

Humoral response of *Bos Taurus* and *B. indicus* cattle infested by the tick *Boophilus microplus* against paramyosin and tick salivary gland extract

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The tick *Boophilus microplus* is a major ectoparasite of bovines. Tick control is based mainly on the use of acaricides, although they possess high costs and can be hazardous against human and animal health. An alternative method of control, like vaccines, would represent a better approach. *Bos indicus* cattle develop higher degrees of resistance against *B. microplus* following infestations when compared to *B. taurus* cattle, possibly because they share a longer evolutionary coexistence. As both cattle are equally susceptible to the tick on the first infestation, tick resistance is believed to derive from host immune responses, which seem to be different in *B. taurus* and *B. indicus*. Tick saliva is the probable source of the immune response targets, and the identification of these antigens could help in the development of an anti-tick vaccine. In this work we analyzed the tick-host relationship by comparing the IgG response, by ELISA and Western-blot, of previously infested *B. indicus* and *B. taurus* cattle against salivary gland protein extract and a recombinant paramyosin, which is primarily a muscle protein, but is also present in salivary glands. Sera analysis showed that the bovines developed an immune response against different molecules present in the salivary glands, and some variations occur between bovines. Paramyosin was also recognized by the serum of some animals. Non-muscle paramyosin function remains uncertain, but the recognition of paramyosin by sera of infested bovines may indicate its secretion into the host and a possible relationship with the induction of tick resistance. In other parasites, like *Schistosoma mansoni*, paramyosin was found in the tegument, showed to possess immunomodulatory activities, and was responsible by the development of immune protection when tested in vaccination trials. Paramyosin, in this way, may turn into a promising immunogen against *B. microplus*. **Supported by: FAPERGS and CNPq**