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Myrmecodia tuberosa effects on quorum sensing-related pathogenicity in *Pseudomonas aeruginosa* PAO1

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Myrmecodia tuberosa Jack (Rubiaceae) has been used in West Papua as part of traditional remedy with wide therapeutic value including as immune enhancer. *Pseudomonas aeruginosa* and *Staphylococcus aureus* have been correlated with pathogenic opportunistic in immunosuppressed patient and this plant has been reported as a potential immunomodulator. Therefore research on this plant effect on the quorum sensing of these strains is worth exploring. Quorum sensing inhibition assay of the plant's fractions was performed towards *Pseudomonas aeruginosa* inoculated on ceftrimide agar. Samples in two fold dilution were prepared to gain 2-0.0625 mg/mL concentration. The effects on swimming, swarming and twitching motility of *P. aeruginosa* PAO1 were recorded over control. All experiments were done in triplicate. Bioautography was performed on the extract in order to explore the active constituent. Obtained results suggested that the ethyl acetate fraction of *M. tuberosa* showed a prominent effect on quorum sensing inhibition of *P. aeruginosa*. Significant activities as quorum sensing inhibitor and anti motility were observed over control in a concentration dependent manner. Bioautography assay performed on the fraction showed no inhibition zone suggesting that quorum sensing inhibition may be a result of additive effect of compounds content. Nevertheless, phenolic compounds was identified as active fraction for planktonic growth inhibition. *Myrmecodia tuberosa* ethyl acetate fraction might be developed as anti-infective against *P. aeruginosa* through inhibition of the microbe pathogenicity.

Biography

Triana Hertiani has completed her PhD degree from the Pharmazeutische Biologie und Biotechnologie Institute, Heinrich-Heine Universiteit, Duesseldorf, Germany, 2007. She is currently the Chief of Pharmaceutical Sciences Master Degree Program of the Faculty of Pharmacy, Universitas Gadjah Mada, Indonesia. Her research interest is exploring Indonesian natural resources for anti-infective.

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