

Modulation of Microbial Biofilms by Compounds Obtained of *Rhipicephalus*  
(*Boophilus*) *microplus* Eggs

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Microbial biofilms are cells bound together by a slimy extracellular matrix of polysaccharide and proteins. They cause serious damages in medical, industrial and environmental settings, mainly because these communities present extreme resistance to antibiotics. Since the discovery that these bacteria communicate through chemical molecules in a phenomenon called quorum sensing, it became a new and promising target for antimicrobial drugs. Cattle ticks *Rhipicephalus* (*Boophilus*) *microplus* have the ability to control microbial infections when challenged with the diversity of microorganisms when they deposit their eggs in the environment. In this context, our main objectives are (i) extraction of quorum-sensing inhibitors and/or anti-biofilm compounds of eggs of *R. microplus*; and (ii) identification, isolation, and characterization of biologically active compounds. Up to now, we assayed whole tick eggs, eggs denuded of wax and eggs wax extracts (aqueous and organic) in preventing biofilm formation and destroying already formed biofilms of the pathogenic Gram-positive *Staphylococcus epidermidis* and the Gram-negative *Pseudomonas aeruginosa*. The aqueous extract produced an important inhibition of *S. epidermidis* biofilm formation when compared to the organic extract. In contrast, the extracts and the eggs were less active against *P. aeruginosa*. The results indicate that we might have distinct compounds acting upon Gram-positive and Gram-negative, showing the richness and potential of the tick extracts. Purification of the extracts is currently being doing.

Keywords: biofilm, quorum-sensing, *R. microplus*, active compounds

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