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## Study of Potential Synergistic Effect of Probiotic Formulas in Reduction Acrylamide

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## **Title: Study of Potential Synergistic Effect of Probiotic Formulas in Reduction Acrylamide**

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### ***Abstract***

In this research, the potential synergistic effect of lactic acid bacteria (LAB) formulas in reducing acrylamide (AA) was studied. Five LAB strains were tested to examine its AA reducing capacity in AA standard chemical solutions with different concentrations. It was found that single strain of *Lactobacillus plantarum* had the most significant effect of AA reduction under  $10^8$  CFU/mL cell concentration. The synergistic effect of LAB formulas was then studied in AA chemical solution which demonstrated some LAB formulas had a synergistic effect to reduce AA. Based on the results, the combination of *Lactobacillus plantarum* and *Lactobacillus bulgaricus* showed higher AA reduction ability than single strain of *Lactobacillus bulgaricus*. The combination of *Lactobacillus plantarum* and *Streptococcus thermophiles* showed higher AA reduction ability than the combination of *Lactobacillus plantarum* and *Bifidobacterium longum*. The selected LAB formulas were then incubating with potato chips and biscuit food samples. The AA reduction performance in food samples was consistent with the result from AA standard chemical solution incubation. This study demonstrated that LAB formulas exhibit the potential synergetic effect on AA reduction which was strain dependent.

### ***Biography***

Emily Siu Mei Choi Assistant Professor of Faculty of Science and Technology, Technological and Higher Education Institute of Hong Kong (THEi), Hong Kong. She received her Bachelor's degree in Food Science and Nutrition from the University of Hong Kong. She obtained Master of Food Safety and Toxicology as well as PhD in Food Science from the University of Hong Kong. She had conducted research in various areas such as plant food protein, process-induced food toxicants and the potential application of probiotics in food safety.