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## Dynamics and Rapid Detection Method of *Vibrio parahaemolyticus*, a Halophilic Food Poisoning Bacterium, in Salted Cuttlefish

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### Summary

Japanese people like raw seafood. Therefore we must pay attention to the handling of them. There was a large food-poisoning outbreak by *Vibrio parahaemolyticus* in the Kanto area on September 2007. The cause of this outbreak was salted cuttlefish produced in the Tohoku area. The salted cuttlefish which is called Ika-no-shiokara in Japanese is a traditional salted food in Japan. High levels of salt in this food prevent growth of putrefactive bacteria and food-poisoning bacteria. On the other hand, low-salt one which is popular now is suitable for the growth of them. This food which caused the large outbreak was the latter case. Virulent strains of *Vibrio parahaemolyticus* cause a *Vibrio parahaemolyticus* infection for human. The major virulence factors of *Vibrio parahaemolyticus* are thermostable direct hemolysin (TDH) and TDH-related hemolysin (TRH). The virulent strain of *Vibrio parahaemolyticus* has one or both virulent genes. The purpose of this study is to clarify the relations of the salinity in salted cuttlefish and the growth of *Vibrio parahaemolyticus*. Both marketed and self-cooked salted cuttlefish was used in this study. *Vibrio parahaemolyticus* was able to grow in an environment of 1 - 8% salinity. There were two types of the salted cuttlefish in the market. One was the low salinity (around 5%), and the other was high salinity (over 10%). There were no strains of *Vibrio parahaemolyticus* in both types. After inoculation of *Vibrio parahaemolyticus*, a number of bacteria of *Vibrio parahaemolyticus* drastically decreased in these foods. Concerning the difference of the salinity, there was no difference in the growth of *Vibrio parahaemolyticus*. On the other hand, the viable bacterial counts in low salinity of salted cuttlefish were higher than that in high salinity.