



# HOKKAIDO UNIVERSITY

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## INFORMANION

Hokkaido University granted the degree of Master of Veterinary Medicine to the following 43 graduates of the Graduate School of Veterinary Medicine on 25 March, 1989.

The authors' summaries of their theses are as follows :

### CLONING AND EXPRESSION OF THE STRUCTURAL GENE FOR PILI OF *CORYNEBACTERIUM RENALE* IN *ESCHERICHIA COLI*

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A gene library of a piliated clone of *Corynebacterium renale* strain No. 109 in *Escherichia coli* strain K12 JM109 was established using the plasmid vector pBR322. Of 3,000 recombinant strains tested, 5 clones were selected on the basis of the results of colony immunoassay and immunodiffusion with anti-*C. renale* pili antiserum. In the enzyme-linked immunosorbent assay (ELISA), these gene products reacted with anti-*C. renale* pili monoclonal antibodies 8/4, 5/2 and B20/3 but not with 13/4.

Clones AY10908 and AY10901, each containing a different length of DNA insert with a common 5.0-kilobase region, produced the same 48-kilodalton protein that reacted with monoclonal antibody 8/4. Deletion analysis of the insert gene of AY10908 indicated that the coding region for the 48-kilodalton protein was localized within a 1,400-basepair length. This protein was immunogenic to mice and induced antibodies which bound to the entire surface of the pili of *C. renale*.

These results indicate that the cloned gene encodes a structural protein of *C. renale* pili. Possible involvement of additional protein(s) in the formation of the pili is discussed.