription factor

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