Triatoma infestans Calreticulin: Gene cloning and expression of a main domain that interacts with the host complement system

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© 2017 by The American Society of Tropical Medicine and Hygiene. Triatoma infestans is an important hematophagous vector of Chagas disease, a neglected chronic illness affecting approximately 6 million people in Latin America. Hematophagous insects possess several molecules in their saliva that counteract host defensive responses. Calreticulin (CRT), a multifunctional protein secreted in saliva, contributes to the feeding process in some insects. Human CRT (HuCRT) and Trypanosoma cruzi CRT (TcCRT) inhibit the classical pathway of complement activation, mainly by interacting through their central S domain with complement component C1. In previous studies, we have detected CRT in salivary gland extracts from T. infestans. We have called this molecule TiCRT. Given that the S domain is responsible for C1 binding, we have tested its role in the classical pathway of complement activation in vertebrate blood. We have cloned and characterized the complete nucleotide sequence of CRT from T. infe