

CHAPTER 38

MEDICAL SCIENCES MICROBIOLOGY

Doctoral Theses

315. SAIGAL (Sanjeev R)
Diagnosis and Genotyping of Mycoplasma Pneumoniae in Pediatric Community-Acquired Lower Respiratory Tract Infections.
Supervisors : Dr. Surinder Kumar, Dr. G. R. Sethi and Dr. Rama Chaudhry
Th 16413

Abstract

Attempts to establish concordance if any between antibody levels (in Nova Units) and clinical severity of lower respiratory tract infection, mean titers antibody index levels of anti-M pneumoniae IgM antibodies in sero-positive children is estimated. Establishes the importance of detecting M pneumoniae in all age groups among children. Though paired serology is a reference test of M pneumoniae, and culture labor intensive and costly requiring repeated blind subcultures, for routine diagnosis a combination of IgM ELISA and PCR to amplify PI adhesin gene may be ideal for detecting this microbe.

Contents

1. Introduction. 2. Aims and objectives. 3. Review of literature. 4. Materials and method. 5. Results. 6. Discussion. 7. Summary and conclusion. Bibliography and appendices.

316. SAINI (Neeraj Kumar)
Functional Analysis of the Mammalian Cell Entry (Mce) Proteins of Mycobacteria.
Supervisor : Prof. Mridula Bose
Th 16416

Abstract

Tuberculosis is essentially of pulmonary disease mainly

produced after bacillary inhalation. The initial step in the pathogenesis by intracellular pathogene is the invasion of host cells. Although macrophage are the primary target cells of *M. tuberculosis* it is shown by various groups that *M. tuberculosis* can enter into various non-phagocytic cell also. Role of *mce1A* gene in invasion and survival is well established. Report from laboratory showed that *mce4* operon is expressed during the course of infection. In order the answer whether *mce4A* (Rv3499c) has any role in invasion or survival of *M. tuberculosis* inside the host cells the study presented here is undertaken.

Contents

1. Introduction. 2. Review of literature. 3. Cloning and expression of *mce4A* and *Mce1A* genes of *M. tuberculosis*. 4. Role of *Mce4A* protein in cell invasion and survival. 5. Solubilization, purification and refolding of *Mce4A* protein from inclusion bodies. 6. Role of *Mce4A* protein in immune. Summary, conclusion and bibliography.

317. VERMA (Vikas)
Genotypic Characterization of Hepatitis C Virus and its Significance in Patients with Chronic Liver Disease.
 Supervisors : Dr. Anita Chakravarti and Dr. Premashis Kar
Th 16417

Abstract

Deals with the detection of HCV RNA in patients of Chronic Liver Disease (CLD) using Reverse Transcription-Polymerase Chain Reaction (RT-PCR). Genotyping of HCV isolates to be done by Restriction Fragment Length Polymorphism (RFLP) of 5'non-coding region (NCR) and Core region of HCV RNA. Evaluates the accuracy of RFLP technique with Direct Sequencing and Phylogenetic analysis and Correlates the genotypes with clinical, biochemical and immunological parameters and assess the disease severity.

Contents

1. Introduction. 2. Lacunae. 3. Aims and objectives. 4. Review of Literature. 5. Materials and methods. 6. Result. Summary, conclusions and bibliography.