

Abstract

Lactic acid bacteria are the most popular bacteria used in fermentation industry. The important roles of lactic acid bacteria are preservatives, enhanced shelf life and safety in the food product. Probiotic are one kind of Lactic acid bacteria in which, they effect the host by improving its intestinal microbial balance and intestinal health. The survey of fifteen local fermented food samples found lactic acid bacteria in only four samples. They were Yakult, Betagen, Dutch yogurt and fermented pork. Yakult and Betagen samples were classified in the same type so Betagen sample was chosen to represent the type. These three representative samples were treated in simulated gastric juice (pH 1, 1.5, 2 and 2.5) and/or simulated intestinal juice with bile salt, in which this system imitate human gastro-intestinal system. The samples were primarily treated with either simulated gastric juice or simulated intestinal juice with bile salt to investigate the survival ability of lactic acid bacteria in each condition. The result showed that lactic acid bacteria cells can survive at a significant reduced number in all the treatment and did not find any survival cells in the treatment with gastric juice at pH 1.0. However, there were no significant different in the reduction of lactic acid bacteria between each treatment. Then the samples were treated sequentially with simulated gastric juice and simulated intestinal juice. The results showed the same pattern as in the individual treatment where there were a significant reduction of survival cells in all the treatment from control but not showed significant different in between the treatment. Only in the Betagen sample that treatment with simulated gastric juice at pH 2.5 followed by simulated intestinal juice showed a significantly higher number of survival than in the rest of the treatment.