

论著

虫源性IgE依赖组胺释放因子诱导致敏肥大细胞释放组胺的研究

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摘要

目的 制备日本血吸虫和华支睾吸虫IgE依赖组胺释放因子重组蛋白rSjHRF和rCsHRF, 并观察两者诱导大鼠致敏肥大细胞释放组胺的功能。方法 分别克隆SjHRF和CsHRF基因完整编码序列, 将重组质粒分别转化大肠埃希菌BL21并诱导表达, 亲和层析纯化可溶性表达的重组蛋白, 将纯化的rSjHRF和rCsHRF分别与卵清蛋白变应原致敏的大鼠肺肥大细胞一起孵育, 利用荧光分光光度法测定肥大细胞组胺释放量, 并制备2种重组蛋白诱导肥大细胞释放组胺的剂量依赖曲线和动力学曲线。结果 成功构建重组质粒pET?鄞30?鄞rSjHRF和pET?鄞30?鄞rCsHRF, 并获得纯化的可溶性重组蛋白rSjHRF和rCsHRF; 2种重组蛋白诱导大鼠致敏肥大细胞释放组胺均具有剂量依赖性, 当浓度为150 mg/L时, rSjHRF和rCsHRF诱导致敏肥大细胞组胺平均释放率为49.78%和32.63%; 2种重组蛋白诱导致敏肥大细胞组胺释放率随时间延长而增加, 在反应开始后约35 min, 组胺释放率达到最高。结论 重组虫源性IgE依赖组胺释放因子可诱导大鼠致敏肥大细胞释放组胺, 提示该蛋白可能与寄生性蠕虫感染诱导机体I型超敏反应的发生相关。

关键词 [日本血吸虫](#) [华支睾吸虫](#) [IgE依赖组胺释放因子](#) [肥大细胞](#) [组胺](#)

分类号

Parasite-origin IgE-dependent Histamine-releasing Factors in Inducing Histamine Release from Sensitized Mast Cells

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Abstract

Objective To obtain the recombinant IgE-dependent histamine-releasing factors of *Schistosoma japonicum* and *Clonorchis sinensis* (rSjHRF and rCsHRF) and to study the effect of recombinant HRFs to induce histamine release from sensitized rat mast cells.

Methods The complete coding regions of SjHRF and CsHRF were cloned separately, and the recombinant plasmids were respectively transformed and expressed in BL21 cells. The soluble recombinant rSjHRF and rCsHRF were purified. Aliquots of the mast cells obtained from the lungs of OVA-immunized rats were separately incubated with rSjHRF and rCsHRF and the released histamine was measured by the OPT spectrofluorometric procedure. The dose-dependent curves and the kinetics of histamine release induced by rSjHRF and rCsHRF were prepared. Results The recombinant plasmids pET-30-rSjHRF and pET-30-rCsHRF were constructed successfully and the purified soluble recombinant proteins rSjHRF and rCsHRF were obtained by affinity chromatography. rSjHRF and rCsHRF induced histamine release from sensitized mast cells in a dose-dependent manner. At the concentration of 150 mg/L, the average rate of histamine release from sensitized mast cells induced by rSjHRF and rCsHRF were 49.78% and 32.63%, respectively. Histamine release increased with prolonged reaction time and the maximal release occurred at 35min. Conclusion The recombinant parasite-originated IgE-dependent HRFs show an effect of inducing histamine release from sensitized mast cells, suggesting that this protein would play a role in type I hypersensitivity in hosts with parasitic infections.

Key words [Schistosoma japonicum](#) [Clonorchis sinensis](#) [IgE-dependent histamine-releasing factor](#) [Mast cell](#) [Histamine](#)

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