B-76: Survival of *Vibrio parahaemolyticus* at freezing temperature and its isolation using non-selective media

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Vibrio parahaemolyticus is a food poisoning enteropathogenic bacterium found in seafoods. The ability of *V. parahaemolyticus* to survive on frozen rock fish was investigated. The efficiency of selective medium Thiosulphate Citrate Bilesalt Sucrose Agar (TCBS) was compared with the non-selective media, nutrient agar containing 1% and 3% sodium chloride, on supporting the growth of *V.parahaemolyticus*. Fish slurry inoculated with the bacteria was frozen and stored at - 18°C. Counts of *V. parahaemolyticus* were taken on the 3 planting media, immediately after the inoculation, 24 h after the inoculation and at weekly intervals for 10 weeks. The organisms were also tested for their identity.

A decrease of cell counts by 3 log cycles of *V. parahaemolyticus* was observed on the 3 plating media after frozen storage at - 18°C for 24 h. At the end of 10 weeks of storage, cell counts on nutrient agar containing 1% and 3% sodium chloride were decreased by 4 log cycles. *V. parahaemolyticus* (16 cells/ml.) was present even after 10 weeks of frozen storage when examined by salt modified nutrient agar. On TCBS agar, no cell counts were observed after 8 weeks of storage. Although TCBS is the most commonly used medium to identify *V. parahaemolyticus*, it appears incapable of supporting growth of the bacteria from frozen *(stressed)* fish. Use of nutrient agar containing 1% or 3% sodium chloride could be recommended for isolation of *V. parahaemolyticus* from frozen fish samples.