PRODUCTION OF OVINE ANTIVENOMS AGAINST *TITYUS SERRULATUS* SCORPION TOXINS

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Administration antivenom is a recognized therapeutic to poisoning by the scorpion *Tityus serrulatus* (Ts). The antivenom used for therapeutic purposes ($F(ab')_2$ fragments) are prepared from hyperimmunized horse which received whole venom from Ts scorpions. In the context of scorpionism increases the risk of adverse effects such as serum sickness and distinct types of (hyper)sensitivity reactions. For this reason we need to elicit anti-Ts therapeutic sera in an animal species other than the horse. In this work we demonstrate, in a sheep model, the possibility of produce therapeutic antivenom against *Tityus* toxins by immunization with crude venom or the toxic fraction $TstFG_{50}$ of the *Tityus* venom ($TstFG_{50}$ is a Sephadex G_{50} chromatographic fraction of venom that represents most of the toxicity of the crude venom) detoxified by conjugation to bovine serum albumin as the carrier protein and glutaraldehyde as a chemical cross-linker. Caprylic acid has been used to precipitate $F(ab')_2$ fragments after pepsin treatment of the hyperimmune sheep serum and the neutralizing potency was evaluated in vitro by testing the neutralization of lethality in mice. Raising antivenoms in sheep are relatively inexpensive, widely available in developing countries that are unhealthy for horses, and rapidly achieve high circulating levels of high-affinity IgG antibodies.

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