

**ISOLASI, KARAKTERISASI, DAN IDENTIFIKASI
BAKTERI ASAM LAKTAT DARI FERMENTASI
NIRA KELAPA (*Cocos Nucifera* L.) SEBAGAI PROBIOTIK**

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INTISARI

Bakteri Asam Laktat (BAL) merupakan bakteri dengan ragam manfaat yang luas, salah satunya adalah sebagai probiotik. Kemampuan probiotik BAL diuji melalui resistensinya pada pH rendah, aktivitas antagonistik terhadap patogen, dan uji kemampuan berautoagregasi. Penelitian ini bertujuan untuk melakukan isolasi, karakterisasi dan identifikasi bakteri asam laktat (BAL) dari fermentasi nira kelapa (*Cocos nucifera* L.) serta menguji potensinya sebagai probiotik. BAL dikarakterisasi melalui uji pewarnaan gram, uji pewarnaan spora, uji katalase, dan uji motilitas untuk mengetahui morfologi sel serta proses fisiologisnya. Isolat BAL yang didapatkan diuji potensi probiotiknya melalui uji resistensi terhadap pH 2,3, dan 4, aktivitas antimikrobia terhadap bakteri patogen *Escherichia coli* dan *Staphylococcus aureus*, dan uji kemampuan autoagregasi. Hasil penelitian menunjukkan lima belas isolat dapat diisolasi dan memiliki karakteristik BAL, yaitu Gram positif, non spora, katalase negatif, dan non motil. Isolat K521, K611, K614, K624, dan H522 resisten terhadap pH 2, 3, dan 4 dan memiliki aktivitas antagonistik sedang terhadap patogen *E. coli* dan *S. aureus*. Pada uji autoagregasi, hanya isolat K521, K614, K624, dan H522 yang memiliki kemampuan autoagregasi kuat, sehingga dinyatakan memiliki potensi sebagai probiotik.

Kata kunci : Probiotik, Nira Kelapa, Autoagregasi, Patogen

**ISOLATION, CHARACTERIZATION, AND IDENTIFICATION
OF LACTIC ACID BACTERIA FROM FERMENTED
COCONUT (*Cocos nucifera* L.) SAP AS PROBIOTICS**

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ABSTRACT

Lactic Acid Bacteria (LAB) is a bacterium with a wide variety of benefits, one of which is as a probiotic. The ability of LAB probiotics was tested through its resistance at low pH, antagonistic activity against pathogens, and the ability to autoaggregate. This study aimed to isolate, characterize and identify lactic acid bacteria (LAB) from fermented coconut sap (*Cocos nucifera* L.) and to test its potential as a probiotic. LAB was characterized by gram staining test, spore staining test, catalase test, and motility test to determine colony morphology and physiological processes. The LAB isolates obtained be tested for their probiotic potential through resistance tests to pH 2,3, and 4, antimicrobial activity against pathogenic bacteria *Escherichia coli* and *Staphylococcus aureus*, and autoaggregation ability tests. The results showed that eighteen isolates could be isolated and had LAB characteristics, namely Gram positive, non spore, catalase negative, and non motile. Isolates K521, K611, K614, K624, and H522 were resistant to pH 2, 3, and 4 and had moderate antagonistic activity against pathogens *E.coli* and *S. aureus*. In the autoaggregation test, only isolates K521, K614, K624, and H522 had strong autoaggregation abilities, so they were declared to have potential as probiotics.

Keywords: Probiotics, Coconut Sap, Autoaggregation, Pathogen.