

Profil Histokimia, Analisis GC-MS, dan Aktivitas Antibakteri Minyak Atsiri Daun Kemuning (*Murraya paniculata* (L.) Jack) Terhadap *Staphylococcus epidermidis*

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INTISARI

Indonesia memiliki keanekaragaman tanaman obat yang tinggi, salah satunya adalah tanaman kemuning. Kemuning memiliki nama ilmiah *Murraya paniculata* (L.) Jack merupakan tanaman semak anggota famili Rutaceae. Daun kemuning memiliki aroma khas dari kandungan minyak atsiri. Minyak atsiri daun kemuning berpotensi dijadikan *bodyspray* untuk mengatasi bau badan karena memiliki aroma segar dan aktivitas antibakteri. Namun, belum ada penelitian yang mengkaji mengenai potensi daun kemuning sebagai tanaman obat penghasil minyak atsiri dan aktivitasnya sebagai antibakteri terhadap *Staphylococcus epidermidis* penyebab bau badan. Oleh karena itu, perlu dilakukan penelitian untuk mengidentifikasi distribusi lokasi dan komposisi kimia minyak atsiri daun kemuning serta mengetahui aktivitas antibakterinya terhadap *Staphylococcus epidermidis*. Prosedur penelitian yang dilakukan yaitu identifikasi struktur sekretori dan distribusi minyak atsiri dengan pendekatan histokimia, ekstraksi minyak atsiri dengan distilasi uap, identifikasi senyawa penyusun minyak atsiri dengan analisis GC-MS, dan uji *in vitro* aktivitas antibakteri minyak atsiri daun kemuning dengan difusi cakram. Hasil penelitian menunjukkan bahwa minyak atsiri pada daun kemuning ditemukan pada jaringan epidermis, kelenjar minyak, trikoma glandular dan sel minyak. Elemol, gama-Elemene, Germacrene B, alpha-Gurjunene, dan delta-Elemene merupakan komponen utama penyusun minyak atsiri daun kemuning. Aktivitas antibakteri terhadap *Staphylococcus epidermidis* dengan kekuatan penghambatan tergolong sedang pada taraf konsentrasi minyak atsiri 10%, 20% dan 40%, sedangkan pada taraf konsentrasi 80% tergolong kuat.

Kata kunci: *Murraya paniculata* (L.) Jack, histokimia, minyak atsiri, antibakteri, *Staphylococcus epidermidis*

Histochemical Profile, GC-MS Analysis, and Antibacterial Activity of Kemuning Leaf Essential oil (*Murraya paniculata* (L.) Jack) Against *Staphylococcus epidermidis*

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ABSTRACT

Indonesia has a high diversity of medicinal plants, one of which is the Kemuning plant. Kemuning has the scientific name *Murraya paniculata* (L.) Jack is a shrub plant member of the family Rutaceae. Kemuning leaves have a distinctive aroma from the content of essential oils. Kemuning leaf essential oil has the potential to be used as *a bodyspray* to overcome body odor because it has a fresh aroma and antibacterial activity. However, there have been no studies that examine the potential of kemuning leaves as a medicinal plant producing essential oils and their activity as antibacterial against *Staphylococcus epidermidis* that causes body odor. Therefore, it is necessary to conduct research to identify the distribution of location and chemical composition of kemuning leaf essential oil and determine its antibacterial activity against *Staphylococcus epidermidis*. The research procedures carried out are identification of secretory structure and distribution of essential oils with histochemical approach, extraction of essential oils by steam distillation, identification of essential oil constituent compounds by GC-MS analysis, and *in vitro* test of antibacterial activity of essential oil of muning leaves by disc diffusion. The results showed that essential oils in kemuning leaves were found in epidermal tissue, oil glands, glandular trichomes and oil cells. Elemol, gama-Elemene, Germacrene B, alpha-Gurjunene, and delta-Elemene are the main constituent components of kemuning leaf essential oil. Antibacterial activity against *Staphylococcus epidermidis* with inhibitory power is moderate at concentrations of essential oil 10%, 20% and 40%, while at concentrations of 80% are strong.

Key words: *Murraya paniculata* (L.) Jack, histochemical, essential oil, antibacterial, *Staphylococcus epidermidis*