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人肝癌组织中肿瘤干细胞样细胞的分离培养及鉴定 [点此下载全文](#)

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摘要:

目的: 从人肝癌组织中分离培养肝癌干细胞样细胞, 为进一步研究肝癌干细胞靶向治疗奠定基础。方法: 采用酶消化法和以原代培养结合短暂传代培养的方法从人肝癌组织中分离出含人肝癌干细胞样细胞(human liver cancer stem like cells, hLCSLCs)的连续传代细胞, 分别加入肝素、白蛋白、氢化可的松以筛选适用于hLCSLCs的无血清悬浮成球培养基。以流式细胞术检测hLCSLCs和由无血清悬浮成球培养所获得的成球细胞中旁群(side population, SP)细胞、CD133及CD90等的表达, 裸鼠成瘤实验检测这两种细胞的致瘤能力。结果: 成功地从人肝癌组织分离获得hLCSLCs, 其SP、CD133<sup>+</sup>和CD90<sup>+</sup>细胞含量分别为0.9%、0.8%和12.7%, 裸鼠皮下接种2 000个SP细胞的成瘤率为100%。含有肝素的无血清培养基更适于hLCSLCs的成球培养, 所获成球细胞中SP、CD133<sup>+</sup>和CD90<sup>+</sup>细胞含量分别为4.6%、9.7%和48%, 接种10 000个成球细胞即可全部成瘤。结论: 成功建立了从人肝癌组织中分离肿瘤干细胞样细胞的方法, 添加肝素的无血清悬浮成球培养基可有效富集肝癌干细胞样细胞。

关键词: [肝肿瘤](#) [肿瘤干细胞](#) [SP细胞](#) [肝素](#) [CD133](#) [CD90](#)

Isolation, cultivation and identification of cancer stem like cells from human liver cancer tissues [Download Fulltext](#)

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Abstract:

Objective: To isolate and cultivate liver cancer stem like cells (hLCSLCs) from human liver cancer specimens, so as to lay a foundation for stem cell targeted therapy of liver cancer. Methods: The hLCSLCs were obtained from fresh liver cancer tissue using enzymatic digestion and short term primary culture. Serum free medium suitable for suspension sphere formation of hLCSLCs was selected by culturing them with serum free medium supplement with heparin, albumin or hydrocortisone. Numbers of side population (SP) cells, and expressions of CD133 and CD90 in the hLCSLCs and sphere cells were examined by flow cytometry assay. Tumor formation ability of hLCSLCs and sphere cells were assessed by tumor formation assay. Results: hLCSLCs were successfully obtained from human liver cancer tissues, with SP cells being 0.9%, CD133 positive cells being 0.8% and CD90 positive cells being 12.7% in the hLCSLCs. The tumor formation rate was 100% when 2 000 SP cells were subcutaneously injected into nude mice. Serum free medium containing heparin was more suitable for sphere formation of hLCSLCs, with SP cells being 4.6%, CD133<sup>+</sup> cells being 9.7%, and CD90<sup>+</sup> cells being 48% in these sphere cells. The tumor formation rate was 100% when 10 000 sphere cells were injected into nude mice. Conclusion: We have successfully established a method for isolating hLCSLCs from human liver cancer tissues. Serum free suspension medium containing heparin can effectively enrich hLCSLCs.

Keywords: [liver neoplasms](#) [tumor stem cell](#) [side population cell \(SP cell\)](#) [heparin](#) [CD133](#) [CD90](#)

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