

基础研究

自身免疫调节因子在小鼠肠系膜和外周淋巴结中的表达及其意义

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摘要:

目的: 研究自身免疫调节因子(Aire)在小鼠肠系膜和外周淋巴结表达的分布,探讨Aire在外周免疫耐受中的作用,阐明淋巴结表达Aire在维持耐受及防止自身免疫病中的作用机制。方法: 分别采用 RT-PCR 和Western blotting法检测BALB/c小鼠肠系膜淋巴结和外周淋巴结中Aire mRNA和蛋白的表达情况;采用RT-PCR法检测BALB/c小鼠淋巴结基质和非基质组分中Aire mRNA表达情况;采用RT-PCR法和免疫细胞化学染色法检测小鼠淋巴结基质细胞中Aire的表达情况。结果: 肠系膜淋巴结和外周淋巴结均有Aire mRNA和蛋白的表达,表达水平组间比较差异无统计学意义(P>0.05);淋巴结基质与非基质组分均检测到Aire mRNA的表达,其中Aire mRNA在非基质组分的表达水平高于基质组分(P<0.05)。成功分离培养淋巴结基质细胞,即上皮细胞(EPIs)与纤维原网状细胞(FRCs),阳性率约为70%; Aire mRNA及蛋白在EPIs与FRCs中均有表达,且在EPIs中的表达强于FRCs。结论: Aire可表达于小鼠肠系膜和外周淋巴结以及淋巴结基质细胞中,提示Aire可能通过多种机制共同参与外周免疫耐受的维持。

关键词: 自身免疫调节因子; 肠系膜淋巴结; 外周淋巴结; 外周免疫耐受

expressions of autoimmune regulator in mesenteric lymph nodes and peripheral lymph nodes in mice and their significances

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Abstract:

Abstract: Objective

To detect the expressions of autoimmune regulator (Aire) in mesenteric lymph nodes (MLNs) and peripheral lymph nodes (PLNs),explore the functions of Aire in peripheral immune tolerance,and clarify the action mechanism of Aire expressed in lymph nodes in the maintenance of tolerance and the prevention of autoimmune disease in mice. Methods The expressions of Aire mRNA and protein in MLNs and PLNs from BALB/c mice were assessed by RT-PCR and Western blotting. The expressions of Aire mRNA in stromal and non-stromal fractions of the lymph nodes were detected by RT-PCR. The expressions of Aire mRNA in stromal cells of the lymph nodes were determined by RT-PCR,the expression of Aire protein in stromal cells of the lymph nodes was detected with immunohistochemistry. Results The expressions of Aire mRNA and protein were found in MLNs and PLNs,the expression levels had no significant difference between groups(P>0.05). The Aire mRNA expressed in both the stromal and non-stromal fractions,the expression of Aire in non-stromal fractions was higher than that in stromal fractions (P<0.05). The epithelial cells(EPIs) and fibroblastic reticular cells(FRCs) were isolated and cultured successfully,the positive rate was 70%. The Aire mRNA and protein expressed in both EPIs and FRCs,and the expressions of Aire mRNA and protein in EPIs was higher than those in FRCs.Conclusion Aire can express in MLNs and PLNs of mice,as well as the stromal cells,which indicates that Aire may participate to maintain peripheral immune tolerance through several mechanisms.

Keywords: autoimmune regulator;mesenteric lymphnodes;peripheral lymph nodes;peripheral immune tolerance

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