

Physical Map of the Chromosome of Kanagawa-Phenomenon Positive *Vibrio parahaemolyticus* KXV237

Kenichi Tagomori, Tetsuya Iida and Takeshi Honda

Department of Bacterial Infections, Research Institute for Microbial Diseases,
Osaka University, Osaka, Japan

We have previously reported the physical map of the chromosome of a Kanagawa phenomenon (KP) negative, *tdh* and *trh* positive *Vibrio parahaemolyticus* AQ4673 strain. Majority of the *V. parahaemolyticus* strains isolated from diarrheal patients, however, are KP-positive strains possessing two copies of the *tdh* gene. Here we report the physical map of the chromosome of a KP-positive *V. parahaemolyticus* strain KXV237 isolated from a patient with traveller's diarrhea at the Kansai International Airport quarantine station.

Digestion with a restriction enzyme *Not* I of the chromosomal DNA of the KXV237 strain yields 24 bands. We constructed the physical map of the chromosome by determining adjacent *Not* I fragment pairs using *Not* I linking clones as previously described (*Mol. Microbiol.* 31: 1513, 1999).

Pulsed-field gel electrophoresis (PFGE) of undigested genomic DNA from KXV237 showed two bands of 3.2 Mb and 1.9 Mb, indicating that the

KXV237 strain had two chromosomes as reported for the *V. parahaemolyticus* AQ4673 strain. Up to now, the 24 *Not* I fragments derived from the KXV237 chromosome have been assembled into four contigs. Two copies of the *tdh* gene, an important virulence factor gene of *V. parahaemolyticus*, were both found on the small chromosome.

Our results suggest that the chromosome size is similar between KXV237 and AQ4673 strains. Previously we have reported that, *tdh* and *trh*, the virulence factor genes of AQ4673, are located on the small chromosome. The two copies of *tdh* in KXV237 were also found only on the small chromosome. Recently the whole genome sequence of the *V. cholerae* was published (*Nature* 406: 477, 2000). We are now comparing the physical and genetic maps of AQ4673 and KXV237 with those of *V. cholerae*, to know the similarity and difference of the chromosomes, and to get insights into evolution of vibrios.