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An insight into the sialotranscriptome and proteome of Hyalomma dromedarii salivary gland extract

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yalomma dromedarii is a common parasite of the camel, exophilic preferring a warm and wet climate. It is probably the most Hyalomma dromedarii is a common parasite of the came, exoplant protecting a sub-completely desert- adapted of all hard ticks. In Tunisia, *H. dromedarii* is found in the southern region, mainly in Gafsa and Tataouine Kebelli. Similarly to other hematophagous, the salivary glands of the slower feeding hard ticks such as H. dromedarii might be a rich source of many compounds with biological activities that interact directly with host systems, such as blood clotting, platelet aggregation, cell death, among others. Knowledge of the tick salivary protein repertoire may lead to vaccine targets to disrupt feeding and/or parasite transmission as well as to the discovery of novel pharmacological agents. Male saliva may also assist reproduction because males use their mouthparts to lubricate and introduce their spermatophores into the females' genital pore. The analyses of the sialomes of male and female ticks independently allow us to understand the strategy used by each gender to feed successfully. We sequenced cDNA libraries from pools of salivary glands from adult male and female Hyalomma dromedarii salivary gland extract, using the Illumina HiSeq protocol. We have also generated the proteome, from the salivary gland extracts of male and female H. dromedarii, resulting a total of 1740 and 923 proteins respectively which were identified by one or more peptides with at least 95% confidence. Our results showed a complex composition of H. dromedarii SGE, in a good agreement with the complexity of the ixodidsialomes. The most representative proteins found were housekeeping/intracellular, hemelipoproteins and other transporter proteins; conserved proteins, lipocalins, peptidase inhibitors, glycine-rich proteins, and host proteins. This study represents the first sialotranscriptomic/proteomic study on H. dromedarii salivary glands. Our results assist the understanding of the tick-host molecules interaction during the blood feeding and discovery of new pharmacologically active proteins of the ticks of Hyalomma genera.

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