中国科学院研究生院学报 2011, **28**(1) 57-64 **DOI**: **ISSN**: **CN**:

论文

细胞外钙离子对人成骨样细胞 MG-63分化的影响

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摘要:

研究不同浓度钙离子对人成骨样细胞MG-63分化的影响.结果表明, 5.0mmol/L Ca^{2+}促进CaSR、ALP、OC、Runx 2、IGF-1和BMP2 mRNA表达,而加入*CaSR*和ERK抑制剂后,则下调 ALP、OC、Runx 2、IGF-1和BMP2 mRNA表达.不同浓度Ca^{2+}处理后,磷酸化-ERK(p-ERK)蛋白表达明显增加.因此,5.0mmol/L Ca^{2+}通过上调*CaSR*基因的表达,激活ERK通路,促进MG-63成骨样细胞的分化.

关键词: 钙离子 分化 成骨细胞 *CaSR* ERK

Effect of extracellular Ca^{2+} on osteoblast differentiation in MG-63 cells

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Abstract:

In the present study we have examined effects of extracellular Ca^{2+} on osteoblast differentiation in MG-63 cells.Theresults showed that5.0mmol/L Ca^{2+} up-regulated the expression of CaSR , OC、ALP、Runx 2、IGF-1 ,and BMP 2 . However,these indicators decreased after treatment with blocking agents. In addition,5.0 and 10.0mmol/L Ca^{2+} increased phospho-ERK expression, but did not affect ERK.Therefore 5.0mmol/L Ca^{2+} up-regulated CaSR and then promoted osteoblast differentiation through ERK pathway in MG-63 cells.

Keywords: Ca^{2+} differentiation osteoblast *CaSR* ERK

收稿日期 2010-04-29 **修回日期** 2010-05-07 **网络版发布日期**

DOI:

基金项目:

中国科学院研究生院启动基金(055101FM03)资助

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