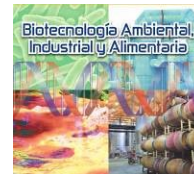


Poster



## Study of the secondary metabolism of phytopathogenic fungi as a source of compounds with antibiotic activity

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### ABSTRACT

*Eutypa lata* is a phytopathogenic fungus responsible for a "Grapevine Trunk Disease" commonly called "eutypiosis" or "eutypa dieback" which affects several agricultural crops. Its secondary metabolism has been studied in order to find the main toxins that cause the symptoms of the disease, and to learn how to control its production. One of the most phytopathogenic toxins is Eutypine, a hydroxybenzaldehyde, among several acetylenic derivatives related with it. Syccaine is one of them and exhibits antimicrobial activity against *Aerobacter aerogenes* and a variety of Gram-positive bacteria, and few fungi. That is why, in this study, we envisioned the study of the secondary metabolism of *E. lata* as a producer of natural acetylenic compounds with antimicrobial activity to give response to the worldwide problem posed by the shortage of new antibiotics development.

Through OSMAC (One Strain Many Compounds) approach, two strains of the fungus, *E. lata* 355 y *E. lata* 311, were grown using different cultivation conditions like culture media composition, aeration, type of culture flask or incubation time. The extract obtained from the extraction with ethyl acetate of the culture media, was tested against *Escherichia coli*, *Staphylococcus aureus* and *Klebsiella pneumoniae* using the broth dilution method. Then, the extracts with antibiotal activity were purified in order to obtain pure compounds to find which compound are responsible for the antibiotal activity.

The preliminary results of the research have indicated that OSMAC approach stimulates the production of compounds with antibiotal activity in some of the culture conditions tested.

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