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Resumo	Neuroinflammation is a condition associated with several types of dementia, such as Alzheimer's disease (AD), mainly caused by an inflammatory response to amyloid peptides that induce microglial activation, with subsequent cytokine release. Neuronal caspase-1 from inflammasome and cathepsin B are key enzymes mediating neuroinflammation in AD, therefore, revealing new molecules to modulate these enzymes may be an interesting approach to treat neurodegenerative diseases. In this study, we searched for new caspase-1 and cathepsin B inhibitors from five species of Brazilian marine invertebrates (four cnidarians and one echinoderm). The results show that the extract of the box jellyfish Chiropsalmus quadrumanus inhibits caspase-1. This extract was fractionated, and the products monitored for their inhibitory activity, until the obtention of a pure molecule, which was identified as trigonelline by mass spectrometry. Moreover, four extracts inhibit cathepsin B, and Exaiptasia diaphana was selected for subsequent fractionation and characterization, resulting in the identification of betaine as being responsible for the inhibitory action. Both molecules are already found in marine organisms, however, this is the first study showing a potent inhibitory effect on caspase-1 and cathepsin B activities. Therefore, these new prototypes can be considered for the enzyme inhibition and subsequent control of the neuroinflammation.
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