MOLECULAR DETECTION OF ACCESSORY GENE REGULATOR (AGR) *Staphylococcus epidermidis* IN BIOFILM FORMATION

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DECLARATION

I declare that this thesis entitled “Molecular Detection Accessory Gene Regulator (*Agr*) of *Staphylococcus Epidermidis* In Biofilm Formation” is the result of my own research except as cited in the references. The thesis has not been accepted for any degree and is not concurrently submitted in candidature of any other degree.

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ABSTRACT

DETECTION OF ACCESSORY GENE REGULATOR (*AGR*) OF STAPHYLOCOCCUS EPIDERMIDIS RELATED WITH BIOFILM FORMATION

Staphylococcus epidermidis is gram positive bacteria and it is the most frequent cause of nosocomial infections due to indwelling medical devices and its dealings with human innate host. *S.epidermidis* is main virulence factor cause biofilm formation. Biofilm is a group of microorganism stick to each other and adhere to cell surface. Biofilm development process in three steps which is initial adhesion, intercellular aggregation and accumulation, and final detachment. *S.epidermidis* controls the expression of clusters of virulence genes using the accessory gene regulator (*Agr*) quorum-sensing in biofilm formation. A sample *Staphylococcus epidermidis* bacterial DNA was extracted using boiling method. Real-Time Polymerase Chain Reaction (qPCR) will be useful for the detection of *agr* in *Staphylococcus epidermidis.* The application of real-time PCR proved a rapid and specific method for the detection *agr Staphylococcus epidermidis* in biofilm formation

Keywords: *Staphylococcus epidermidis,* biofilm formation, real-time PCR, virulence gene