APYRASE ANTI-HAEMOSTATIC ACTIVITY IN THE SALIVARY GLANDS OF *RHODNIUS* SPP

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Blood-feeding arthropods are able to constraint barriers imposed by host defenses due to the presence of a wide range of antihemostatic factors in their saliva, including vasodilators, antiplatelet factors and anticoagulants. We report here apyrase activities in the saliva of *Rhodnius brethesi, Rhodnius milesi, Rhodnius pictipes* and *Rhodnius robustus*. These apyrases are Ca2+ dependent only and their optimal activities occur at 37 °C and pH 8.3. To identify apyrase activities, salivary gland contents were submitted to SDS-PAGE enzimography without previous boiling or reduction of the samples. This experiment allowed the identification of about 44 kDa bands displaying both ATPase and ADPase activities. Moreover, we performed apyrase activity from *R. brethesi* salivary gland content in two-dimensional gel electrophoresis. The protein mediating apyrase activity was identified by mass spectrometry. *In vitro* platelet aggregation assays showed that the content of 0.5 salivary gland pair of *R. brethesi, R. milesi, R. pictipes* and *R. robustus* completely abolished platelet aggregation induced by ADP. The wide distribution of apyrases in the saliva of Chagas disease vectors indicate that these enzymes play important roles during blood feeding.
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