重组葎草花粉主要变应原免疫特性研究(点击查看pdf全文)

《南方医科大学学报》[ISSN:/CN:] 期数: 2012年10期 页码: 1431 栏目: 出版日期: 2012-10-01

Title: -

作者: 吴媛媛; 孙秀珍; 李满祥; 刘昀; 王贵佐; 卢家美

Author(s): -

关键词: 支气管哮喘; 葎草花粉变应原; 重组变应原; 特异性免疫治疗

Keywords: bronchial asthma; humulus pollen allergen; recombinant allergen; specific immunotherapy

分类号: -

DOI: -

文献标识码: -

摘要: 目的鉴定重组葎草花粉主要变应原pTSX2的免疫特性，并初步评价其安全性。方法应用Western blotting鉴定pTSX2
的免疫特性；ELISA法检测经pTSX2免疫的小鼠血清sIgE、sIgG水平；pTSX2免疫治疗小鼠哮喘模型后：ELISA法测定小鼠血
清sIgE、sIgG水平；计数小鼠支气管肺泡灌洗液（BALF）中细胞总数及嗜酸性粒细胞（Eos）比值；ELISA法检测小鼠BALF中及
脾组织匀浆中细胞因子（IL-4、IFN-γ）水平；评价小鼠肺组织炎症程度。结果Western blotting结果显示重组表达的pTSX2可与
70%的葎草花粉特异性过敏的变应性哮喘患者血清发生抗原抗体反应；pTSX2免疫正常小鼠后主要诱导产生血清sIgG；pTSX2
免疫治疗小鼠哮喘模型后：血清中sIgE、sIgG的抗体水平分别为（146.74±28.57）和（548.76±11.98）μg/ml，与哮喘模型组的
（603.06±10.00）和（260.32±6.40）μg/ml相比差异有统计学意义（P<0.05）；BALF中细胞总数及Eos百分比与哮喘模型组相比明
显下降（P<0.05）；BALF中IL-4、IFN-γ水平分别为（56.74±28.57）和（49.7±11.98）pg/ml，与哮喘模型组的（89.03±10.00）和
（23.10±6.40）pg/ml相比差异有统计学意义（P<0.05）；脾组织匀浆中IL-4、IFN-γ水平分别为（126.24±37.00）和（1547.72±490.43）
pg/ml，与哮喘模型组的（457.95±70.06）和（720.34±93.96）pg/ml相比差异有统计学意义（P<0.05）；肺组织炎症程度减轻。结论
重组葎草花粉主要变应原pTSX2具有较好的免疫治疗作用，且安全性较高，其机制可能是抑制变应原sIgE抗体、诱导变应原
sIgG抗体产生，降低气道炎症细胞浸润，调节ThI/Ih2平衡。

Abstract: ObjectiveTo identify the immunological characteristics of the recombinant major pollen allergen pTSX2ofHumulus
scandens and evaluate its safety in immunotherapy of allergic asthma in mice. MethodsWestern blotting was used to
characterize the immunological properties of pTSX2, and its immunogenicity in normal mice was evaluated by detecting sIgG
and sIgE levels. The mouse models of allergic asthma were immunized with pTSX2and examined for sIgE and sIgG levels,
total cells and eosinophils percentage in BALF, interleukin-4 (IL-4) andinterferon-γ(IFN-γ) levels inBALFandspleen
homogenate, and changes in lung pathologies.ResultsWestern blotting showed that pTSX2reacted with the majority (about
70%) of sera from patients allergic to Humulus pollen. In normal mice, pTSX2mainly induced the production of sIgG. In

导航/NAVIGATE
本期目录/Table of Contents
下一篇/Next Article
上一篇/Previous Article

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mouse models of allergic asthma, intervention with pTSX2caused a significant reduction of sIgE and an increase of sIgG (P<
0.05), significantly decreased the total cells and eosinophils in BALF (P<0.05), obviously lowered IL-4but increasedIFN-γin
BALF and spleen homogenate (P<0.05), and diminished inflammatory cell infiltration and percentage of eosinophils in the
lung tissues. ConclusionpTSX2shows a definite therapeutic effect and safety in the treatment of allergic asthma in mice
possibly by inhibiting sIgE and inducing sIgG production, suppressing airway allergic inflammation and regulating the
balance between Thl and Th2.

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更新日期/Last Update: 1900-01-01