

The present thesis intends to investigate the usefulness of heat shock proteins (Hsps) and cytokines in the diagnosis and pathogenesis of pulmonary and extra pulmonary tuberculosis. The overall objective of the thesis was:

**Specific objectives of the thesis are:**

- Collection of body fluids (Serum, CSF, Ascitic fluid, Pleural fluid etc) from TB patients.
- Identification and characterization of heat shock proteins (Host and Pathogen) in collected body fluids of pulmonary and extra pulmonary TB patients using proteomic and immunological tools.
- Development of ELISA based system using identified heat shock proteins for diagnosis of pulmonary and extra pulmonary TB.
- Evaluation of identified heat shock proteins and cytokines in collected body fluids with ELISA.
- To study the relationship between heat shock proteins and cytokines in pulmonary and extra pulmonary TB patients.
- To study the role of Toll like receptor(s) in pathogenesis of pulmonary and extra pulmonary tuberculosis.
- In vitro study of Hsp and cytokine expression induced with MTB in monocytic THP-1 cell line.

**Note:** The objective of collection of samples and identification of Hsps using proteomics and immunological tools is covered in chapter 1. Development and evaluation of ELISA based system using identified heat shock proteins for diagnosis of pulmonary and extra pulmonary TB is covered in chapter 2. Evaluation of cytokines and their association with Hsps is covered in Chapter 3. Chapter 4 covers the in vitro study of Hsps and cytokine expression induced with MTB in monocytic THP-1 cell line. Lastly, role of Toll like receptor(s) in pathogenesis of pulmonary and extra pulmonary tuberculosis is covered in chapter 5.