

## ABSTRAK

### FORMULASI *ESSENCE SHEET MASK* EKSTRAK ETANOL DAUN SIRIH (*Piper betle* L.) DAN UJI AKTIVITAS ANTIBAKTERINYA TERHADAP *Propionibacterium acnes*

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**Latar Belakang:** Ekstrak etanol daun sirih (*Piper betle* L.) memiliki aktivitas antibakteri terhadap *P. acnes* karena mengandung senyawa tanin, flavonoid, alkaloid, dan terpenoid. Tujuan penelitian ini untuk memformulasikan ekstrak etanol daun sirih dalam bentuk *essence sheet mask* yang memenuhi persyaratan mutu fisik dan stabilitas serta memiliki aktivitas antibakteri terhadap *P. acnes*

**Metode:** Sediaan *essence sheet mask* dibuat dengan 4 konsentrasi berbeda (formula yang mengandung 0%, 1%, 1,5%, dan 2% ekstrak), selanjutnya dilakukan pengamatan mutu fisik (organoleptis, homogenitas, pH, viskositas) dan stabilitas *freeze-thaw*. Data hasil pengamatan mutu fisik dan stabilitas digunakan untuk menentukan formula terpilih sediaan berdasarkan nilai *slope*. Formula terpilih kemudian diuji aktivitas antibakterinya terhadap *P. acnes*

**Hasil:** Formula terpilih *essence sheet mask* yaitu Formula 2 yang mengandung 1,5% ekstrak etanol daun sirih. Formula 2 memiliki nilai *slope* viskositas paling mendekati 0 yaitu -14,333. Formula 2 memenuhi persyaratan mutu fisik dan stabilitas yaitu tidak terjadi perubahan bentuk, warna, dan bau selama penyimpanan 28 hari, homogen, memiliki pH 5,10-5,33, viskositas sebesar 223,33-310,00 cP, dan stabil pada uji *freeze-thaw*. Formula 2 memiliki aktivitas antibakteri terhadap *P. acnes* dengan daya hambat sebesar 24,67 mm

**Kesimpulan:** *Essence sheet mask* ekstrak etanol daun sirih memiliki aktivitas antibakteri terhadap *P. acnes*, sehingga dapat digunakan sebagai salah satu alternatif produk yang berpotensi sebagai antijerawat

**Kata Kunci:** Daun sirih, aktivitas antibakteri, *P. acnes*, *essence sheet mask*

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## ABSTRACT

### FORMULATION OF SHEET MASK ESSENCE CONTAINING BETEL LEAF (*Piper betle* L.) ETHANOL EXTRACT AND ITS ANTIBACTERIAL ACTIVITY AGAINST *Propionibacterium acnes*

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**Background:** Betel leaf (*Piper betle* L.) ethanol extract has antibacterial activity against *P. acnes* because it contains tannins, flavonoids, alkaloids, and terpenoids. This study aims to formulate the ethanol extract of betel leaf into a sheet mask essence preparation that meets the requirements of physical quality and physical stability and performing an antibacterial activity against *P. acnes*

**Method:** Sheet mask essence were prepared into 4 different formulas (contain 0%, 1%, 1.5%, and 2% extract), and then examined for the physical quality (organoleptic, homogeneity, pH, and viscosity) and freeze-thaw stability. Data from observations of physical quality and stability were used to determine the selected formula based on slope value. The selected formula was then tested for its antibacterial activity against *P. acnes*

**Results:** The selected formula of sheet mask essence is Formula 2 which contains 1.5% ethanol extract of betel leaf. Formula 2 has a viscosity slope value closest to 0 which is -14.333. Formula 2 meets the requirements for physical quality and stability. There is no change in shape, color, and odor during 28 days of storage, homogeneous, has a pH of 5.10-5.33, a viscosity of 223.33-310.00 cP, and stable in the freeze-thaw testing. Formula 2 has antibacterial activity against *P. acnes* with an inhibitory zone of 24.67 mm

**Conclusion:** Sheet mask essence containing betel leaf ethanol extract has antibacterial activity against *P. acnes*, so it can be used as an alternative product that has the potential effect as anti-acne

**Keywords:** Betel leaf, antibacterial activity, *P. acnes*, sheet mask essence

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