

论著

## 转染肿瘤总RNA的DC疫苗诱导抗肝癌特异性免疫

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**摘要** 目的: 探讨转染人肝癌总RNA的树突状细胞(DC)疫苗体外诱导特异性细胞毒性T淋巴细胞(CTL)的作用。方法: 采用原发性肝癌(HCC)病人外周血单核细胞(PBMC), 在粒/巨细胞集落刺激因子(GM-CSF)和白细胞介素-4(IL-4)刺激下增殖分化为DC细胞; 从人肝癌细胞中体外扩增肝癌RNA。以HCCRNA转染DC细胞, 并与PBMC混合培养诱导扩增CTL。MTT法测定CTL的杀瘤活性。结果: 转染HCCRNA 48 h后, DC表面分子CD83、CD86和HLA-DR表达明显增高。转染HepG-2细胞HCCRNA的DC和病人HCCRNA诱导的CTL对HepG-2细胞和病人HCC细胞的杀瘤活性均明显高于正常肝细胞RNA+DC、脂质体+DC、Opti-MEM+DC以及空白对照组; 而对胃癌SGC-7901细胞无杀伤活性。结论: 以肝癌RNA为肿瘤抗原, DC作为疫苗的抗原提呈细胞, 体外冲击致敏DCs, 能诱导肝癌特异性CTL。本研究为HCC术后复发和转移的防治提供一种可能有效的疫苗治疗方法。

**关键词** [树突细胞](#); [肝肿瘤](#); [免疫疗法](#); [T淋巴细胞](#); [细胞毒性](#)

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## Dendritic cells transfected with tumor total RNA induce specific immune responses against hepatocellular carcinoma in vitro

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### Abstract

<FONT face=Verdana>AIM: To observe the ability of dendritic cells (DC) vaccine transfected with human hepatocellular carcinoma (HCC) total RNA induce specific cytotoxic T lymphocyte(CTL) response in vitro. METHODS: DCs generated from HCC patient's peripheral blood mononuclear cells (PBMC) were incubated with recombinant human granulocyte macrophage colony-stimulation factor (GM-CSF) and human interleukin (IL-4). Tumor total RNA was isolated from Hep G-2 cells and HCC cells. DCs transfected with tumor total RNA were used to induce specific CTL proliferation. Specific cytotoxicity was measured using MTT method. RESULTS: DC transfected with HepG-2 cell RNA and HCC RNA exhibited increased expression of CD83, CD86 and HLA-DR. The CTL from DCs transfected with HepG-2 cell RNA killed 5.84%, 14.26%, 25.19%, or 35.78% of HepG-2 cells, and 5.26%, 11.67%, 14.68%, or 23.24% of HCC cells, respectively, at an E/T ratio of 2.5, 5, 10, or 20. The CTL from DCs transfected with HCC cells RNA killed 4.65%, 12.23%, 15.61%, or 19.15% of HepG-2 cells, and 7.20%, 12.83%, 27.21%, or 31.15% of HCC cells, respectively, at an E/T ratio of 2.5, 5, 10, and 20. These CTL did not kill allogeneic malignant cells as human gastric carcinoma cells SGC-7901. CONCLUSION: DC transfected with tumor-derived total RNA could induce specific antitumor immune CTL response. These results suggest that CTL generation is applicable to adoptive immunotherapy of HCC.</FONT>

**Key words** [Dendritic cells](#) [Liver neoplasms](#) [Immunotherapy](#) [T-lymphocytes](#) [cytotoxic](#)

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