19:00 - 22:00

POSTER SESSION I

MEXICAN BUFFET - DRINKS - MUSIC
Effect of *Trichoderma* isolates on common bean plants

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**INTRODUCTION**

Trichoderma spp. are biocontrol agents for many plant species. They are known for their ability to produce a variety of bioactive compounds, including antibiotics, hydrolytic enzymes, and pathogenic factors. These agents are effective against a wide range of soil-borne fungal and bacterial pathogens. The use of Trichoderma spp. in the field has been shown to suppress the growth of various plant pathogenic fungi and bacteria, leading to increased crop yields and improved plant health. The current study aimed to evaluate the efficacy of different *Trichoderma* isolates against prevalent fungal pathogens in bean crops.

**RESULTS**

Antagonistic and growth potential were investigated in the study. Seedlings were treated with *Trichoderma* isolates, and the results indicated a significant reduction in fungal pathogen colonization. The isolates showed a dose-dependent reduction in fungal growth, with the most effective isolates reducing fungal biomass by up to 80%. The isolates also showed beneficial effects on plant growth, as evidenced by increased root and shoot biomass.

**DISCUSSION**

The results of this study highlight the potential of *Trichoderma* isolates as biocontrol agents in bean crops. The isolates demonstrated effective antagonism against fungal pathogens, with beneficial effects on plant growth. The use of these isolates in agricultural practices could lead to increased crop yields and reduced reliance on chemical fungicides. Further research is needed to optimize the use of these isolates in commercial settings.

**ACKNOWLEDGMENTS**

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**REFERENCES**

Transcriptional Profiling Of Yarrowia lipolytica Cells During The Yeast To Hypha Transition

Introduction

Yarrowia lipolytica is an important microorganism in the biotechnology industry due to its ability to produce lipases and other valuable enzymes. The transition from yeast to hyphae is a crucial phase in the life cycle of this fungus, marked by significant changes in gene expression. Understanding the molecular mechanisms underlying this transition is essential for optimizing the production of enzymes and other products.

Method

To investigate the transcriptional changes during the yeast to hypha transition, a series of microarray experiments were conducted. Cells were harvested at different time points during the transition and subjected to RNA isolation. The RNA was then hybridized to gene expression arrays to identify differentially expressed genes.

Results

The analysis revealed a dynamic and complex regulatory network associated with the yeast to hypha transition. Key genes involved in cell wall biogenesis, cytoskeleton rearrangement, and nutrient uptake were identified. The data also highlighted the importance of signaling pathways in coordinating these changes.

Conclusion

The transcriptional profiling of Yarrowia lipolytica cells during the yeast to hypha transition provides valuable insights into the molecular mechanisms controlling this critical phase. These findings can be instrumental in the development of strategies to manipulate this transition for industrial applications.
DC-42 localizes at the cellular apex and septa of mature hyphae of Neurospora crassa.

INTRODUCTION

Polarized growth in fungi relies on the positioning of cortical markers. The subsequent spiral growth is maintained by the sequential addition of cortical markers. The resulting actin projection towards the apex is essential for the correct positioning of the fungal cell.

METHODS

RESULTS

Figure 1: Rapamycin formation in cells of N. crassa expressed under control of 18S rRNA promoter.

Figure 2: Rapamycin expression in the presence of 20M MβCD-GFP.

Figure 3: Rapamycin accumulation at the cellular apex following infection with N. crassa.