INTISARI

ISOLASI BAKTERI ASAM LAKTAT DARI FERMENTASI BUAH MARKISA KUNING (*Passiflora edulis var. flavicarpa*) DAN PENENTUAN AKTIVITAS ANTIMIKROBANYA

Oleh:

Sarah Muliana (**BP : 0910411013)**
Prof. Dr. Sumaryati Syukur, M.Sc, Prof. Dr. sc. agr. Ir. Jamsari, MP

Bakteri asam laktat (BAL) telah diisolasi dari fermentasi markisa kuning (*Passiflora edulis var. flavicarpa*). Kedelapan isolat, M1, M2, M3, M4, M5, M6, M7 dan M8, memiliki karakter koloni berbentuk bulat, elevasi cembung dan berwarna putih susu pada media selektif BAL yaitu MRS Agar. Pewarnaan Gram dari kedelapan isolat menunjukkan bahwa kedelapan isolat merupakan bakteri Gram positif dengan bentuk *coccus*. Berdasarkan penentuan aktivitas antimikroba terhadap bakteri patogen *Escherichia coli* dan *Staphylococcus aureus* dipilih isolat M3 dengan besar zona hambat berkisar antara 15,75 mm sampai 26,5 mm. pH optimum produksi senyawa antimikroba bakteriosin oleh isolat M3 (*crude extract*) adalah pH 6 dengan diameter zona hambat terhadap *Escherichia coli* dan *Staphylococcus aureus* berturut-turut 13,5 mm dan 15 mm. Pemurnian bakteriosin dengan amonium sulfat menghasilkan *partially purified bacteriocin* yang memiliki zona hambat 10 mm terhadap *Escherichia coli* dan 8 mm terhadap *Staphylococcus aureus*. Penurunan aktivitas antimikroba disebabkan oleh proses pemurnian.

Kata kunci: Isolasi bakteri asam laktat (BAL), Markisa kuning, *Partially purified bacteriocin*

ABSTRACT

ISOLATION OF LACTIC ACID BACTERIA FROM YELLOW MARQUISA (*Passiflora edulis var. flavicarpa*) FERMENTATION AND DETERMINATION OF ITS ANTIMICROBIAL ACTIVITY

by:

Sarah Muliana (BP : 0910411013)
Prof. Dr. Sumaryati Syukur, M.Sc, Prof. Dr. sc. agr. Ir. Jamsari, MP

Lactic acid bacteria (LAB) have been isolated from fermentation of yellow marquisa (*Passiflora edulis var. flavicarpa*). The eight isolates were found namely M1, M2, M3, M4, M5, M6, M7 and M8 have round-shaped, convex elevation and broken white-colored colony characteristic on LAB selective medium, MRS Agar. Gram staining showed that the eight isolates were coccus-shaped Gram-positive bacteria. Based on antimicrobial activity determination on pathogen bacteria *Escherichia coli* and *Staphylococcus aureus*, isolate M3 was chosen with inhibition zone range from 15,75 mm to 26,5 mm. The optimum pH for bacteriocin production was pH 6 with inhibition zone on *Escherichia coli* and *Staphylococcus aureus* consecutively 13,5 mm and 15 mm. Bacteriocin purification with ammonium sulphate precipitation resulted in partially purified bacteriosin with inhibition zone 10 mm on *Escherichia coli* and 8 mm on *Staphylococcus aureus*.The decrease of antimicrobial activity was caused by the purification step.

***Key words*:** Isolation of lactic acid bacteria (LAB), Yellow marquisa, Partially purified bacteriocin