444~448.红景天提取物对Lewis肺癌小鼠移植瘤中CD4 +CD25 +Treg的抑制作用[J].张敏,赵亚玲,孙芳云.中国肿瘤生物治疗杂志,2013,20(4)

红景天提取物对Lewis肺癌小鼠移植瘤中CD4 +CD25 +Treg的抑制作用 点此下载全文

张敏 赵亚玲 孙芳云

西藏民族学院医学院 高原环境与基因实验室，陕西 咸阳 712082;西安交通大学医学院 预防医学系，陕西 西安 710061;西藏民族学院医学院 高原环境与基因实验室，陕西 咸阳 712082

基金项目：西藏自治区自然科学基金资助项目（No. 2011）

DOI：10.3872/j.issn.1007-385X.2013.04.011

摘要：

目的： 观察红景天提取物（sachalin rhodiola rhizome extract，SRR）对Lewis肺癌小鼠移植瘤中CD4 +CD25 +调节性T细胞（regulatory T cell，Treg）的抑制作用，初步探讨其抑制肿瘤生长的机制。 方法： 建立小鼠Lewis肺癌移植瘤模型，随机分为3组：SRR组，紫杉醇（paclitaxel，PTX）阳性对照组和PBS组，记录各组小鼠移植瘤体积变化，计算抑瘤率并观察小鼠生存期。流式细胞术检测移植瘤组织中CD4 +CD25 +Foxp3 +Treg的比例，荧光定量PCR 检测移植瘤组织中 Foxp3 和 TGF-β mRNA的表达水平。 结果： 在建模第20天，SRR组小鼠移植瘤体积明显小于PBS组\[（719.6±2.4） vs （1030.5±3.1）mm 3， P <0 05\]，但与阳性对照PTX组无显著差异（ P >0.05）。SRR组小鼠生存期较PBS组显著延长\[（36.0±1.0） vs （22.0± 2.0）d，P <0.01\]，而与PTX组无显著差异（ P >0.05）。SRR治疗组小鼠移植瘤组织中CD4 +CD25 +Foxp3 +Treg占CD4 +T细胞的比例显著低于PBS组\[（8.5±0.3）% vs （11.2±0.2）%， P <0.01\]，但与PTX组无显著差异（ P >0.05）。SRR组小鼠移植瘤组织中 Foxp3 mRNA \[（1.2±0.2） vs (2.1±0.2)， P <0.05\]、 TGF-β mRNA \[（1.2±0.1） vs (2.1±0.2)， P <0.05\]表达均明显低于PBS组，而与PTX组无显著差异（ P >0.05）。 结论： SRR可能通过下调肿瘤组织中CD4 +CD25 +Treg比例、 Foxp3 和 TGF-β mRNA的表达，增强机体的抗肿瘤免疫应答。

关键词：红景天 肺癌 调节性T细胞 紫杉醇 Lewis肺癌 Foxp3 TGF-β

Inhibitory effect of sachalin rhodiola rhizome extract on CD4 +CD25 + regulatory T cells in xenograft tumors of Lewis lung cancer bearing mice Download Fulltext

Zhang Min Zhao Yaling Sun Fangyun

Laboratory of Altitude Environment and Gene, Medical College, Tibet National College, Xianyang 712082, Shaanxi, China;Department of Preventive Medicine, Medical College, Xi’ an Jiaotong University, Xi’ an 710061, Shaanxi, China;Laboratory of Altitude Environment and Gene, Medical College, Tibet National College, Xianyang 712082, Shaanxi, China

Fund Project:Project supported by the Natural Science Foundation of Tibet Autonomous Region (No. 2011)

Abstract:

Objective: To observe the inhibitory effect of sachalin rhodiola rhizome extract (SRR) on regulatory T cells (Tregs) in xenograft tumors of Lewis lung cancer bearing mice and primarily discuss its mechanism of suppressing tumor growth. Methods: Lewis lung cancer-bearing mice were established and randomly divided into 3 groups: SRR group, paclitaxel (PTX) positive control group and PBS group. The changes of tumor volume were recorded in different groups, the tumor inhibition rates were calculated and the survival time of Lewis-bearing mice was observed. The proportion of CD4 +CD25 +Foxp3 +Tregs in the xenograft tumor tissues was detected by flow cytometry. The mRNA expression levels of Foxp3 and TGF-β in the tumor tissues were detected by real-time PCR. Results: On day 20 after the establishment of the Lewis-bearing mouse model, the tumor volume of mice in the SRR group was significantly smaller than that in the PBS group (\[719.6±2.4\] vs \[1 030.5±3.1\] mm 3, P <0.05), and showed no significant difference with the PTX positive control group (P >0.05). Compared with the PBS group, the survival time of mice in the SRR group was significantly prolonged (\[36.0±1.0\] vs \[22.0±2.0\] d, P <0.05), and showed no significant difference with the PTX group (P >0 05). The proportion of CD4 +CD25 +Foxp3 +Tregs in CD4 +T cells of the tumor tissues in the SRR group was significantly lower than that of the PBS group (\[8.5±0.3\]% vs \[11.2±0.2\]%, P <0.01), and no significant difference was observed between the SRR group and the PTX group (P >0.05). The mRNA expressions of Foxp3 (\[1.2±0.2\] vs \[2 1±0.2\], P <0.05) and TGF-β (\[1.2±0.2\] vs \[2.1±0.2\], P <0.05) in SRR group were significantly lower than that in the PBS group, and no significant difference was observed between the SRR group and the PTX group (P >0 05). Conclusion: SRR may enhance the antitumor immune response by down-regulating the proportion of CD4 +CD25 +Tregs and the mRNA expressions of Foxp3 and TGF-β in the tumor tissues.

Keywords:sachalin rhodiola rhizome lung cancer regulatory T cell (Treg) paclitaxel Lewis lung cancer Foxp3 TGF-β

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