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病毒性心肌疾病的基因时空表达特征

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Orderliness of Genes Expression Profiling in Viral Heart Disease

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- 摘要
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全文: PDF (775 KB) HTML (1 KB) **输出:** BibTeX | EndNote (RIS) **背景资料**

摘要 目的 研究病毒性心肌炎到扩张型心肌病全病程基因时空表达谱动力学特征.方法 用含有8 000个基因克隆的基因芯片检测CVB3反复感染Balb/c小鼠后第0，7，21天及第3，6，9个月心肌组织基因表达，并用SOM对差异性表达的基因进行聚类分析.结果 （1）第10,14,15,19,20类基因在第7天时表达上调，第21，22类基因在第21天表达上调，而第23，24类基因在第7、21天表达均上调；（2）第6,7,11,12类基因在第7天时表达下调，第4，5类基因在第21天表达下调，而第2，3，8类基因则在第7，21天表达均下调；（3）第1，16类基因在第7天时表达下调，而第21天后则表现为上调；（4）有些基因如转移生长因子β结合蛋白、β-2微球蛋白,CD 53抗原却表现为持续性表达上调，而α-1微球蛋,ninjurin 1,舒血管素27,cytokine inducible SH2-containing protein 2则出现持续性表达下调.结论 建立了小鼠CVB病毒性心肌炎及扩张型心肌病全病程基因表达谱动力学模式，为进一步了解其分子发病机制提供全新的视野.

关键词： 心肌炎 心肌病 cDNA芯片 柯萨奇病毒B组

Abstract: Objective To obtain the data on dynamic gene expression changes during the progression from myocarditis to dilated cardiomyopathy.Methods Four-weeks-old-male Balb/c mice were inoculated repetitively once month with Nancy strain of CVB.The gene expression profiles were investigated in mice cardiac tissue samples of acute and chronic viral myocarditis and dilated cardiomyopathy by cDNA microarry techniques,which include 8000 cDNA clones of mice,at days 0,7,21 and 3,6,9 months postinfection time points as compared with no-infection.A self-orangizing map(SOM) was used to analyze the data of differentially expressed genes with the GeneMaths software.Results (1) gene expressions were found up-regulated only at 7 day(cluster 10,14,15,19,20),21 day(cluster 21,22) or 7 and 21 days(cluster 23,24) respectively;(2) gene expressions down-regulated were found only at 7 (cluster 6,7,11,12) 21 day(cluster 4,5),or at 7 and 21 days(cluster 2,3,8);(3) genes expressions down-regulated were also demonstrated at 7 day and up-regulated at 21 day and 3 month (cluster 1,16).(4)some genes persisted up- (e.g.latent transforming growth factor beta binding protein,beta-2 microglobulin,CD 53 antigen) or down-regulated (e.g.alpha 1 microglobulin,ninjurin 1,kallikrein 27,cytokine inducible SH2-containing protein 2) through each points.Conclusion We have established dynamic gene expression profiling database during the progression from myocarditis to dilated cardiomyopathy in mice with CVB infection.The results provide new insight into potential molecular mechanisms of progression from myocarditis to dilated cardiomyopathy with CVB infection.

Key words: myocarditis cardiomyopathy cDNA microarry Coxsackievirus B

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