

Mechanisms of Inactivation of *Aeromonas hydrophila* and its Virulence Factors by High Hydrostatic Pressure

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Aeromonas hydrophila is recognized as an emerging enteropathogen, and it is transmitted and spread through food and drinking water. The production of virulence factors such as enterotoxins, hemolysin, cytotoxins and adhesins has been the main subject of some studies in order to determine their participation in human provoked diseases. In this study was investigated the inactivation of *Aeromonas hydrophila* and some virulence factors by high hydrostatic pressure using a system of high pressure cell (up to 350 MPa), with temperature control, connected to a pressure generator source. Our results showed 3 orders of magnitude inactivation at 2 min incubation under 250 MPa at 20 °C. A direct correlation between the time of incubation at high pressure and inactivation was observed: 10 min at 250 MPa led to 4 log units, 15 min corresponded to 5 log units, and 30 min above 8 log units of inactivation. The virulence factors were not inactivated at 25°C, at a pressure of 250 MPa for 30 min. These results indicate that high pressure and temperature have potential to be used for inactivating *A. hydrophila*, so they can contribute to sterilization processes.

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