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KLF4 对肝癌细胞HepG2化疗和光动力治疗的调节作用 [点此下载全文](#)

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摘要:

目的: 分析重组人Krüppel类因子4 (Krüppel-like factors 4, KLF4) 基因在肝癌HepG2细胞中对化疗和光动力治疗的调节作用。方法: 构建人 KLF4 慢病毒pWPTS-KLF4载体, 应用RT-PCR、Western blotting检测pWPTS-KLF4感染后HepG2细胞中 KLF4 mRNA和蛋白的表达, MTT实验检测HepG2细胞对顺铂、环磷酰胺或氟尿嘧啶耐受性的变化以及对光动力治疗敏感性的变化, 罗丹明123染色检测HepG2细胞线粒体膜电位的变化。结果: 成功构建慢病毒pWPTS-KLF4载体。顺铂、环磷酰胺或氟尿嘧啶处理HepG2细胞72 h后, pWPTS-KLF4感染组HepG2细胞存活率较对照组明显增高[(43.43±4.78)% vs (18.09±1.02)%; (110.51±4.58)% vs (75.23±5.92)%; (34.55±2.93)% vs (19.16±1.32)%], P <0.01。光敏剂艾拉介导的光动力治疗后24 h, pWPTS-KLF4感染组HepG2细胞存活率较对照组明显减少[(37.16±3.26)% vs (57.24±8.01)%], P <0.01, 细胞的线粒体膜电位明显降低。结论: 重组人KLF4 可以提高HepG2细胞化疗耐受性, 增加光动力治疗敏感性。

关键词: [KLF4](#) [基因](#) [化疗](#) [光动力治疗](#) [肝癌](#)

Krüppel-like factors 4 modulates the effects of chemotherapy and photodynamic therapy on hepatocarcinoma HepG2 cells [Download Fulltext](#)

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Abstract:

Objective To explore the regulatory effects of Krüppel-like factors 4 (KLF4) on chemotherapy and photodynamic therapy on HepG2 cells. Methods: Lentiviral pWPTS-KLF4 vector containing human KLF4 was constructed. The expression of KLF4 mRNA and protein in HepG2 cells after pWPTS-KLF4 infection was analyzed by RT-PCR and Western blotting; the tolerance of HepG2 cells to cisplatin, cyclophosphamide and fluorouracil and the sensitivity of HepG2 cells to photodynamic therapy were evaluated by MTT assay; the change of mitochondrial membrane potential in HepG2 cells was examined by Rhodamine 123 staining. Results: Lentiviral pWPTS-KLF4 vector was successfully constructed. Treated with cisplatin, cyclophosphamide or fluorouracil for 72 h, the viable HepG2 cells were significantly increased after pWPTS-KLF4 infection ([43.43±4.78]% vs [18.09±1.02]%; [110.51±4.58]% vs [75.23±5.92]%; [34.55±2.93]% vs [19.16±1.32]%, P <0.01); Treated with ALA mediated photodynamic therapy for 24 h, viable HepG2 cells were significantly decreased after pWPTS-KLF4 infection ([37.16±3.26]% vs [57.24±8.01]%, P <0.01), and mitochondrial membrane potential was significantly decreased. Conclusion: Recombinant human KLF4 can increase the tolerance of HepG2 cells to chemotherapy and the sensitivity of HepG2 cells to photodynamic therapy.

Keywords: [KLF4](#) [gene](#) [chemotherapy](#) [photodynamic therapy](#) [hepatocarcinoma](#)

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