

ABSTRAK

Sebagian besar obat antidiabetes oral seringkali menimbulkan efek samping yang tidak diharapkan, berbagai upaya penelitian dilakukan untuk menemukan terapi alternatif salah satunya melalui pemanfaatan probiotik, khususnya jenis Bakteri Asam Laktat (BAL), yang berpotensi sebagai antidiabetes. Probiotik adalah mikroorganisme hidup yang jika diberikan dalam dosis yang cukup, memberikan manfaat kesehatan. Probiotik diketahui dapat menghambat enzim alfa-glukosidase yang terletak di mikrovili usus, sehingga dapat menurunkan kadar glukosa dalam darah. Penelitian ini diarahkan untuk menguji potensi dari probiotik Bakteri Asam Laktat yang berasal dari dadih sebagai agen antidiabetes. Hasil penelitian menunjukkan bahwa isolat Bakteri Asam Laktat dari dadih kerbau, yang diperoleh melalui isolasi bakteri asam laktat dari dadih kerbau, adalah bakteri gram-negatif yang berwarna merah dengan bentuk sel batang. Hasil skrining dengan satu hingga dua tetes H₂O₂ 3% menunjukkan tidak adanya gelembung yang menandakan bahwa bakteri tersebut negatif katalase. Berdasarkan identifikasi fenotipik dan molekuler dengan menggunakan 16S rRNA, isolat DDH8 teridentifikasi sebagai *Lactobacillus fermentum*, dan memenuhi karakteristik yang sesuai sebagai kandidat probiotik. Isolat DDH 8 juga mampu bertahan hidup di lingkungan asam dan garam empedu hingga dan juga dapat menghambat pertumbuhan bakteri patogen di saluran pencernaan seperti *Escherichia coli*.

Kata kunci: Molekuler, Probiotik, Dadih, Inhibitor Alfa-Glukosidase

ABSTRACT

*Most oral antidiabetic drugs often cause unexpected side effects, various research efforts have been made to find alternative therapies, one of which is through the use of probiotics, especially Lactic Acid Bacteria (LAB), which have potential as antidiabetics. Probiotics are live microorganisms that, when given in adequate amounts, provide health benefits to their hosts. Probiotics are known to inhibit the alpha-glucosidase enzyme located in intestinal microvilli, thereby reducing blood glucose levels. This study was directed to examine the potential of probiotic Lactic Acid Bacteria derived from curd as an antidiabetic agent. The results showed that Lactic Acid Bacteria isolates from buffalo curd, obtained through isolation of lactic acid bacteria from buffalo curd, are gram-negative bacteria that are red in color with rod cell shape. Antibacterial screening of curd LAB was performed using 3% hydrogen peroxide (H₂O₂). Isolates taken from the culture stock were placed on a glass slide and given one to two drops of 3% H₂O₂. The absence of bubbles indicated that the bacteria were catalase negative. Based on phenotypic and molecular identification using 16S rRNA, isolate DDH8 was identified as *Lactobacillus fermentum*, which has characteristics suitable for probiotic candidates. Isolate DDH 8 is able to survive in acidic environments and bile salts up to and can inhibit the growth of pathogenic bacteria in the digestive tract such as *Escherichia coli*.*

Keywords: Molecular, Probiotic, Curd, Alpha-Glucosidase Inhibitor