

论著

微小RNA在丁酸钠诱导胚胎干细胞分化为肝细胞过程中表达差异谱的变化

陈亚进¹, 闵 军¹, 商昌珍¹, 任 萌², 彭孝雄¹, 曹 君¹, 陈积圣¹

中山大学 附属第二医院 ¹肝胆外科 ²内分泌科, 广州 510120

收稿日期 2008-5-29 修回日期 网络版发布日期 2008-9-3 接受日期

摘要 摘要: 目的 探讨微小RNA (microRNA) 在丁酸钠诱导胚胎干细胞分化为肝细胞过程中表达差异谱的变化, 为进一步研究microRNA调控胚胎干细胞向肝细胞分化的分子机制奠定基础。方法 分别于丁酸钠诱导小鼠胚胎干细胞向肝细胞分化过程中的第0、6、9天提取细胞总RNA, 并分离获得分化细胞microRNA。利用microRNA芯片技术将细胞microRNA与哺乳动物microRNA芯片杂交, 采用LuxScan 3.0 图像分析软件和 SAM (version 2.1)软件对芯片杂交结果进行数据分析, 筛选出明显差异表达microRNA并进行靶基因预测。结果 胚胎干细胞向肝细胞方向分化6d时明显差异表达的microRNA共39个, 其中17个表达上调、22个表达下调;9d时明显差异表达的microRNA共44个, 其中17个表达上调, 27个表达下调。明显时相差异表达的36种microRNA中15种与组蛋白去乙酰化酶相关联。结论 在丁酸钠诱导胚胎干细胞向肝细胞分化过程中, 组蛋白去乙酰化酶及与其相关的microRNA很可能具有重要的调控胚胎干细胞生长和分化的作用。

关键词 [胚胎干细胞](#) [肝细胞](#) [分化](#) [微小RNA](#) [丁酸钠](#)

分类号

MicroRNA Differential Expression Profile during Differentiation of Embryonic Stem Cells towards Hepatocytes Induced by Sodium Butyrate

CHEN Ya-jin¹, MIN Jun¹, SHANG Chang-zhen¹, REN Meng², PENG Xiao-xiong¹, CAO Jun¹, CHEN Ji-sheng¹

¹Department of Hepatobiliary Surgery, ²Department of Endocrinology, the Second Affiliated Hospital, Sun Yat-sen University, Guangzhou 510120, China

Abstract ABSTRACT: Objective To explore the expression profile of microRNAs during the course of embryonic stem cells differentiation towards hepatocytes induced by sodium butyrate. Methods Total RNA was extracted from embryonic stem cells on day 0, 6, and 9 during cell differentiation, and microRNA was isolated from the total RNA. Microarray analysis of microRNA expression was performed to detect the different expression levels of microRNA among the indicated time points (day 0, 6, and 9). Results Compared with the microRNA expression level on day 0 of cell differentiation, 17 different microRNAs exhibited higher expressions both on day 6 and day 9. Twenty-two and 27 microRNA demonstrated lower expressions on day 6 and day 9, respectively. Further analysis revealed that 15 microRNA among the above microRNAs with significant differential expression may keep close interaction with histone deacetylase. Conclusion During the course of embryonic stem cells differentiation towards hepatocytes induced by sodium butyrate, histone deacetylase and its relevant microRNAs may play important roles in cell differentiation.

Key words [embryonic stem cell](#) [hepatocyte](#) [differentiation](#) [microRNA](#) [sodium butyrate](#)

DOI:

通讯作者 闵 军 drjunmin@yahoo.com.cn

扩展功能

本文信息

▶ [Supporting info](#)

▶ [PDF\(783KB\)](#)

▶ [\[HTML全文\]\(0KB\)](#)

▶ [参考文献](#)

服务与反馈

▶ [把本文推荐给朋友](#)

▶ [加入我的书架](#)

▶ [加入引用管理器](#)

▶ [复制索引](#)

▶ [Email Alert](#)

▶ [文章反馈](#)

▶ [浏览反馈信息](#)

相关信息

▶ [本刊中 包含“胚胎干细胞”的 相关文章](#)

▶ 本文作者相关文章

- [陈亚进](#)
- [闵 军](#)
- [商昌珍](#)
- [任 萌](#)
- [彭孝雄](#)
- [曹 君](#)
- [陈积圣](#)