CHAPTER 36

MICROBIOLOGY

Doctoral Theses

420. GUPTA (Rishi)
Bioconversion of Plant Residues into Ethanol.
Supervisor : Prof. R.C. Kuhad.
Th 18960

Abstract

In the present work, a lignocellulosic weed, Prosopis juliflora, commonly known as 'mesquite' has been exploited for the production of bioethanol and waste management. Moreover, improvements at various levels in the existing bioethanol production process are attempted. Further attempts have also been made to improve the sugar concentration in the resultant sugar syrups to enhance the ethanol production efficiency and eventually to make the distillation of ethanol less energy intensive and cost-effective.

Contents

1. Introduction. 2. Review of literature. 3. Materials and methods. 4. Observation and results. 5. Discussion. 6. Summary and conclusion. Bibliography.

421. MINOCHA (Neha)
Leishmania Donovani MCM4: Characterization of Expression and Interaction with PCNA.
Supervisor : Prof. Swati Saha.
Th 18962

Abstract

Leishmaniases display multifaceted clinical symptoms, varying from mild and frequently self-healing cutaneous lesions to severe mucocutaneous ulcers and visceral manifestation, the last of which are often fatal. DNA replication is a process

central to their reproduction by binary fission. The present study is undertaken to characterize one of the proteins of the MCM2-7 complex, MCM4.

Contents

1. Introduction and review of literature. 2. Characterization of MCM4 expression in leishmania promastigotes and its interaction with PCNA. 3. Preliminary studies investigating Cdc45 expression in leishmania donovani promastigotes. Bibliography. Appendix.

422. MISRA (Swati)
Development and Optimization of a Fermentative Process for Xylitol Production from Condida Tropicalis: Scale up, Purification and Applications.
Supervisor : Prof. R. K. Saxena.
Th 18961

Abstract

The present investigation has been undertaken wherein a number of experiments are designed and carried out in a sequential manner beginning from screening, process optimization, whole cell immobilization, scale up, purification, extraction and potential applications of this sugar alcohol using potent xylitol producers. Xylitol is a five carbon low calorie sugar with potential medicinal importance having numerous applications in food and pharmaceutical industries.

Contents

1. Introduction. 2. Review of literature. 3. Materials and methods. 4. Observations and results. 5. Discussion. 6. Summary and conclusions. 7. Future prospects. 8. Bibliography. Appendix.