SHORT COMMUNICATIONS

COMPARISON OF ANTIGENIC PROFILES OF A CANDIDATE VACCINE STRAIN: MYCOBACTERIUM HABANA WITH OTHER MYCOBACTERIA BY POLYACRYLAMIDE SLAB GEL

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A cultivable, photochromogenic, niacin and catalase positive strain of a typical mycobacterium, designated *M. habana* was reported earlier, to confer immunity in mice against *M. tuberculosis H37,Rv* and *M. ulcerans* infection. In a recent study it has been pointed out that mice vaccinated with live and heat killed *M. habana* have not supported the growth of *M. leprae* in the mouse foot pad. This strain of *M. habana* has engendered several of the cell mediated immune responses and is non-pathogenic to several species of animals including monkeys, in fairly large doses.

Antigenic profile of this strain was sorted out in polyacrylamide slab gel and was compared with other strains of mycobacteria namely, *M. leprae, M. tuberculosis H37,Rv, M. vaccae* and *M. bovis* (BCG) for similarities and differences if any.

The mycobacteria were grown in Sauton's liquid medium at 37°C for a period varying from 14 to 21 days. The growth was harvested by centrifugation and washed thrice with normal saline to remove the traces of the medium. *M. leprae* was derived from armadillo and was a gift from Dr R. J. W. Rees, NMRI, London. Soluble antigens of these mycobacteria were prepared on the lines of new tubercins. The cultures of mycobacteria were suspended in separate tubes and were subjected separately for sonic disruption into ultra sonicator (Soniprep 150 MSE) in chilled conditions for 5 m. After every sonication step the smears from the sonicate was examined for intact acid fast bacilli and the process was repeated till all the bacilli were disintegrated. It was then filtered through membrane filter of 0.22 μm porosity. The filtrate was subjected to SDS-PAGE in 10% gel according to the method of Laemmli. Sodium dodecyl sulphate SDS was used for electrophoresis, which combines the high resolution power of disc-electrophoresis with the capacity of SDS to break down proteins into their individual polypeptide chains. The proteins also get separated according to their molecular weight. After the electrophoresis the proteins were stained by highly sensitive method of silver staining. This method retains its sensitivity to proteins at the nanogram level. Reproducible staining patterns were obtained.

The results are photographically represented in figure 1. The molecular weight markers (MWM) represented in the figure (arrow mark for *M. habana*) have clearly pointed out that major protein antigens of *M. habana* have shown close similarity to *M. tuberculosis* than to *M. leprae*. This seems to be logical, since *M. habana* was originally picked up as a vaccine strain against *M. tuberculosis H37,Rv* in mice. Although it has got broader spectrum of action against other infections like *M. ulcerans* and *M. leprae* in mice, its close antigenic association with *M. tuberculosis* may...
LEAF BLIGHT OF EUPHORBIA GENICULATA ORTEG CAUSED BY HELMINTHOSPORIUM SPECIES

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EUPHORBIA GENICULATA Orteg is a common weed. The species of Helminthosporium reported1 so far on Euphorbia geniculata are H. euphorbiaeearum Pat and H. euphorbiae. These were subsequently reported by Hansford2 from Uganda. Rao et al3 reported H. euphorbiae from Maharashtra, India. Mitra4 reported H. bicolor on roots of cultivates plants Triticum vulgare L. This is the first time that H. bicolor is reported on Euphorbia geniculata leaves.

The leaf blight caused by the Helminthosporium species on this plant was observed in the rainy season of 1984 at the Poona University campus area. The leaf lesions were dark brown in colour on the periphery with necrotic area in the centre (figure 1). The pathogen was isolated from the infected leaves on a potato-dextrose-agar medium. A single conidial transfer was carried out after the tissue segments were surface sterilized. The development of aerial mycelium was abundant and was dark gray. The mycelium grew till the margin of the petridish producing a large number of spores. The conidiophores bearing conidia were brownish, 3 to 9 seplate measuring 314.4 to 349.6 μ in length and 5.3 to 6.1 μ in breadth. Conidia were

Figure 1. Infected symptoms on Euphorbia geniculata Orteg leaves.

Figures 2–3. 2. Mycelium showing conidial attachment with conidiophore and biforced conidium (× 125). 3. Pathogenicity test showing a. symptoms, b. control.

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