ABSTRAK

Salah satu faktor virulensi *Staphylococcus aureus* yaitu enzim koagulase. Koagulase adalah protein ekstraseluler yang dihasilkan oleh *S. aureus* yang mampu menggumpalkan plasma menggunakan bantuan dari faktor yang ada dalam serum. Koagulase yang dihasilkan *S. aureus* digunakan untuk sarana diagnostik. Kasus adanya cemaran *S.aureus* ditemukan dari munuman seperti susu sapi. Tujuan penelitian ini yaitu untuk mengevaluasi kesesuaian hasil uji koagulase *S. aureus* dari susu sapi mentah menggunakan metode konvensional *tube test* dan PCR. Sebanyak 24 sampel susu sapi mentah yang diambil dari 3 peternakan di Wonocolo, Surabaya, didapatkan 12 susu dari sapi sehat dan 12 susu dari sapi yang sakit, selanjutkan sampel dilakukan analisis di laboratorium mikrobiologi untuk deskriminasi, isolasi dan purifikasi kemudian dilanjutkan ke laboratorium biologi molekuler untuk dilakukan isolasi DNA dan analisis gen koagulase. Hasil uji identifikasi dari 24 sampel didapatkan 5 sampel *S. aureus*. Perbandingan uji koagulase untuk *tube test* didapatkan ke 5 sampel positif koagulase sedangkan pada analisis gen Coa dengan PCR didapatkan hasil ke 5 sampel negatif gen Coa. Kesimpulan penelitian ini yaitu tidak terdapat kesesuaian antara uji molekuler deteksi gen Coa dengan kemampuan bakteri dalam koagulase.

Kata Kunci: *S. aureus*, metode konvensional, metode PCR, gen Coa

ABSTRACT

One of the virulence factors of Staphylococcus aureus is the coagulase enzyme. Coagulase is an extracellular protein produced by S. aureus which is able to coagulate plasma using the help of factors in serum. The coagulase produced by S. aureus is used for diagnostic purpose. Cases of S.aureus contamination were found from drinks such as cow's milk. The aim of this study was to evaluate the suitability of the S. aureus coagulase test results from raw cow's milk using conventional tube test and PCR methods. A total of 24 samples of raw cow's milk were taken from 3 farms in Wonocolo, Surabaya, obtained 12 milk from healthy cows and 12 milk from sick cows, then the samples were analyzed in the microbiology laboratory for discrimination, isolation and purification then continued to the molecular biology laboratory for DNA isolation and coagulase gene analysis were carried out. The results of the identification test from 24 samples showed that 5 samples were S. aureus. Comparison of the coagulase test with the tube test showed that 5 samples were positive for coagulase, while analysis of the Coa gene using PCR *showed that the 5 samples were negative for the* Coa *gene. The conclusion of this study is that there is no correspondence between the molecular test for detecting the* Coa *gene and the ability of bacteria to coagulase.*

Keywords*: S. aureus, conventional method,* PCR *method, Coa gene*