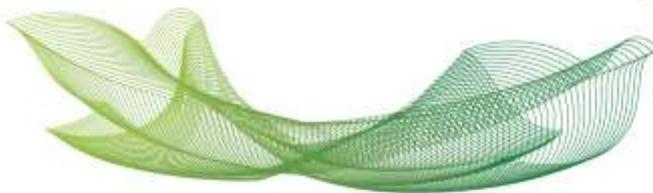


Tipo	Periódico
Título	Biochemical profiling of the <i>Anthopleura cascaia</i> aqueous extract: A screen for serine peptidase inhibitors
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Resumo	Sea anemones have recently been receiving particular attention due to the profusion of bioactive molecules that had been described in their tissues. Phospholipases, cytolytic, inhibitory and neurotoxic molecules have been isolated from these animals and their toxins can be grouped into 15 well established families. On the other hand, only 4% of the 1,100 known anemone species were studied and have had a few toxins isolated. This represents only a small fraction of what still can be explored in these animals. Here, we describe the biochemical characterization and the identification of the presence of serine peptidase inhibitors in the aqueous extract of the Brazilian sea anemone <i>A. cascaia</i> . The extract was separated by RP-HPLC and its fractions (F1 to F7), have had their molecular mass profile assessed by MALDI-TOF/MS, ESI-IT-TOF/MS-MS and SDS-PAGE. Moreover, fractions were screened for inhibitory activity over trypsin, using time-course fluorescence-based kinetic assays. The analysis of the RP-HPLC profile revealed that <i>A. cascaia</i> aqueous extract is a diverse source of molecules. The SDS-PAGE showed proteins with MM ranging from 97 to 14 kDa, with major bands between 30 and 20kDa. The 1D gel-based proteomic analysis indicates the presence of cell surface glycoproteins; cooper/zinc superoxide dismutase; natterin; histone H4 protein and actitoxins in the extract. Such molecules have already been described for other sea anemone species. Moreover, the MALDI analyses showed that fractions F3 and F4 contains peptides in the 3-7 kDa; in accordance to the molecular masses of known serine peptidases inhibitors. Those fractions also showed strong inhibitory activity over the trypsin. In conclusion, the <i>A. cascaia</i> aqueous extract is an important source of bioactive molecules, including, toxins,



	antimicrobial molecules and serine peptidase inhibitors with possible therapeutic applications.
Fomento	