D-21 Isolation and partial characterization of plasmids from four strains of three *Bacillus* species from Sri Lanka

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The genus *Bacillus* consists of gram positive, aerobic, spore forming rods. Majority of the species are common saprophytes of the soil and air. They have been used to produce a number of enzymes on an industrial scale, including thermostable enzymes such as glucokinases, and a variety of restriction enzymes such as BamH I and Bst I. Some of these enzymes have been encoded in harbouring plasmids. Three species of soil *Bacillus* (*B.subtilis* strain W6, *B.licheniformis* strain L4, *B.mycoides* strains D1 and D2) isolated from Sri Lanka were examined for harbouring plasmids.

Plasmid DNA was isolated by a modified SDS lysis purification procedure. Native plasmid DNA and restriction enzyme digestion of plasmid DNA with Hind III, were analysed by 0.8% agarose gel electrophoresis and Southern hybridization with ^{32}P labelled purified plasmid DNA.

For the first time the isolation of plasmids from locally isolated *Bacillus* species, from the strains W6 and L4, is reported. A preliminary analysis by agarose gel electrophoresis followed by Southern hybridization revealed the presence of a prominent plasmid DNA band (>23 kbp) for W6 and several (4 - 5) bands for

L4 (4->23 kbp). Restriction enzyme digestion by Hind III produced 11 DNA bands for W6 and 3 bands for L4.

When tested for antibiotic sensitivity, strains D2, L4, and W6 were found to be resistant to ampicillin, whereas all 4 bacterial strains were found to be sensitive to tetracyclines.