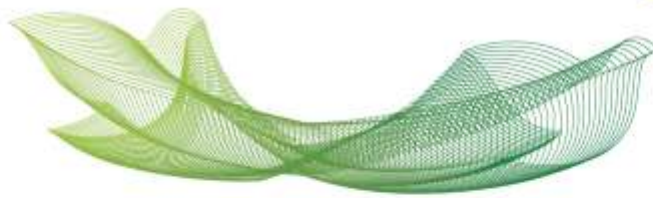




Tipo	Periódico
Título	Hypanus americanus mucus: A new point of view about stingray immunity and toxins
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Resumo	Fish skin plays important biological roles, such as the control of the osmotic pressure gradient, protection against mechanical forces and microorganism infections. The mucus, on the other hand, is a rich and complex fluid, important for the fish acting as innate immunity system, swimming and nutrition. The elasmobranch epidermis is characterized mainly by mucus secretory cells, and marine stingrays have already been described to present secretory glands spread throughout the body. Little is known about the biochemical composition of the stingray mucus, but recent studies denoted the importance of mucus in the envenomation process. Stingrays venom are largely studied due the human medical importance of envenoming caused by sting puncture, that evolve with local inflammation and necrosis, and these toxic events can be correlated to the chemical composition of the sting skin, according to the literature. Aiming to analyse the mucus composition, a new non-invasive mucus collection method was developed that focused on peptides and proteins, and biological assays were performed to analyze preliminary toxic and immune activities of the Hypanus americanus mucus. Pathophysiological characterization showed the presence of peptidases on mucus, as well that the induction of edema and leukocyte recruitment in mice. The fractionated mucus improved phagocytosis on macrophages and showed antimicrobial activity against <i>T. rubrum</i> , <i>C. neoformans</i> and <i>C. albicans</i> in vitro. The proteomic analyses showed the presence of immune-related proteins like actin, histones, hemoglobin, and ribosomal proteins. This protein pattern is similar to those reported for other fish mucus and stingray venom. This is the first report depicting the Hypanus stingray mucus composition,



	highlighting its biochemical composition and importance for the stingray immune system and the possible role on the envenomation process.
Fomento	