

·基础与临床研究·

矿化胶原膜浸提液对 MG-63 人骨肉瘤细胞分化相关基因表达的影响

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【摘要】目的 研究新型矿化胶原膜对 MG-63 人骨肉瘤细胞(简称: MG-63 细胞)成骨分化相关基因表达的影响。**方法** 将 MG-63 细胞与新型矿化胶原膜浸提液(实验组)共培养,以市售的胶原膜(Bio-gide)浸提液作为同类产品对照组,以不加材料的细胞培养液为空白对照组,采用荧光实时定量 PCR 法检测碱性磷酸酶(ALP)、I 型胶原(COL I)、骨保护素(OPG)和骨钙素(OC) mRNA 表达水平;采用 SPSS 17.0 软件对数据进行统计学分析。**结果** 在 ALP 与 OPG mRNA 相对表达量检测中,3 组成骨细胞的表达量差异无统计学意义($P>0.05$);在 COL I 与 OC 基因相对表达量检测中,14 天时 Bio-gide 组和矿化胶原膜组表达均明显上调,与空白对照组相比,差异均具有统计学意义($P<0.05$),而 Bio-gide 组和矿化胶原膜组相比,差异无统计学意义($P>0.05$)。**结论** 矿化胶原膜和 Bio-gide 膜的浸提液均可上调 MG-63 细胞 COL I 和 OC 的基因表达,在一定程度上促进了成骨细胞的分化。

【关键词】 MG-63 人骨肉瘤细胞 I 型胶原膜 碱性磷酸酶 骨保护素 骨钙素

DOI: 10.11752/j.kqcl.2022.02.07

Effects of novel mineralized collagen membrane extracts on the expression of genes associated with the differentiation of MG-63 Human Osteosarcoma cells

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【Abstract】Objective The aim of this study was to observe the effects of a novel mineralized collagen membrane on the expression of genes associated with the differentiation of MG-63 osteosarcoma cell. **Methods** MG-63 Human Osteosarcoma cells were co-cultured with the extracts of the new mineralized collagen membrane (experimental group). The extracts of the commercially available collagen membrane (Bio-gide) was used as the control group of similar products, and the cell medium culture was used as a blank control group. RT-PCR was used to detect alkaline phosphatase (ALP), collagen type I (Col I), osteoprotegerin (OPG) and osteocalcin (OC) mRNA expression levels. SPSS 17.0 software was used for statistical analysis of the data. **Results** There was no significant difference in the relative expression levels of ALP and OPG mRNA among the three groups ($P>0.05$). The expression levels of OC and COL I at 14 day in the both membrane group was significantly up-regulated compared with the blank control group ($P<0.05$), while the Bio-gide group and the mineralized collagen membrane group had no statistically significant difference ($P>0.05$). **Conclusion** The extracts of the mineralized

基金项目: 中国人民解放军总医院军事医学转化项目(编号: ZH19028); 国家自然科学基金青年项目(编号: 81972081)

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