

研究论文

## 作为细胞微载体的明胶基缓释微球的制备

王忆娟<sup>1</sup>, 刘守信<sup>1</sup>, 房喻<sup>1</sup>, 黄沙<sup>2</sup>, 金岩<sup>2</sup>, 姜宇<sup>1</sup>

1. 应用表面与胶体化学教育部重点实验室, 陕西师范大学化学与材料科学学院, 西安 710062;
2. 第四军医大学口腔医学院组织工程中心, 西安 710032

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**摘要** 用改良的乳化冷凝法制备载牛血清蛋白(BSA)的大粒径明胶微球. 结果表明, 明胶水溶液的质量分数为25%、水相与油相体积比3:20、搅拌速度300 r/min、交联剂用0.1 mL质量分数为25%的戊二醛、表面活性剂用0.1 g span-80为制备平均直径约250 μm明胶微球的理想条件. 所制备微球的后处理方法不同, 则明胶微球的表面形貌也不同, 细胞粘附率不同. 空白明胶微球在体外可以完全降解, 载BSA的明胶微球对BSA具有良好的缓释性, 释放时间可长达30 d. 显微镜观察成纤维细胞在明胶微载体上生长良好.

**关键词** [明胶微球](#) [成纤维细胞](#) [缓释](#) [微载体](#)

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## Preparation of Sustained-release Gelatin Microspheres as the Cell Microcarrier

WANG Yi-Juan<sup>1</sup>, LIU Shou-Xin<sup>1\*</sup>, FANG Yu<sup>1</sup>, HUANG Sha<sup>2</sup>, JIN Yan<sup>2</sup>, JIANG Yu<sup>1</sup>

1. Key Laboratory of Applied Surface and Colloid Chemistry, Ministry of Education, School of Chemistry and Materials Science, Shaanxi Normal University, Xi'an 710062, China;
2. Tissue Engineering Center, Stomatological College, Fourth Military Medical University, Xi'an 710032, China

**Abstract** The BSA-impregnated large diameter gelatin microspheres were prepared with the improved and emulsified cold-condensation method. The results indicate that the gelatin solution 25%(mass fraction), volume ratio(3:20) of water phase to oil phase, stirring rate 300 r/min, glutaraldehyde 0.1 mL(25%, mass fraction), and surfactant span-80 0.1 g were an optimal condition to prepare the gelatin microsphere. The average diameter of microspheres was 250 μm. By using three different ways to process the microspheres the gelatin microspheres with the different surface structures and cell adsorption ratio could be obtained. The blank microspheres can biodegrade absolutely *in vitro*. The BSA release from the BSA-impregnated gelatin microsphere can be sustained for 30 d. Fibroblasts grew well on the surface of gelatin microcarrier.

**Key words** [Gelatin microsphere](#) [Fibroblast](#) [Sustained-release](#) [Microcarrier](#)

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