

[1]王海,黄博,周跃,等.Fibronectin差别黏附法筛选、纯化软骨终板干细胞[J].第三军医大学学报,2013,35(10):965-968.

Wang Hai,Huang Bo,Zhou Yue,et al.Fibronectin differential adhesion assay for selection and purification of cartilage endplate-derived stem cells[J].J Third Mil Med Univ,2013,35(10):965-968.

[点击复制](#)

Fibronectin差别黏附法筛选、纯化软骨终板干细胞

《第三军医大学学报》[ISSN:1000-5404/CN:51-1095/R] 卷: 35 期数: 2013年第10期 页码: 965-968 栏目: 论著 出版日期: 2013-05-30

Title: Fibronectin differential adhesion assay for selection and purification of cartilage endplate-derived stem cells

作者: [王海](#); [黄博](#); [周跃](#); [李长青](#); [王建](#)
第三军医大学新桥医院骨科

Author(s): [Wang Hai](#); [Huang Bo](#); [Zhou Yue](#); [Li Changqing](#); [Wang Jian](#)
Department of Orthopaedics, Xinqiao Hospital, Third Military Medical University, 400037, China

关键词: [纤维连接蛋白](#); [软骨终板干细胞](#); [差别黏附筛选法](#)

Keywords: [fibronectin](#); [cartilage endplate-derived stem cells](#); [differential adhesion assay](#)

分类号: R322.71;R329-33

文献标志码: A

摘要: 目的 通过Fibronectin介导进行差别黏附筛选软骨终板干细胞,观察筛选的效果及其初步生物学性能。方法 从脊柱融合术中获取椎间盘软骨终板标本,机械-酶消化法获取原代软骨终板细胞,体外扩增至第2代后接种于Fibronectin包被过的培养瓶,孵育20 min后将未贴壁细胞及培养液转移至新培养瓶再孵育40 min,吸弃未贴壁细胞及培养液,所得2瓶细胞进行体外扩增,流式细胞仪检测细胞表面标志物。对筛选后的细胞进行向多系细胞诱导分化。结果 第2代细胞筛选前,细胞形态个体差异较大,呈三角形或多角形,融合时呈铺路石样外观,筛选后细胞形态比较均匀,形成细胞克隆群。流式细胞仪检测发现:经Fibronectin筛选后所获软骨终板干细胞CD90、CD73表达阳性率>95%,CD105表达阳性率>85%;经诱导能向骨、软骨及脂肪细胞方向分化。结论 Fibronectin筛选所得的软骨终板细胞基本符合国际细胞治疗协会对间充质干细胞的定义标准。Fibronectin差别黏附筛选法得够有效筛选、纯化软骨终板干细胞。

Abstract: Objective To select cartilage endplate-derived stem cells by fibronectin differential adhesion assay, to evaluate the efficiency, and to observe the preliminary biological properties of obtained stem cells. Methods The samples of intervertebral disc cartilage endplate were collected from spine fusion surgery, and primary cartilage endplate cells were obtained by mechanical method combined with collagenase. Primitive cells expanding to passage 2 were transferred to culture flasks coated with fibronectin. After 20 min the non-

[导航/NAVIGATE](#)

[本期目录/Table of Contents](#)

[下一篇/Next Article](#)

[上一篇/Previous Article](#)

[工具/TOOLS](#)

[引用本文的文章/References](#)

[下载 PDF/Download PDF\(1193KB\)](#)

[立即打印本文/Print Now](#)

[查看/发表评论/Comments](#)

[导出](#)

[统计/STATISTICS](#)

[摘要浏览/Viewed](#) 387

[全文下载/Downloads](#) 182

[评论/Comments](#)

[RSS](#) [XML](#)

adherent cells and media were transferred to a second flask to incubate for 40 min, and both of the two flasks were added with fresh media and cultured after the media and non-adherent cells in the second flask were removed. The cells after selection were detected by flow cytometry and were induced to differentiate into osteoblasts, chondrocytes and adipocytes. Results The discrepancy of cell morphology among cells of passage 2 was observed, but the cells became comparatively uniform after selection. The results of flow cytometry showed these cells were positive for 3 cell markers including CD73, CD105 and CD90, but negative for CD34 and CD45. The percentages of CD73- and CD90-positive cells were more than 95%, while the percentage of CD105-positive cells was more than 82%. The cells could differentiate into osteoblasts, chondrocytes and adipocytes. Conclusion The results of cartilage endplate-derived stem cells obtained by fibronectin differential adhesion assay fulfill the majority of criteria used to define mesenchymal stem cells stated by the International Society for Cellular Therapy. By the method we can obtain cartilage endplate-derived stem cells efficiently and reliably.

参考文献/REFERENCES:

王海, 黄博, 周跃, 等. Fibronectin差别黏附法筛选、纯化软骨终板干细胞[J]. 第三军医大学学报, 2013, 35(10): 965-968.

相似文献/REFERENCES:

[1] 于洁, 张磊, 莫姝, 等. 逆转录病毒载体介导Fn-TPO基因修饰人骨髓间充质干细胞[J]. 第三军医大学学报, 2006, 28(24): 2396.

[2] 赵长霖, 谢汉平, 曾玉晓. 蚕蚀性角膜溃疡中III型胶原层粘连蛋白与纤维连接蛋白的表达[J]. 第三军医大学学报, 2005, 27(03): 254.

[3] 向强, 张媛, 崔翔, 等. 一种具有双嗜性功能融合蛋白FN/CDH的制备及其促粘附、成骨生物活性鉴定[J]. 第三军医大学学报, 2013, 35(23): 2536.

Xiang Qiang, Zhang Yuan, Cui Xiang, et al. Preparation of FN/CDH amphotropic recombinant protein and its capacity in promoting osteoblastic adhesion and ossification[J]. J Third Mil Med Univ, 2013, 35(10): 2536.