

论著

## 大鼠心肌匀浆上清液对骨髓间质干细胞诱导分化的影响

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**摘要** 目的: 探讨心肌匀浆上清液对大鼠骨髓间质干细胞(MSCs)诱导分化的影响。方法: 体外分离培养大鼠MSCs, 检测纯度。于原代培养第3 d加入自体心肌匀浆上清液持续作用1周。3周后, 观察细胞形态, 采用免疫细胞化学检测肌球蛋白重链和心肌特异性肌钙蛋白-T, RT-PCR方法检测Nkx2.5、 $\alpha$ -MHC和ANP基因的表  
**达**。结果: 大鼠MSCs经诱导后, 表达肌球蛋白重链、心肌特异性肌钙蛋白-T和Nkx2.5、 $\alpha$ -MHC基因, 但未表达ANP基因, 也未观察到肌管和闰盘样结构。结论: 心肌匀浆上清液对MSCs具有定向诱导分化作用, 但诱导不完全, 具体机制仍需深入研究。

**关键词** [骨髓](#); [干细胞](#); [细胞分化](#); [大鼠](#); [心肌提取液](#)

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## Effects of myocardial extracts on transdifferentiation of bone marrow-derived mesenchymal stem cells of rats

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### Abstract

<FONT face=Verdana>AIM: To investigate the effects of myocardial extracts of rats on transdifferentiation of bone marrow-derived mesenchymal stem cells (MSCs). METHODS: After establishing stable culture methods for rat MSCs, they were induced by high level of myocardial extracts on day 3 of primary culture for 1 week. Immunocytochemistry technique was used to detect MHC and troponin-T, and the expression of Nkx2.5,  $\alpha$ -MHC and ANP genes were identified by RT-PCR technique 3 weeks later. RESULTS: MSCs of rats expressed cardiac MHC and troponin-T proteins, Nkx2.5 and  $\alpha$ -MHC genes after induction. However, they neither expressed ANP gene nor formed myotubes and intercalated disk. CONCLUSION: Myocardial extracts can induce MSCs to transdifferentiate into cardiomyocytes. </FONT>

**Key words** [Bone marrow](#) [Stem cells](#) [Cell differentiation](#); [Rats](#) [Myocardial extracts](#)

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