CLONING AND EXPRESSION OF ANTIGEN GENES OF *LEPTOSPIRA INTERROGANS* SEROVAR *CANICOLA* IN *ESCHERICHIA COLI*, AND RESTRICTION ENDONUCLEASE DNA ANALYSIS OF ANTIGENIC VARIANTS OF LEPTOSPIRES SELECTED BY MONOCLONAL ANTIBODIES

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Leptospira interrogans serovar *canicola* DNA was cloned and expressed in *Escherichia coli* and the products were examined for reactivities. Restriction endonuclease DNA analysis of the antigenic variants selected from *canicola* and *hebdomadis* by anti-*canicola* and anti-*hebdomadis* antibodies, respectively, was also performed.

Sau3AI-cleaved *L. interrogans* serovar *caricola* DNA was cloned into the BamHI-cleaved plasmid vector pBR322 the resultant recombinant plasmids were transformed into competent cells of *E. coli* strain MC1061. Of the 44 transformants which produced antigens reactive in colony ELISA blot with anti-*canicola* antiserum, 8 strongly positive ones were chosen. The antigens produced by these transformants were tested in ELISA with the antisera against all 13 serovars belonging to the Canicola serogroup and 11 serovars of different serogroups. It was shown that these antigens were very similar and broadly reactive.

An antigenic variant of CV(CT3)-1 derived from *Leptospira interrogans* serovar *canicola* by selection with the anti-*canicola* monoclonal antibody CT3 was compared with the parent and *bafani*, to which the variant was serologically most closely related, by restriction endonuclease DNA analysis. No differences were observed between the parent and the variant in the DNA restriction endonuclease patterns using 8 restriction endonucleases, including EcoRI and HindIII. The patterns of *bafani* were different from the parent and the antigenic variant, CV (CT3)-1. Of the 2 antigenic variants which could grow in the medium, to which anti-*hebdomadis* monoclonal antibody H16 or H19 was added, respectively, HV(H16)-1 was identified as *jules* and HV(H19)-1 was serologically not different from *hebdomadis*. No differences were observed between the parent and variants in the DNA restriction endonuclease patterns using the same enzymes. But some differences were observed in the DNA restriction endonuclease patterns between HV(H16)-1 and *jules*. Thus, the serological differences between the antigenic variants and each of their parents were not reflected in the DNA restriction endonuclease patterns.