

论著

中华硬蜱血小板集聚抑制剂的分离纯化与活性研究

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收稿日期 修回日期 网络版发布日期 接受日期

摘要

目的 研究蜱类抗血小板集聚的生物活性成分,了解其与其宿主相互作用的分子机制。方法 用葡聚糖 Sephadex G?鄄50凝胶过滤及高效液相从半饱吸血的中华硬蜱 (*Ixodes sinensis*) 唾液腺中分离纯化具有血小板集聚抑制活性的蛋白质,用飞行质谱测定该抑制剂的分子量,并用兔富血小板血浆研究其血小板集聚抑制活性。结果 通过液相分离,从中华硬蜱唾液腺中得到了一种血小板集聚抑制剂,用飞行质谱测定该抑制剂的相对分子质量 (M_r) 为8 065。该抑制剂对二磷酸腺苷 (ADP) 诱导的血小板集聚表现强烈的抑制活性,在浓度为10 $\mu\text{g}/\text{mL}$ 时,可以抑制90%以上的血小板集聚。结论 首次分离获得中华硬蜱唾液腺血小板集聚抑制剂,该抑制剂对硬蜱顺利获取宿主血餐至关重要。

关键词 [中华硬蜱](#) [血小板集聚抑制剂](#) [丝氨酸蛋白酶](#) [活性](#) [血餐](#)

分类号

Isolation and Purification of an Inhibitor on Platelet Aggregation from *Ixodes sinensis*

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Abstract

Objective To study the bioactive components in ticks which inhibit platelet aggregation, and to understand the molecular mechanism of tick-host interaction. Methods Sephadex G-50 gel filtration and high performance liquid chromatography (HPLC) were used to purify the platelet aggregation inhibitor from *Ixodes sinensis*. Its molecular weight and purity were checked by matrix-assisted laser desorption ionization time-of-flight (MALDI-TOF) mass spectrometry. Platelet-rich plasma (PRP) of rabbit was used to examine the function of platelet aggregation inhibitor. Results A purified platelet aggregation inhibitor was identified from *I. sinensis* with a molecular weight of 8 065. It inhibited platelet aggregation induced by ADP with strong potency. The inhibition of platelet aggregation reached over 90% under a concentration of 10 $\mu\text{g}/\text{mL}$. Conclusion An inhibitor of platelet aggregation from *I. sinensis* was identified, which may play an important role for ticks to successfully get blood meal from their hosts.

Key words [Ixodes sinensis](#) [Platelet aggregation inhibitor](#) [Serine protease](#) [Activity](#) [Blood meal](#)

DOI:

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