

**ISOLATION AND IDENTIFICATION OF LACTIC ACID
BACTERIA FROM PICKLED NUTMEG (*Myristica
fragrans*)**

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ABSTRACT

ISOLATION AND IDENTIFICATION OF LACTIC ACID BACTERIA FROM PICKLED NUTMEG (*Myristica fragrans*)

Lactic acid bacteria (LAB) is a type of bacteria that can produce lactic acid and some of them exist as probiotics. LAB can be found in fermented food and also pickles. Nevertheless, the potential of probiotic characteristics of LAB isolated from pickled have not been completely explored. The aim of this study is to isolate and identify LAB presence in pickled nutmeg. The results of this study showed that 24 bacteria strains were isolated from pickled nutmeg that is obtained from Kuala Nerang. Out of the 24 bacteria strains isolated, only four strains labelled P1, P2, P7 and P16 were identified as Gram positive bacteria and showed antagonistic activity towards bacterial pathogens such as *Escherichia coli*, *Klebsiella sp.* and *Staphylococcus aureus* with the inhibition zone ranging from 5 mm until 17.8 mm. Furthermore, P1, P2, P7 and P16 are tolerant towards bile salt 0.3 % (w/v), acid (pH 3, 5 and 7) and result for catalase test were negative. The haemolysis test results in all isolates are γ -hemolytic and antibiotic susceptibility test results showed that among all isolates, P2 has better inhibition zone towards all five antibiotics. In this study only four isolates namely P1, P2, P7 and P16 fulfilled all the criteria as potential probiotics.