

CHAPTER 5

BIOCHEMISTRY

Doctoral Theses

028. DEY (Bappaditya)
Development of Strategies for Protection Against Tuberculosis.
Supervisor : Prof. Anil K. Tyagi
Th 16243

Abstract

Developes effective vaccination strategies against TB. Employed two immunodominant antigens of M. tb namely, α -crystallin [Rv2031c] and ESAT-6 [Rv3875], in the form of rBCG, DNA vaccine or a combination thereof in heterologous prime boost approaches. Employed two different approaches, [i] to develop an effective booster vaccine to enrich protective efficacy of BCG and [ii] to develop a superior vaccination strategy to replace BCG. The evaluation of protective efficacy of all the vaccine regimens has been carried out by using guinea pig model of aerosol M.tb infection. The α -crystallin based prime boost approach, provides a paradigm for exploring the latency-associated antigens for the development of TB vaccines and present new insights towards establishing the correlates of vaccine-induced protection.

Contents

1. Introduction. 2. Review of literature. 3. Objectives. 4. Materials & methods. 5. Results & discussion. 6. Summary & conclusions. Bibliography and appendix.

029. KOHAAR (Indu)
Role of Cytokine Genes in Relation to HPV Infection in Cervical Cancer.
Supervisors : Prof. Debi P. Sarkar and Dr. Mausumi Bharadwaj
Th 16244

Abstract

Analyses the role of SNPs in the TNF-LTA locus, either individually or in haplotypic association together with HLA class II in susceptibility of HPV mediated cervical cancer in North Indian population. This study included histopathologically confirmed cervical precancer and invasive cancer subjects and healthy controls, to determine the SNP profile of TNF-LTA locus and HLA Dr-DQ genotypes in the predisposition, towards HPV infection associated cervical carcinogenesis. Results strongly support that polymorphisms in TNF-LTA locus and HLA Dr-DQ are involved in genetic susceptibility to cervical cancer or HPV infection.

Contents

1. Introduction and review of literature and Objective and scope of study. 2. Evaluation of the clinico-epidemiological factors associated with cervical cancer. 3. Determination of the role of single nucleotide polymorphisms (SNPs)/ haplotypes in TNF-LTA locus and its functional implications with respect to HPV infection and development of cervical cancer. 4. Evaluation of the role of HLA class II (DRB1-DQB1) polymorphisms in susceptibility towards HPV mediated cervical carcinogenesis. 5. Comparison of the distribution of single nucleotide polymorphisms (SNPs) in TNF-LTA locus and the expression profile of TNFA in HPV positive cancer and HPV negative cancer. 6. Summary and conclusion. Bibliography.