

Inhibitory activity of metabolites produced by strains of *Lactobacillus plantarum* isolated from Malaysian fermented food.

ABSTRACT

Inhibitory activity of 63 combinations of metabolites produced by 6 strains of locally isolated *Lactobacillus plantarum* I-UL4, TL1, RS5, RI11, RG14 and RG11 against various pathogens was studied. Inhibitory activities based on the diameter of inhibitory zone were then tested against *Pediococcus acidilactici*, *Escherichia coli*, *Listeria monocytogenes*, *Salmonella typhimurium* and Vancomycin resistant enterococci (VRE). Four combinations with the highest inhibitory scores were identified. The combination of four strains RS5, RI11, RG14 and RG11 shared the highest score, followed by the combination of TL1, RG14 and RG11, combination of TL1, RI11 and RG11 and combination of TL1, RS5, RI11 and RG14. These results indicated that different combinations of metabolites had different antibacterial activity. For pathogen specificity, 63 combinations showed the highest average inhibitory activity against *S. typhimurium*, *E. coli* followed by *L. monocytogenes*. VRE was also inhibited by these combinations of metabolites; however, the inhibitory activity was lower than other pathogens.

Keyword: Inhibitory activity; Metabolites; Zone diameter; Pathogens.