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## BF17 RECOGNITION OF ACTIVE BIOMOLECULES WITH ANTIMICROBIAL CAPACITY PRODUCED BY FILAMENTOUS FUNGI IN DIFFERENT CULTURE MEDIA.

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Fungi growing in natural environments, like many other microorganisms, are forced to interact with surrounding organisms and the physicochemical characteristics of the environment. As a consequence of these interactions, metabolites with varied biological activities which play an important role in survival are produced. Defensive bioactive compounds with varied structural identity, such as antimicrobials, are thus synthesized to develop a natural competence tool.

In this study, filamentous fungi were isolated from different samples collected from Las Yungas rainforest (Tucumán), and their ability to produce antimicrobials after cultivation in different culture media was evaluated. These culture media included LB, Czapek-Dox, Czapek-malta, GMY and R2A. Antimicrobial activity was tested according to a modification of the protocol proposed by Kekessy and Piguet (1970). Selected isolates showed inhibition against the growth of Gram(+) and Gram(-) pathogen microorganisms such as *Salmonella enterica* ser. Tiphymurium, *Salmonella enterica* ser. Newport, *Salmonella enterica* ser. Enteritidis, *E. coli* ATCC35218, *Enterobacter aerogenes*, *Enterobacter cloacae*, *Shigella sonnei*, *Enterococcus faecalis* ATCC29212, *Staphylococcus aureus* ATCC 29213

and *Staphylococcus epidermidis*. Eight fungal isolates were selected according to their outstanding capacity to produce antimicrobials and their molecular identification through the analysis of the 28S ADNr D1/D2 domain revealed their closest relationship with *Lanatonectria*, *Trichoderma*, *Gibberella*, *Hipocrea* and *Fusarium* genera.

Results varied according to the culture media evaluated. In carbon-source rich media or media containing aminoacids, like LB or GMY, no significant antimicrobial production was noted, or this capacity was importantly reduced. Antimicrobial activity was variable according to the isolate and the test strain used. In Czapek-Malta and R2A, antimicrobial production became increased with respect to that produced in LB and GMY media, although it also exhibited certain variability depending on the isolate and the pathogen indicator strain. Meanwhile, poor or minimal culture media such as Czapek revealed qualitative and quantitatively higher antimicrobial production, mainly for two fungal isolates of the *Hipocrea* and *Fusarium* genera. In accordance to these findings, Czapek resulted as the most suitable culture medium for evaluating bioactive antimicrobial production by fungal isolates.