

论著

血吸虫肠相关循环抗原组分CAA和CCA的纯化与特异检测

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摘要

目的: 探讨血吸虫肠相关循环抗原CAA与CCA诊断靶微粒特异性的差别, 并试探获取其纯化制品用于定量检测的标准系列。方法: 对两组分进行了亲和层析及阴离子交换剂高效液相纯化分离, 并应用单抗检测系统进行同相和异相交交互测试。结果: Mono-Q-HPLC(高效液相层析)梯度洗脱分离AWAj-TCA可溶组分, 可获得一个带阳离子活性的非结合CCA-1洗脱峰及3个大小不等的、带阳离子活性的CCA-2、CCA-3及CCA-4非结合洗脱峰, 以及一个带阴离子活性CAA-1洗脱峰。CAA活性峰在峰谱上与CCA-3有部分重叠。与单抗亲和层析纯品的活性对比测定显示CCA-1与CCA-2为该组分的主要构成, 但CCA-2及CAA-1在本实验条件下均有微量的相互杂染。同相和异相双位点ELISA的4种组合交互检测, 展示CCA只能在捕获与检测抗体同为抗CCA单抗的一种组合中被检出, 而另3种组合只能测出CAA组分。结论: 血吸虫肠相关CCA组分为一兼含两性电荷的分子混合物; 而CAA分子上具有一个可被抗CCA单抗识别的活性表位, 从而可能影响纯化分离和特异检测。

关键词 [血吸虫肠相关循环抗原,CAA与CCA交叉反应,Mono-Q-HPLC纯化分离](#)

分类号

PURIFICATION AND SPECIFIC DETECTION OF TWO MAJOR SCHISTOSOMA GUT ASSOCIATED CIRCULATING ANTIGENS, CAA AND CCA *

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Abstract

AIM: To investigate the specificity differences of the 2 major gut associated diagnostic circulating molecules in Schistosoma japonicum infection, CAA and CCA, and to obtain sufficient purified material for setting up a standard series in quantitative determinations. METHODS: Isolation and purification of the two worm fractions from a trichloroacetic acid (TCA) soluble preparation of S.japonicum adult worm antigen (AWAj TCA) by Mono Q anion exchange chromatography were performed and the specific reactivity of the eluted fractions by antigen capture ELISA (specific for CAA or CCA) with reference to affinity purified preparations of S.mansoni CAA and CCA was analysed.

RESULTS: By using an ionic strength gradient, CCA was eluted in two major peaks, an unbound fraction CCA 1, and a major bound fraction CCA 2. Two additional minor peaks, CCA 3 and CCA 4, were eluted at higher ionic strengths. CAA was only detected in a bound fraction, partly overlapping with CCA 3. In the CCA 1 and CCA 2 fractions reactivity was only found in the antigen capture ELISA using anti CCA McAbs both for capture and detection. The CAA fraction was predominantly found to be positive in the antigen capture ELISA using anti CAA McAbs both for capture and detection. However, when using combinations of anti CCA and anti CAA McAbs for capture and detection by ELISA this fraction showed some reactivity. CONCLUSION: Two CCA fractions contain molecules which bear at least two CCA epitopes; while the CAA fraction contains molecules which contain at least two CAA epitopes, and one CCA epitope.

Key words [Schistosoma gut associated circulating antigen](#) [CAA and CCA cross reactivity](#) [Mono Q purification](#)

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