



Rapid pre-purification of bacteriocin-like inhibitory substance from *Pediococcus acidilactici* TISTR 2309

Kittipon Chantawongsatorn¹, Savitri Vatanyoopaisarn¹ and Suriya Rutatip¹

¹*Department of Agro-industrial, Food, and Environmental Technology, Faculty of Applied science,
King Mongkut's University of Technology North Bangkok, Thailand*

*e-mail: s5604044910028@email.kmutnb.ac.th

Lactic acid bacteria (LAB) have long been involved in fermented foods and used as biopreservatives. The bacteria and their products are recognized as Generally Regard as Safe (GRAS). Some LAB strains secrete substances that can inhibit the growth of other foodborne pathogens. Such substances are so-called bacteriocin and applied to food preservation. *Pediococcus acidilactici* TISTR 2309 is one of the LAB isolated from traditional Thai fermented sausage and it has the potential to produce bacteriocin-like inhibitory substances (BLIS) against Gram-positive foodborne bacteria, including *Bacillus cereus* and *Staphylococcus aureus*. This research aims to increase the activity of BLIS and compare the pre-purification methods between pH mediated cell adsorption-desorption technique and the conventional method using ammonium sulphate precipitation. The yield obtained from the cell adsorption-desorption method was 43.26% (v/v) while ammonium sulphate precipitation gave only 35.56% (v/v). The activity of BLIS from the adsorption-desorption method was 815.62 and 649.48 B.U. for *B. cereus* and *S. aureus*, respectively. Similarly lower activities were presented in ammonium sulphate precipitation (670.44 and 491.88 B.U. for *B. cereus* and *S. aureus*, respectively). The time which spent on the cell adsorption-desorption method was half of the ammonium sulphate precipitation method.

Keywords: Lactic acid bacteria, bacteriocins, purification, adsorption-desorption method