INTRODUCTION
A vaccine based on a killed, non-pathogenic, cultivable mycobacterium, *Mycobacterium w*, is in phase II and phase III immunotherapeutic trials in multibacillary leprosy patients. *M. w* was selected from amongst 16 strains of mycobacteria on the basis of its ability to induce cell mediated immune response analogous to *M. leprae*, with peripheral blood mononuclear cells from polar tuberculoid leprosy patients. *Mycobacterium w* is a fast growing mycobacterium and resembles in its characteristics bacilli included in Runyons Group IV. It, however, differs from the presently listed strains of this group in one respect or the other (Saxena et al., 1978; Katoch, 1981).

The results obtained so far from the phase II and phase III clinical trials in multibacillary patients show that 100% of BB, 85.7% of BL and 61.5% of LL patients convert to lepromin positivity (Talwar et al., 1990a) from an initial lepromin negative status. This was accompanied by a rapid bacterial clearance, histopathological upgradation and clinical improvement in a manner superior to chemotherapy alone (Talwar et al., 1990a). *M. leprae* being an intracellular pathogen, it is obvious that this conversion from a non-responsive to a responsive status of multibacillary patients is a consequence of cell mediated immune response mediated directly or indirectly by T cells recruited by *M. w* in these patients. The identification of antigens of *M. w* which
trigger T cell responses in these patients would be of interest for understanding cell mediated immune mechanisms in these patients.

A novel technique for identifying relevant T cell-stimulating antigens has been developed by Young and Lamb (1986) which has been later modified by Abou-Zeid et al. in 1987. The technique, called 'T cell blotting', involves the separation of an organism into its components by SDS-PAGE followed by transfer onto NC membrane. The NC-bound antigens are then directly analysed for their ability to trigger T cell responses in vitro. The main advantage of this technique is that T cell-activating determinants can be studied without prior identification of the antigens by serological techniques. Thus, antigens can be studied for their ability to induce T cell responses in vitro independent of the expression of B cell epitopes. Moreover, the technique permits analysis of antigens without any biochemical purification.

The present study was carried out to identify the antigens of M.w that were being recognised by T cells of multibacillary leprosy patients vaccinated with M.w. The study also aimed at identifying antigens of M.w which were being recognised by the immunologically privileged tuberculoid patients and healthy contacts. This was carried out to find out if T cells from these two categories and the vaccinated patients recognised similar or different antigens. The analysis was carried out
using the technique of T cell blotting. Based on the results obtained from this analysis we carried out partial characterization of an immunodominant 28-31KDa antigen of M.w.