

POSTER PRESENTATION

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Marine natural compounds can be efficient toward aflatoxigenic *Aspergillus flavus* strain

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Background

The presence of high levels of aflatoxin is a serious problem to the production of raw peanuts and peanut crumbs. The high incidence of aflatoxin in peanuts in our country is mainly due to problems in primary production. High humidity and temperature conditions increase the likelihood of *Aspergillus* development and aflatoxins production, which is worsened during rainy weather [1]. Aflatoxins may remain in the food after the death of fungus without visible alterations [2]. The effects of aflatoxins on human and animal health, besides resistance of fungi to conventional antifungal agents has motivated the search for new inhibitors. The research of marine natural products from sponges has been considered as a promising source for the development of new antifungal agents in order to discover compounds more effective and less toxic [3]. The objective of this study was to evaluate the antifungal activity of 21 marine natural compounds toward an aflatoxigenic *A.flavus* ATCC strains.

Methods

Aflatoxin producing (CCT 7836) and non producing (ATCC9643) *A. flavus* strains were purchased from Fundação André Tosello, Campinas, Brazil and were kept in Sabouraud media at 35 °C. The minimum inhibitory concentration (MIC) of 21 sponge marine natural products, identified as SM1 to SM21, toward the two strains of *A. flavus* was determined by microdilution assay in 96-well plates using RPMI medium according to the protocol NCCLS M-38 [4] for 7 days at 37C, using commercial antifungal cercobin as control.

Results and conclusions

The marine product SM5 (CIM = 3.9 µg/mL) was more effective than cercobin (CIM = 7.8 µg/mL) against *A. flavus* control aflatoxin producer strain. Moreover, marine product SM5 (MIC = 1.9 µg/mL) was also a more effective antifungal agent than cercobin (MIC = 3.9 µg/mL) against the *A. flavus* ATCC strain. The findings suggest that natural marine products are a promising source of new molecules for the development of antifungal compounds against aflatoxigenic fungus that affect public health and the food production.

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M38-A National Committee for Clinical Laboratory Standards, Wayne; 2002,
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