

DETEKSI HEMAGLUTININ PROTEIN PERMUKAAN *STAPHYLOCOCCUS AUREUS* DENGAN MENGGUNAKAN ERITROSIT *RATTUS NOVERGICUS* STRAIN WISTAR

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Abstract: *Staphylococcus aureus* is now acknowledged as being the most important bacterial pathogen of human beings and animals. *S. aureus* infections are of special concern due to their abilities to cause a number of devastating complications. Bacteria adhesion molecules and receptor molecules in host cells have a role on such bacterial pathogenicity because the early step of pathogens, in order to cause infection, is their adherence to the surface of the host cells by using adhesion molecules. In fact, an adhesion molecule is identical to haemagglutinin protein. The aim of this research was to detect haemagglutinin protein in the surface protein of *S. aureus*. The research method was explorative-experimental, and carried out in a laboratory. Isolation of the *S. aureus*' surface protein was conducted by using a detergent material, namely *n-Octyl-β-D-Glucopyranoside (NOG)*, through a multistage isolation, and then was treated with Sodium Dodecyl Sulfate-Polyacrylamid Gel Electrophoresis (SDS-PAGE). Erythrocytes of *Rattus novergicus* strain *wistar* were used to determine the haemagglutinin by using a haemagglutination test. The research result showed that the haemagglutinin protein of *S. aureus* could be determined by using the haemagglutination test and SDS-PAGE with a molecular weight of 22 kDa.

Key words: *Staphylococcus aureus*, haemagglutinin protein.

Abstrak: *Staphylococcus aureus* saat ini dinyatakan sebagai bakteri patogen paling penting pada manusia dan hewan. Infeksi yang disebabkan olehnya memang mendapatkan perhatian khusus karena banyak mengakibatkan komplikasi fatal. Sehubungan dengan patogenesis bakteri tersebut, langkah awal patogen dalam menimbulkan penyakit adalah melakukan adhesi pada sel hospes melalui molekul adhesin. Molekul adhesin identik dengan protein hemagglutinin. Tujuan penelitian ini adalah mendeteksi protein hemagglutinin protein permukaan *S. aureus*. Metode penelitian yang digunakan adalah eksploratif-eksperimental di laboratorium. Isolasi protein permukaan *S. aureus* dilakukan dengan menggunakan bahan deterjen *n-Octyl-β-D-Glucopyranoside (NOG)* melalui isolasi bertahap dan dilakukan SDS-PAGE. Untuk mendapatkan protein hemagglutinin *S. aureus*, dilakukan uji hemagglutinasi dengan menggunakan eritrosit *Rattus novergicus strain wistar*. Hasil penelitian memperlihatkan bahwa protein hemagglutinin *S. aureus* dapat ditentukan dengan uji hemagglutinasi dan SDS-PAGE dengan bobot molekul 22,38 kDa.

Kata kunci: *Staphylococcus aureus*, protein hemagglutinin.