PREFACE

Parasitic infections of one kind or the other including filariasis affect billions of people in the world mainly in the developing and underdeveloped countries. Although, these infestations do not cause morbidity, they sap the vitality of patients and reduce their capacity to work. Thus, these parasitic infections are major obstacle to economic progress and improvement of life in these regions. The magnitude of problem is evident from the fact that the World Health Organization has identified these parasitic infections as one of the thrust areas of research in its special programme of controlling tropical diseases.

Lymphatic filariasis continues to be the scourge of the tropical and subtropical regions of the world inspite of extensive eradication efforts. The major filarial infection in India is due to Wuchereria bancrofti. Every third person in India faces the risk of exposure to filariasis. The disease causes severe physical discomfort, morbidity, loss of man-hours and even social and psychological disturbances. Early diagnosis of the disease is still a
major problem and effective chemical or immunological remedies against filariasis are not available. An unequivocal diagnosis of filarial infection is still based on the detection of the circulating microfilariae in night blood smears. However, this method fails to detect the disease when microfilariae are spares or sequestered in tissues. This led to the use of immunological methods for the diagnosis of filariasis. The immunodiagnostic methods based on antibody detection showed extensive cross-reactivity with other helminth infections and are unable to distinguish between present and the past infection. In the recent past, more emphasis has been given to the immunodiagnosis based on detection of circulating antigen.

The studies reported in the present dissertation are directed towards the immunochemical characterization of the excretory-secretory (E-S) products of Setaria cervi (a bovine filarial parasite) which has been shown to have antigens common to the human filarial parasites. The study deals with the preparation, characterization and fractionation of S. cervi E-S products, production of polyclonal and monoclonal antibodies against the
E-S products and evaluation of the anti-E-S antibodies (polyclonal and monoclonal antibodies) for the detection of circulating antigen in filarial patient sera. These studies provide useful information about the protein and antigenic make-up of *S. cervi* E-S products, presence of antigens, equivalent to filarial circulating antigen, as well as the potential of anti-E-S antibodies in diagnosis of human filariasis.