


## LAMPIRAN

## Lampiran 1. Surat Izin Penelitian

	<b>SURAT</b>	No Dokumen	Form-A1
	<b>PERMOHONAN IZIN PENELITIAN PROGRAM STUDI S-1 FARMASI UNIVERSITAS AISYIYAH PALEMBANG</b>	Berlaku Sejak	
		Revisi	000

Hal : Permohonan Izin Penelitian

Kepada Yth  
Kabag Laboratorium Terpadu  
Universitas 'Aisyiyah Palembang

Assalamualaikum Wr. Wb.

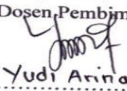
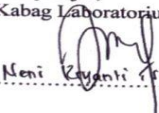
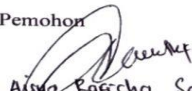
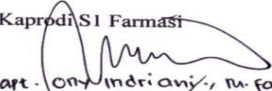
Sehubungan dengan penelitian kami dalam bidang Mikrobiologi dengan:Judul Penelitian : Uji Aktivitas Kombinasi Daun Pegagan (Centella asiatica) Dan daun Sirih Hijau (Piper bettle L) Terhadap bakteri Propionibacterium acnesNama Pembimbing : 1. Yudi Arina S.Si., M.Kes  
2. Tri Ektorina S.Farm., M.Farm

1	Skripsi
2	PKM/LKTI
3	Penelitian Dosen
4	Luar

No	Nama	NIM/NIP/NIK	No. HP
1	Aisya Raficha Salsabita	2122203001	085156438668
2			
3			
4			
5			

Bermaksud mengajukan izin penelitian di Laboratorium<sup>\*)</sup>: ~~Farmasetika Dasar / Teknologi Farmasi / Kimia Farmasi / Biologi Farmasi / Farmakologi / Mikrobiologi / Komputasi~~ Prodi S1 Farmasi Universitas 'Aisyiyah Palembang.Penelitian tersebut akan kami laksanakan selama: 4 bulan,  
yang terhitung dari : 21 05 2025 s.d 21 09 2025

Sebagai bahan pertimbangan, bersama ini dilampirkan lembar pengesahan proposal penelitian. Demikian permohonan kami, atas perhatiannya diucapkan terima kasih.

Palembang, 20 Mei 2025Mengetahui,  
Dosen Pembimbing  
  
Yudi Arina S.Si., M.Kes  
Menyetujui,  
Kabag Laboratorium Terpadu  
  
Neni Riyanti S.Kaw., M.KesPemohon  
  
Aisya Raficha Salsabita  
Kaprod S1 Farmasi  
  
Tri Ektorina S.Farm., M.Farm

## Lampiran 2. Sertifikat Simplisia Daun Pegagan

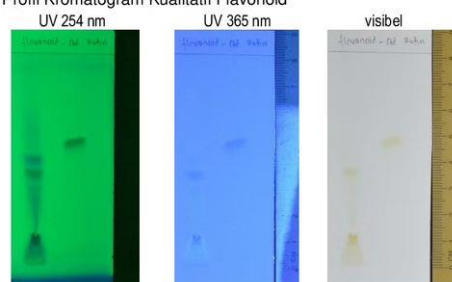


### CERTIFICATE OF ANALYSIS

Nama Produk : Pegagan  
 Nama Botani : *Centella asiatica* L.  
 No. Batch : 220520/NI/27  
 Sediaan : Serbuk

Parameter	Hasil	Metode
Bentuk	Serbuk	
Warna	Hijau Tua	Organoleptik
Rasa	Pahit	Organoleptik
Bau	Khas Herba	Organoleptik
Kadar Air	9,17 %	Gravimetri
Kadar Abu Total	17,54 %	Gravimetri
Kadar Abu Larut Air	0,82	Gravimetri
Kadar Abu Larut Asam	5,43 %	Gravimetri
Kadar Sari Larut Etanol	8,97 %	Gravimetri
Flavonoid	Positif	TLC

#### Profil Kromatogram Kualitatif Flavonoid



Kiri : Sampel Pegagan  
 Kanan : Standar Quercetin

Fase Gerak : Hexan : Etil Asetat : Asam Formiat (60:40:1)  
 Fase Diam : Silicagel F<sub>254</sub>  
 Pereaksi : Aluminium Chloride 10%

Rf flavonoid terdeteksi : 0,58

### Lampiran 3. Sertifikat Simplisia Daun Sirih Hijau

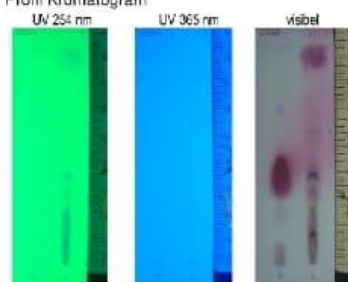


#### SERTIFIKAT ANALISIS

Nama Produk : Daun Sirih Hijau  
 Nama Botani : *Piper betle* L.  
 No. Batch : 2202/NI/35  
 Sediaan : Serbuk

Parameter	Hasil	Metode
Warna	Coklat Kekuningan	Organoleptik
Bau	Aroma Khas	Organoleptik
Kadar Air	6,81 %	Gravimetri
Kadar Abu	9,54 %	Gravimetri
Kadar Abu Tidak Larut Asam	4,71 %	Gravimetri
Kadar Sari Larut Air	16,4 %	Gravimetri
Kadar Sari Larut Etanol	4,97 %	Gravimetri
Terpenoid	Positif	TLC

Profil Kromatogram



P : Terpeneol  
 S : Daun Sirih Hijau

Fase Gerak : Toluena : Etil asetat (93:7)  
 Fase Diam : Silicagel 60 F<sub>254</sub> (Al - Sheet)  
 Pereaksi : Vanillin Asam Sulfat

## Lampiran 4. Sertifikat Bakteri Propionibacterium acnes

thermo scientific

## Certificate of Quality

**Product Name:** NLA - P. acnes ATCC 11827 VL/10  
**Lot Number:** 645862

**Product Number:** R19130  
**Expiration Date:** 2016  
 (YYYY-MM-DD)

This product has been manufactured, processed and packaged in accordance with Quality Systems Regulation, 21 CFR Part 820. Representative samples were tested per Remel Inc., a part of Thermo Fisher Scientific Quality Control specifications and were found to performance criteria for this product.

**Purity:**

Standardized aliquots of the rehydrated product are inoculated onto nonselective media and examined for pure growth following the appropriate incubation. Selective and Differential media are also tested where applicable.

**Viability And Quantification:**

Each organism is recovered from the preserved state within the required time frame and at an acceptable level. Passage number is stated as the current preserved state.

**Macroscopic And Microscopic Morphology:**

Colony morphology is consistent with documented referenced description.  
 Traditional staining is performed.

**Biochemical Analysis:**

Organism exhibits characteristic biochemical and/or enzymatic reactions. Automated and/or conventional testing was performed and results were within established limits. Antimicrobial testing performed where applicable. Results within expected ranges.

CFU/1ml: &gt;10(4)

Passage: 3

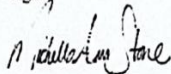
Gram Reaction: Gram Positive Rod

Biochemical Profile: Vitek ANI

**Physical Characteristics:**


Appearance: Lyophilized Disk  
 pH @ 20-25°C: N/A

Signed



Quality Control Supervisor

## Lampiran 5. Sertifikat Kertas Cakram/ Paper Disk



**MACHEREY-NAGEL**


**Certificate**

Filter paper MN 827  
 REF: 484000  
 LOT: CD143034  
 strongly absorbent, soft


typical data	unit	specifies	based on
basis weight	g/m <sup>2</sup>	270	DIN EN ISO 536
thickness	mm	0.65 - 0.70	DIN EN ISO 12625-3
migration distance	mm/ 10min	130 - 140	Klemm
surface		smooth	

**Confirmation**  
 Hereby we confirm that the above mentioned product has successfully passed our quality control system in accordance with EN ISO 9001 and meets the specific quality criteria.

This document has been produced electronically and is valid without a signature.



Management System  
 EN ISO 15495:2016  
 ISO 9001:2015  
 www.tuv.com  
 ID: 930056401



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1/1

**Lampiran 6. Ekstraksi Daun Pegagan dan Daun Sirih Hijau**

Penimbangan serbuk  
simplisia daun pegagan  
(*Centella asiatica*)



Penimbangan serbuk daun  
sirih hijau



Proses maserasi ekstrak  
etanol 96% daun pegagan



Proses maserasi ekstrak  
etanol 96% daun sirih hijau



Penyaringan ekstrak  
maserasi daun pegagan



Penyaringan ekstrak  
maserasi daun sirih hijau



Proses pemisahan ekstrak  
daun pegagan dengan  
pelarut etanol menggunakan  
alat rotary evaporator



Proses pemisahan ekstrak  
daun sirih hijau dengan  
pelarut etanol menggunakan  
alat rotary evaporator



Proses pengentalan ekstrak daun pegagan menggunakan waterbath



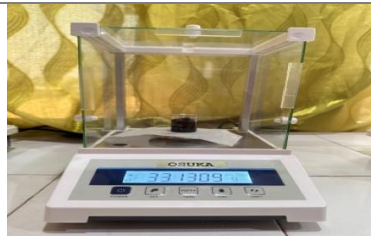
Proses pengentalan ekstrak daun sirih hijau menggunakan waterbath



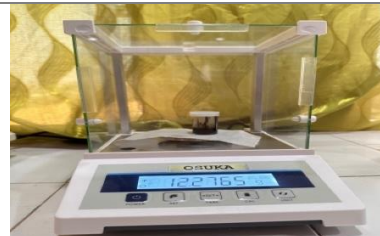
Ekstrak kental daun pegagan



Ekstrak kental daun sirih hijau



Penimbangan ekstrak kental daun pegagan



Penimbangan ekstrak kental daun sirih hijau

## Lampiran 7. Pengujian Kadar Air



Penimbangan kadar air  
simplisia daun pegagan



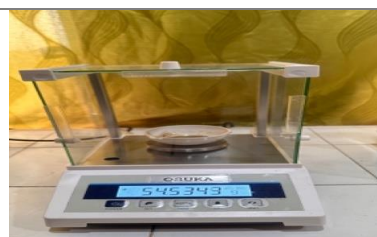
Penimbangan kadar air  
simplisia daun sirih hijau



Proses pengovenan daun  
pegagan



Proses pengovenan daun  
sirih hijau



Penimbangan bobot tetap  
kadar air daun pegagan



Penimbangan bobot tetap  
kadar air daun sirih hijau

**Lampiran 8. Pengujian Kadar Abu**

Proses pengabuan



Proses pendinginan di dalam desikator



Penimbangan kadar abu daun pegagan



Penimbangan kadar abu daun sirih hijau



Hasil pengabuan daun pegagan



Hasil pengabuan daun sirih hijau

**Lampiran 9. Skrining Fitokimia Daun Pegagan dan Daun Sirih Hijau**

Uji saponin daun pegagan



Uji saponin daun sirih hijau



Uji flavonoid daun pegagan



Uji flavonoid daun sirih hijau



Uji tanin daun pegagan



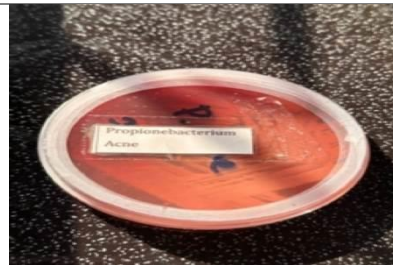
Uji tanin daun sirih hijau

**Lampiran 10. Uji Aktivitas Antibakteri (Zona Hambat)**

Pembuatan media nutrient  
agar



Sterilisasi alat dan bahan  
menggunakan autoklaf



Bakteri uji (*P.acnes*)



Pembuatan media agar miring



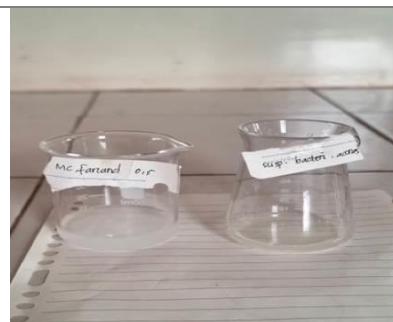
Penggoresan bakteri pada  
media agar miring  
(peremajaan)



Inkubasi bakteri 1X24 jam



Pembuatan suspensi bakteri  
dan larutan mc farland 0,5



Suspensi bakteri & larutan mc  
farland 0,5



Pembuatan larutan konsentrasi daun pegagan dan daun sirih hijau



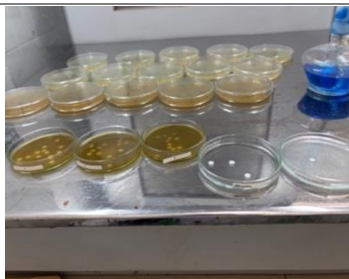
Konsentrasi ekstrak kombinasi pegagan dan sirih hijau 60%, 70%, 80%



Pembuatan kontrol positif (clindamycin)



Penuangan media agar ke dalam cawan petri



Media agar yang sudah mengeras beserta larutan uji



Kultur bakteri ke media yang akan diberi antibakteri



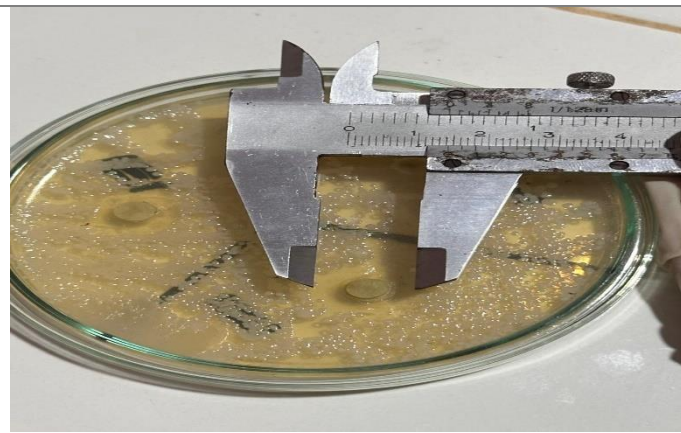
Pemberian paper disk yang telah di beri larutan uji



Inkubasi selama 1X24 jam



Setelah di inkubasi 1X24 jam



Pengukuran zona bening menggunakan jangka sorong



Replikasi 1 kontrol positif & negatif



Replikasi 1



Replikasi 2



Replikasi 3



Replikasi 4

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### Lampiran 11. Perhitungan

- Perhitungan Rendemen Ekstrak Daun Pegagan

**Keterangan :**

Me : Massa Ekstraksi

Ms : Massa Simplisia

$$\begin{aligned}\text{Rumus : } & \frac{Me}{Ms} \times 100 \% \\ & : \frac{66,2609 \text{ gr}}{600 \text{ gr}} \times 100 \% \\ & : 11,04\%\end{aligned}$$

- Perhitungan Rendemen Ekstrak Daun Sirih Hijau

**Keterangan :**

Me : Massa Ekstraksi

Ms : Massa Simplisia

$$\begin{aligned}\text{Rumus : } & \frac{Me}{Ms} \times 100 \% \\ & : \frac{24,5529 \text{ gr}}{600 \text{ gr}} \times 100 \% \\ & : 4,09\%\end{aligned}$$

- Perhitungan Kadar Abu Daun Pegagan

**Keterangan :**

A1 : Bobot cawan + simplisia setelah di pijar

A2 : Bobot cawan kosong

B : Bobot sebelum dipijar

$$\begin{aligned} \text{Rumus : } & \frac{A1-A2}{B} \times 100 \% \\ & : \frac{25,32 - 25,03}{43,94} \times 100 \% \\ & : \frac{0,29 \text{ gr}}{43,94} \times 100 \% \\ & : 0,6599 \% \end{aligned}$$

- Perhitungan Kadar Abu Daun Sirih Hijau

**Keterangan :**

A1 : Bobot cawan + simplisia setelah di pijar

A2 : Bobot cawan kosong

B : Bobot sebelum dipijar

$$\begin{aligned} \text{Rumus : } & \frac{A1-A2}{B} \times 100 \% \\ & : \frac{25,40 - 25,07}{43,94} \times 100 \% \\ & : \frac{0,33 \text{ gr}}{43,94} \times 100 \% \\ & : 0,7510 \% \end{aligned}$$

- Perhitungan Kadar Air Daun Pegagan

**Keterangan :**

W : Berat dari sampel

W1 : Berat dari kurs porselen + sampel sebelum dipanaskan

W2 : Berat dari kurs porselen + sampel sesudah dipanaskan

$$\begin{aligned} \text{Rumus : } & \frac{W1 - W2}{W} \times 100\% \\ & : \frac{54,9700 - 54,5343}{2,0406 \text{ gr}} \times 100\% \\ & : \frac{0,4357}{2,0406 \text{ gr}} \times 100 \% \\ & : 0,2135 \% \end{aligned}$$

- Perhitungan Kadar Air Daun Sirih Hijau

**Keterangan :**

W : Berat dari sampel

W1 : Berat dari kurs porselen + sampel sebelum dipanaskan

W2 : Berat dari kurs porselen + sampel sesudah dipanaskan

$$\begin{aligned} \text{Rumus : } & \frac{W1 - W2}{W} \times 100\% \\ & : \frac{66,5616 - 66,1753}{2,0279 \text{ gr}} \times 100\% \\ & : \frac{0,3863}{2,0279 \text{ gr}} \times 100 \% \\ & : 0,1904 \% \end{aligned}$$

