



USE OF EXTRACTS FROM EGGS WAXES OF IXODIDAE TICKS AS NEW POTENTIAL DRUGS
USO DA SECREÇÃO CEROSA DOS OVOS DE CARRAPATOS IXODIDAE COMO NOVAS DROGAS FARMACÊUTICAS

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Most species of ixodid ticks lay between 2,000 to 5,000 eggs, which are viable in the natural environment because of a substance involving the eggs. This is possible because of its protecting capacity from desiccation and microbial attacks. Previous studies in our laboratory showed that extracts from the wax that surrounds the eggs of these ticks presented antiviral, antibacterial and antifungal activity. Considering these results, we are pursuing the molecules responsible for these effects, and in order to do that we must first evaluate the cytotoxicity and antimicrobial effects of the crude wax obtained from several ticks eggs. To execute this project the ticks *Rhipicephalus sanguineus*, *Rhipicephalus (Boophilus) microplus*, *Amblyomma sculptum* and *Amblyomma aureolatum* were obtained from colonies in our laboratory. The egg waxes extracts from these ticks were obtained following the protocols proposed by both Arrieta (2006) and Esteves (2009) performing the extraction to subsequently compare the methods. The main difference between the two methods is that the protocol from Arrieta uses a mixture of chloroform /methanol at first and purified water after that leading to an organic fraction and an aqueous fraction, while Esteves protocol proposes primarily the use of 7.2 pH PBS to obtain the protein fraction and then, after getting it, chloroform is added to wash the eggs and obtain the lipidic fraction. We observed that the proteic fractions from the egg wax extracts prepared by Esteves protocol were very effective against viruses; on the other hand, extracts prepared according to Arrieta showed to be effective against Gram negative bacteria and fungi, specially the so called organic extract. Tests will be performed with different microorganisms in order to obtain new results on antimicrobial activity.

Key words: antifungal activity, antiviral effect, citotoxicity

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