

分泌肿瘤坏死因子的基因工程细胞对HepG2细胞的抑制作用

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Inhibitory Effects on HepG2 Cells from Genetic Engineering Cells Secreted Tumor Necrosis Factor

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- 摘要
- 参考文献
- 相关文章

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摘要

目的

自行建立分泌人肿瘤坏死因子 α 的基因工程细胞, 将其与肝癌细胞共培养, 观察体外培养中分泌肿瘤坏死因子hTNF/293基因细胞表达的情况及对人肝癌细胞的抑制作用。方法(1)建立可稳定分泌人肿瘤坏死因子 α /293细胞; 采用RT-PCR、Western blot、ELISA和流式细胞仪等技术检测人肿瘤坏死因子表达和分泌; (2)观察体外培养中分泌肿瘤坏死因子hTNF/293基因细胞对人肝癌细胞的抑制作用, 于不同的时间点, 用MTT法检测490 nm下的吸光度值。结果RT-PCR、Western blot和ELISA等技术检测表明hTNF α /293细胞组和TNF α 阳性组对共培养的HepG2细胞的增殖具有明显的抑制作用, 且具有良好的量效关系。结论提示TNF- α /293基因细胞可有效分泌hTNF α 蛋白, 并能分泌到细胞外; 体外培养的人肿瘤坏死因子基因的工程细胞, 所分泌肿瘤坏死因子 α 对人肝癌细胞增殖有明显抑制效应, 且呈现出良好的数量依赖关系。

关键词: 人肝癌细胞HepG2 人肿瘤坏死因子 α 人胚胎肾细胞-293

Abstract:

Objective

To explore the effects of genetic engineering cells which secreted tumor necrosis factor(TNF α) co-cultured with human hepatic cancer cells HepG2 on the proliferation of cancer cells. Methods The expression and secreting of tumor necrosis factor was detected by RT-PCR, Western blot, ELISA and flow cytometry from the 293 cells which could stably secrete TNF- α . The inhibitory effects on the hepatic cancer cells HepG2 from the 293 cells (hTNF α /293) were detected by MTT assay under the wavenumber of 490 nm at different time. Results The results from RT-PCR, Western blot and ELISA indicated that hTNF- α /293 cells and TNF- α -positive group had significant inhibition on the proliferation of hepatic cancer cells in a dose-dependent manner. Conclusion The TNF- α /293 cells can effectively secrete TNF- α . And the TNF- α secreted from the genetic engineering cells has an inhibition on hepatic cancer cell proliferation in a dose-dependent manner.

Key words: HepG2 cells Human tumor necrosis factor- α Human embryonic kidney cell-293

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