

Inhibitory Molecules from Salivary Glands Leech *Haementeria vizottoi* Cause Unbalance Specifics Sites in the Haemostatic System

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Introduction: Salivary glands (SG) from leech are enriched with molecules that display diverse functions that going against the host's haemostatic, inflammatory and immune responses. Salivary molecules of hematophagous animals have been identified and characterized as new targets to the development of therapeutics agents against several diseases. **Objectives:** In this study we focus on the molecules responsible to modify host's hemostasis response. **Methods:** They were isolated from salivary complex extract (SCE) of the Brazilian blood-sucking leech *Haementeria vizottoi* (VIZOTTO, 1967). SG from leeches were removed by dissection, stored frozen at – 70 °C and liophylized. After that, were macerated by mechanic friction and homogenized with 150 mM NaCl, centrifuged at 12000 g for 3 min at 4 °C and the supernatant filtered. SCE was loaded on a Superdex G-75 column equilibrated with 20 mM Tris-HCl buffer pH 8.0. Collected fractions were evaluated by their ability to inhibit FXa. The inhibition of their amidolytic activity measured with chromogenic substrate specific, and of the inhibition of thrombin generation in the prothrombinase complex. **Results:** The fibrinolytic activity of the active band was identified by zymography. There are fractions that showed inhibitory action on FXa activity and some of them have the capability to inhibit thrombin generation in the prothrombinase complex, as well as induced incoagulability in human plasma. Zymography showed active protein bands with molecular mass range of 43 to 67 kDa, approximately. **Conclusion:** SCE from *H. vizottoi* contains many interesting components that showed to able to modulate physiological mechanisms, such as coagulation and fibrinolysis.

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