

TITLE: IDENTIFICATION, ISOLATION AND CHARACTERIZATION OF A LECTIN FROM BARK OF *Abarema cochliacarpus* (GOMES) BARNEBY & GRIMES

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ABSTRACT:

Several plants are used by humans for therapeutic purposes, and their uses are propagated over the generations. Currently, there is an incentive for the identification and isolation of active substances present in these organisms, aiming at the creation of new drugs. The production of the active ingredients of these organisms is related to their defense mechanism against external agents. These substances are usually classified into primary and secondary metabolites. Lectins are proteins of primary metabolism that can take on several biological roles, including antibacterial, antifungal, anti-inflammatory, antitumor, and cicatrizing activities. These activities are related to the capacity that lectins have to bind to carbohydrates present on the cellular surface of target organisms, preventing their development and/or inducing a cellular response. *Abarema cochliacarpus* (Gomes), popularly known as barbatimão, is a plant used in folk medicine to treat infections caused by microorganisms. This study aims to investigate the presence of lectin in the inner bark of *A. cochliacarpus* and perform the purification and evaluation of antifungal activity. The extract was prepared, filtered in activated charcoal in an attempt to remove compounds that are not of interest, and the hemagglutinating activity was tested (AH = 256). The sample was chromatographed in chitin column and eluted with 1M acetic acid, obtaining an active protein peak. Antimicrobial tests were performed with the barbatimão extract, showing antifungal activity against the fungus *Candida albicans*, presenting the lowest inhibitory concentration of 169 µg/mL. The development of this work contributes to the isolation of new proteins, presenting regional relevance once it investigates lectins of a medicinal plant from the northeast region of Brazil, which may represent a new biomaterial with high biotechnological potential.

Keywords: Barbatimão, antifungal, lectin

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