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Resumo	<p>There are global reports of accidents involving sting rays, many related to inflammatory reactions. However, little is known about the mechanisms, as well as the chemical composition, of the secretion. The aim of this study was to evaluate the biochemical composition of the dorsal mucus of <i>H. americanus</i>, and to verify possible inflammatory activity. In order to evaluate the composition, proteome (in solution) of crude mucus was performed by LC-MS/MS and bioinformatics. In parallel, peaks were manually isolated by RP-HPLC, and analyzed by MALDI/TOF. Inflammation activity was assayed on peritoneal macrophages, performed by measuring hydrogen peroxide production and phagocytic activity after incubation with crude mucus (0.1 and 5.5 mg). The results of proteome analysis showed a great diversity of proteins, from structural, like collagen, to growth factors for lymphocytes, cartilaginous tissue and fibroblasts. We could also find proteins correlated with the immune system, such as leukocyte receptors, immunoglobulins and complement cascade factors. Besides proteins, we could verify peptides, abundant in the secretion. The crude mucus was able to interfere with macrophage responses in vitro, observed by peroxide release, indicating an inflammatory response. However, this effect was dependent on the presence of collagen, which indicates that this secretion interferes indirectly with macrophage responses. On the other hand, preliminary studies show that the major peak, composed of peptides, was able to directly stimulate macrophages, increasing hydrogen peroxide production and the phagocytic potential. This scenario reinforces the role of mucus as an agent of innate immunity, and showed a possible correlation with the envenomation process.</p>
Fomento	