

PERBEDAAN KAPASITAS FAGOSIT *Staphylococcus aureus*, *Staphylococcus intermedius*, *Streptococcus sp.* DAN *Escherichia coli* YANG DIISOLASI DARI SUSU KAMBING PERANAKAN ETTAWAH (PE)

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INTISARI

Susu kambing sebagai salah satu alternatif pemenuhan gizi. Oleh karena itu harus dijaga keamanan susunya dari berbagai macam bakteri. Banyak jenis bakteri yang ditemukan dalam susu kambing terutama kelompok *Staphylococcus aureus*, *Staphylococcus intermedius*, *Streptococcus sp.* dan *Escherichia coli*. Fagositosis merupakan salah satu pertahanan tubuh dalam menghadapi infeksi bakteri. Penelitian ini bertujuan untuk mengetahui kemampuan sel polimorfonuklear (PMN) dalam memfagosit *Staphylococcus aureus*, *Staphylococcus intermedius*, *Streptococcus sp* dan *Escherichia coli* yang diisolasi dari kambing PE.

Penelitian ini menggunakan 17 isolat bakteri yang meliputi 8 isolat *Staphylococcus aureus*, 4 isolat *Staphylococcus intermedius*, 3 isolat *Streptococcus sp* dan 2 isolat *Escherichia coli* yang telah diidentifikasi ulang dengan penanaman pada Plat Agar Darah (PAD), pengecatan Gram, uji katalase, uji koagulase, penanaman pada media *Mannitol Salt Agar* (MSA), uji *Voges Proskauer* (VP), uji *Vogel Jonshon Agar* (VJA), klasifikasi Sherman, penanaman pada media *Eosin Methylene Blue* (EMB), uji *Indol-Methyl Red-Voges Proskauer-Citrat* (IMVIC), uji urease dan uji *Triple Sugar Iron* (TSI). Karakteristik lanjut dilakukan dengan uji keberadaan protein permukaan menggunakan *Serum Agar* (SA) dan *Serum Soft Agar* (SSA), uji hemaglutinasi (HA) menggunakan eritrosit kambing konsentrasi 1% dan uji kapasitas fagositosis menggunakan sel PMN kambing.

Hasil penelitian diketahui bahwa dari 8 isolat *Staphylococcus aureus*, 3 isolat memiliki koloni kompak, 3 isolat memiliki koloni difus dan 2 isolat memiliki koloni varian, dan semua isolat mengaglutinasi eritrosit. Dari 4 isolat *Staphylococcus intermedius* 1 isolat kompak, 2 isolat difus dan 1 isolat varian, dan semua isolat mengaglutinasi eritrosit kambing. Semua isolat *Streptococcus sp* memiliki koloni varian dan mengaglutinasi eritrosit. Semua isolat *Escherichia coli* memiliki koloni difus dan mengaglutinasi eritrosit. Angka fagosit tertinggi adalah *Escherichia coli* (6,5 bakteri/PMN) dan *Streptococcus sp.* (3,31 bakteri/PMN) sedangkan *Staphylococcus aureus* (3,24 bakteri/PMN) dan *Staphylococcus intermedius* (2,93 bakteri/PMN).

Kata kunci: *Staphylococcus aureus*, *Staphylococcus intermedius*, *Streptococcus sp.*, *Escherichia coli*, fagositosis.

**THE DIFFERENCES OF PHAGOCYTE CAPASITY AGAINTS
Staphylococcus aureus, *Staphylococcus intermedius*, *Streptococcus sp.* and
Escherichia coli ISOLATED FROM ETTAWAH CROSSBREED GOAT'S
MILK**

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ABSTRACT

Goat's milk as an alternative to the fulfillment of nutritional needs to ensure its security from bacterias. There were many kind of bacterias that found in the goat's milk especially from group *Staphylococcus aureus*, *Staphylococcus intermedius*, *Streptococcus sp.* and *Escherichia coli*. Phagocytosis is one of body defense against bacterial infection. This study aimed to knew the phagocyte ability of the polimorfonuklear (PMN) cell against *Staphylococcus aureus*, *Staphylococcus intermedius*, *Streptococcus sp.* and *Escherichia coli* that isolated from PE goat's milk.

This study used 17 isolates consisting of 8 isolates of *Staphylococcus aureus*, 4 isolates of *Staphylococcus intermedius*, 3 isolates of *Streptococcus sp.* and 2 isolates of *Escherichia coli* that has been reidentified by replating on Blood Agar Plate (BAP), Gram staining, catalase test, coagulation test, replate on Mannitol Salt Agar (MSA), Voges Proskauer (VP) test, Vogel Jonshon Agar (VJA) test, Sherman's classification, replate on Eosin Methylene Blue (EMB), Indol-Methyl Red-Voges Proskauer-Citrate (IMVIC) test, urease test and Triple Sugar Iron (TSI) test. Further characterization was done by testing the presence of surface protein using the Soft Agar (SA) dan Serum Soft Agar (SSA), hemagglutination test (HA) using sheep's PMN cells with a concentration of 1% and test of the capacity of phagocytosis using sheep's PMN cell.

The result of the survey shown from 8 isolates of *Staphylococcus aureus*, 3 isolates has compact colonies, 3 isolates has diffuse colonies and 2 isolates has variant colonies, all isolates agglutinated sheep's erythrocytes. From 4 isolates of *Staphylococcus intermedius* revealed that 1 isolate has compact colony, 2 isolates has diffuse colonies and 1 isolate has variant colony, and all isolates agglutinated sheep's erythrocytes. All isolates of *Streptococcus sp.* has variant colonies and all agglutinate sheep's erythrocytes. All the isolates of *Escherichia coli* shown that all has diffuse colonies and agglutinate sheep's erythrocytes. Highest phagocyte level is on *Escherichia coli* (6,5 bacterias/PMN) and *Streptococcus sp.* (3,31 bacterias/PMN), *Staphylococcus aureus* (3,24 bacterias/PMN) and, *Staphylococcus intermedius* (2,93 bacterias/PMN).

Key word: *Staphylococcus aureus*, *Staphylococcus intermedius*, *Streptococcus sp.*
Escherichia coli, phagocytosis