

LAMPIRAN

Lampiran 1. *Ethical Clearance*



Mencintai Allah menyayangi
Berkhidmat Menyajikan

KOMITE ETIK PENELITIAN KESEHATAN
HEALTH RESEARCH ETHICS COMMITTEE
RSI SULTAN AGUNG
KEPK RSI SULTAN AGUNG

KETERANGAN LAYAK ETIK
DESCRIPTION OF ETHICAL EXEMPTION
"ETHICAL EXEMPTION"

No. 100/EC/KEPK/2021

Protokol penelitian yang diusulkan oleh
The research protocol proposed by

Peneliti utama
Principal In Investigator

Nama Institusi
Name of Institution

Dengan Judul
Title

ADINDA ATI WIBOWO

FAKULTAS KEDOKTERAN / PROGRAM STUDI FARMASI
UNIVERSITAS ISLAM SULTAN AGUNG

**"UJI AKTIVITAS SEDIAAN GEL EKSTRAK ETANOLIK BUAH OKRA (*Abelmoschus esculentus* L.)
TERHADAP DAYA HAMBAT BAKTERI *Staphylococcus aureus* ATCC 25923"**

**"ACTIVITY TEST OF GEL WITH ETHANOLIC EXTRACTS FROM OKRA FRUITS (*Abelmoschus esculentus* L.) AGAINST
INHIBITION OF BACTERIA *Staphylococcus aureus* ATCC 25923"**

Dinyatakan layak etik sesuai 7 (tujuh) Standar WHO 2011, yaitu 1) Nilai Sosial, 2) Nilai Ilmiah, 3) Pemerataan Beban dan Manfaat, 4) Risiko, 5) Bujukan/Eksploitasi, 6) Kerahasiaan dan Privacy, dan 7) Persetujuan Setelah Penjelasan, yang merujuk pada Pedoman CIOMS 2016. Hal ini seperti yang ditunjukkan oleh terpenuhinya indikator setiap standar.

Declared to be ethically appropriate in accordance to 7 (seven) WHO 2011 Standards, 1)Social Values, 2)Scientific Values, 3)Equitable Assessment and Benefits, 4)Risks, 5)Persuasion/Exploitation, 6)Confidentiality and Privacy, and 7)Informed Consent, referring to the 2016 CIOMS Guidelines. This is as indicated by the fulfillment of the indicators of each standard.

Pernyataan Laik Etik ini berlaku selama kurun waktu tanggal 31 Maret 2021 sampai dengan tanggal 31 Maret 2022.

This declaration of ethics applies during the period March 31, 2020 until March 31, 2022

March 31, 2021

YAYASAN BADAN WAKAF SULTAN AGUNG
RSI SULTAN AGUNG
ISLAMIC TEACHING HOSPITAL
Semarang - Jawa Tengah
MONIKA APRILIA SWASTIKA dr. SP.RAD

www.rsisultanagung.co.id

Lampiran 2. Sertifikat Bakteri



KEMENTERIAN PENDIDIKAN DAN KEBUDAYAAN
UNIVERSITAS DIPONEGORO
FAKULTAS KEDOKTERAN
BAGIAN MIKROBIOLOGI

Jalan Prof. Sudarto, S.H.,
 Tembalang, Semarang 50275
 Tel. (024) 76928010 Faks. (024) 76928011
 www.fk.undip.ac.id | email: dean@fk.undip.ac.id

SERTIFIKAT
 Nomor : 24/UN.7.5.4/Mikrobiologi/dok/3/2021
BIAKAN MURNI

Dengan ini kami menerangkan bahwa :

Nama	: Adinda Ati Wibowo
NIM	: 33101600416
Instansi	: S1 Farmasi UNISSULA

Telah menggunakan strain bakteri Methicillin Resisten *Staphylococcus aureus*, untuk keperluan penelitian, dengan judul "Uji Aktivasi Sediaan Gel Ekstrak Etanolik Buah Okra (*Abelmoschus Esculentus* L.) Terhadap Daya Hambat Bakteri *Staphylococcus aureus* 25923."

Bentuk	: Biakan murni
Media inokulasi	: Blood Agar (BA)
Pemeliharaan	: Biakan dari BA dipindahkan seminggu sekali ke Blood Agar dan diinkubasi pada suhu 37°C selama 24 jam
Penyimpanan	: Biakan di BA disimpan pada suhu ± 4°C

Semarang, 31 Maret 2021
 Ketua Bagian Mikrobiologi
 FK UNDIP

 dr. Endang Sri Lestari, PhD
 NIP. 19661016 199702 2 001

Lampiran 3. Hasil Determinasi



UNNES
UNIVERSITAS NEGERI SEMARANG

KEMENTERIAN PENDIDIKAN DAN KEBUDAYAAN
UNIVERSITAS NEGERI SEMARANG
FAKULTAS MATEMATIKA DAN ILMU PENGETAHUAN ALAM
LABORATORIUM JURUSAN BIOLOGI

Alamat : Gedung D11 FMIPA UNNES Kampus Sekaran Gunungpati Semarang 50229
 website : biologi.unnes.ac.id, email : labbiologi.unnes@yahoo.com

Semarang, 13 Januari 2021

No. : 005 /UN/37.1.4.5/LT/2021
 Lampiran : -
 Perihal : Hasil identifikasi tumbuhan

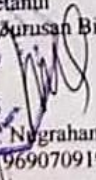
Kepada Yth.
 Sdr. **Adinda Ati Wibowo** - NIM. 33101600416
 Mahasiswa Program Studi Farmasi - Fakultas Kedokteran
 Universitas Islam Sultan Agung (UNISSULA)
 Semarang

Dengan hormat,
 Bersama ini kami sampaikan hasil identifikasi tumbuhan yang Saudara kirimkan ke Laboratorium Taksonomi Tumbuhan Jurusan Biologi-FMIPA Universitas Negeri Semarang (UNNES), adalah sebagai berikut.

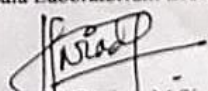
Divisio	: Magnoliophyta
Classis	: Magnoliopsida
SubClassis	: Dilleniidae
Ordo	: Malvales
Familia	: Malvaceae
Genus	: <u>Abelmoschus</u>
Species	: <u>Abelmoschus esculentus</u> (L.) Moench
Vern. name	: Okra / Okra, gumbo, lady's finger

Demikian, semoga berguna bagi Saudara.



Mengetahui
 Ketua Jurusan Biologi FMIPA UNNES

 Dr. dr. Nygrahaningsih WH, M.Kes.
 NIP. 196907091998032001

Kepala Laboratorium Biologi


 Dra. Endah Peniati, M.Si.
 NIP. 196511161991032001

Lampiran 4. Perhitungan Rendemen dan Organoleptis Ekstrak

Berat Serbuk (g)	600 gram
Berat Ekstrak (g)	125,5 gram
% Rendemen	20,9%
Karakteristik Ekstrak	Bentuk kental Warna coklat pekat Bau khas okra

$$\% \text{ Rendemen} = \frac{\text{Bobot Ekstrak Kental}}{\text{Bobot Simplisia}} \times 100\%$$

$$\% \text{ Rendemen} = \frac{125,5 \text{ g}}{600 \text{ g}} \times 100\% \\ = 20,9 \%$$

Lampiran 5. Hasil Persen Kadar Air Serbuk Simplisia dan Ekstrak

Hasil kadar air serbuk simplisia (0,85%)



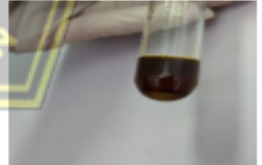
Hasil kadar air ekstrak (8,99%)



Lampiran 6. Skrining Fitokimia

Skrining Fitokimia Ekstrak Etanolik Buah Okra

Parameter Uji	Reagen	Hasil	Parameter uji positif jika
Flavonoid	Serbuk Mg + HCL pekat	+	Merah
Fenolik	FeCl ₃ 1%	+	Merah, Biru, ungu atau hitam
Triterpenoid	Liebermann burchard	+	Cincin kecoklatan
Steroid		-	Cincin biru kehijauan

Parameter Uji	Reagen	Warna	Metode	Gambar
				Ekstrak Etanolik
Flavonoid	Serbuk Mg, HCL pekat	Merah	Tabung	 Positif
Fenolik	FeCl ₃	Merah, Ungu, Biru, Hitam	Tabung	 Positif
Triterpen	Kloroform, H ₂ SO ₄	Terbentuk cincin kecoklatan atau violet	Tabung	 Positif
Steroid	Kloroform, H ₂ SO ₄	Terbentuk cincin Hijau atau Biru	Tabung	 Negatif



YAYASAN BADAN WAKAF SULTAN AGUNG
UNIVERSITAS ISLAM SULTAN AGUNG (UNISSULA)
 Jl. Raya Kaligawe Km.4 Semarang 50112 Telp.(024) 6583584 (8 Sal) Fax.(024) 6582455
 email: informasi@unissula.ac.id web : www.unissula.ac.id



PRODI FARMASI FK

Bismillah Membangun Generasi Khaira Ummah

LAPORAN HASIL UJI

No. Sertifikat : 02/LPF/II/2021

Informasi Peneliti

Nama : Adinda Ati Wibowo

Tanggal Pengujian: 22 Oktober 2020

NIM : 33101600416

Hasil Pengujian

Skrining Fitokimia Ekstrak Etanolik Buah Okra (*Abelmoschus esculentus* L.):

Parameter Uji	Reagen	Hasil Identifikasi	Metode	Kesimpulan
Flavonoid	Serbuk Mg dan HCl pekat	Merah	Tabung	Positif
Fenolik	FeCl ₃	Merah, ungu, biru, hitam	Tabung	Positif
Triterpenoid	Kloroform, H ₂ SO ₄	Terbentuk cincin kecoklatan atau violet	Tabung	Positif
Steroid	Kloroform, H ₂ SO ₄	Tidak terbentuk cincin hijau atau biru	Tabung	Negatif

Semarang, 14 Januari 2021

Laboran Prodi Farmasi
 FK UNISSULA

Kepala Laboratorium Farmasi Unissula

Nisrina Nur Afifah Amd.AF

Ika Buana Januarti, M.Sc., Apt

NIK.211213007

Lampiran 7. Kadar Flavonoid Total Ekstrak Etanol Buah

Pembuatan Larutan Sampel

10 mg Ekstrak + 10 etanol pa → ambil 2 ml + 2 ml AlCl₃ 2%

Pembuatan Larutan Baku Kuersetin

$$\text{Ppm} = \frac{\text{mg}}{\text{L}}$$

$$\text{Ppm} = \frac{12,5}{0,025} = 500 \text{ ppm}$$

Pembuatan Larutan Standar

$$\text{Konsentrasi 10 ppm Kuersetin} = N1.V1 = N2.V2$$

$$10 \cdot 10 = 500 \cdot V2$$

$$\frac{100}{500} = V2$$

$$0,2 = V2$$

$$\text{Konsentrasi 15 ppm Kuersetin} = N1.V1 = N2.V2$$

$$15 \cdot 10 = 500 \cdot V2$$

$$\frac{150}{500} = V2$$

$$0,3 = V2$$

$$\text{Konsentrasi 20 ppm Kuersetin} = N1.V1 = N2.V2$$

$$20 \cdot 10 = 500 \cdot V2$$

$$\frac{200}{500} = V2$$

$$0,4 = V2$$

$$\text{Konsentrasi 25 ppm Kuersetin} = N1.V1 = N2.V2$$

$$25 \cdot 10 = 500 \cdot V2$$

$$\frac{250}{500} = V2$$

$$0,5 = V2$$

Konsentrasi 30 ppm Kuersetin = $N1.V1 = N2. V2$

$$30 \cdot 10 = 500 \cdot V2$$

$$\frac{300}{500} = V2$$

$$0,6 = V2$$

Konsentrasi 35 ppm Kuersetin = $N1.V1 = N2. V2$

$$35 \cdot 10 = 500 \cdot V2$$

$$\frac{350}{500} = V2$$

$$0,7 = V2$$

Pembuatan $AlCl_3$ 2 % = $\frac{2}{100} \times 50 = 1$ gr $AlCl_3$ dalam 50 ml Aquadest

Hasil Pengukuran Absorbansi Larutan Kurva Baku Kuersetin

Konsentrasi	10	15	20	25	30	35
Absorbansi	0,2121	0,3194	0,4997	0,6496	0,7983	1,0405
	0,1968	0,3354	0,5023	0,6905	0,7950	1,0319
	0,3462	0,4824	0,5035	0,6542	0,8103	1,0255
Rata-rata ± SD	0,2517 ± 0,0822	0,3791 ± 0,0898	0,5018 ± 0,0019	0,6648 ± 0,0224	0,8012 ± 0,0081	1,0326 ± 0,0075

Hasil Absorbansi Sampel

Sampel	Absorbansi
Replikasi 1	0.3960
Replikasi 2	0.3987
Replikasi 3	0.3864
Rata-rata ± SD	0.3937 ± 0,0064

Perhitungan Konsentrasi Kuersetin Sampel Ekstrak Etanolik Buah Okra

$$a = -0,0806$$

$$b = 0,0305$$

$$r = 0,9879$$

Persamaan regresi linier :

$$y = bx + a$$

$$y = 0,0305x - 0,0806$$

Keterangan : y = absorbansi sampel

x = konsentrasi

Replikasi 1 $y = 0,3960 \rightarrow y = 0,0305x - 0,0806$

$$0,3960 = 0,0305x - 0,0806$$

$$-0,0305x = -0,4766$$

$$x = \frac{0,4766}{0,0305} = 15,6262 \text{ mg/L}$$

Replikasi 2 $y = 0,3987 \rightarrow y = 0,0305x - 0,0806$

$$0,3987 = 0,0305x - 0,0806$$

$$-0,0305x = -0,4793$$

$$x = \frac{0,4793}{0,0305} = 15,7147 \text{ mg/L}$$

Replikasi 3 $y = 0,3864 \rightarrow y = 0,0305x - 0,0806$

$$0,3864 = 0,0305x - 0,0806$$

$$-0,0305x = -0,467$$

$$x = \frac{0,467}{0,0305} = 15,3114 \text{ mg/L}$$

Kadar Flavonoid Total Ekstrak Etanolik Buah Okra

Sampel	Kadar Total Flavonoid	Rata – Rata $\pm$ SD
Replikasi 1	15,6262 mg QE/g	15,5507 $\pm$ 0,2119 mg QE/g
Replikasi 2	15,7147 mg QE/g	
Replikasi 3	15,3114 mg QE/g	

Perhitungan Kadar Flavonoid Total Ekstrak Etanolik Buah Okra

Berat Ekstrak (M) : 0,01 g

Konsentrasi Kuersetin (C) : 15,5507 mg/L

Volume Ekstrak (V) : 0,01 L

Kadar Flavonoid Total

$$= \frac{C \times V}{M}$$

$$= \frac{15,5507 \frac{\text{mg}}{\text{L}} \times 0,01\text{L}}{0,01 \text{ g}}$$

$$= \frac{0,1555 \text{ mg}}{0,01 \text{ g}}$$

$$= 15,55 \text{ mg QE/g}$$



Lampiran 8. Hasil Daya Hambat Ekstrak Etanolik Buah Okra Terhadap Bakteri *Staphylococcus aureus* ATCC 25923



UNIVERSITAS ISLAM SULTAN AGUNG (UNISSULA)

INTEGRATED BIOMEDICAL LABORATORY

FAKULTAS KEDOKTERAN

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Tel. +62246583584, email: ibl@unissula.ac.id

Laboratorium Biomedik Terintegrasi

SURAT KETERANGAN No. 195/IBL-FK-SA/IV/2021

Yang Bertanda tangan di bawah ini :

Nama : dr. Masfiah, M.Si.Med, Sp.MK.
Jabatan : Kepala Laboratorium Biomedik Terintegrasi FK Unissula

Menerangkan bahwa :

Nama Peneliti : Adinda Ati Wibowo
NIM/NIK : 33101600416
Fakultas : Kedokteran / Farmasi
Universitas : Islam Sultan Agung
Judul : Uji Aktivitas Sediaan Gel Ekstrak Etanolik Buah Okra (*Abelmoschus esculentus* L.) Terhadap Daya Hambat Bakteri *Staphylococcus aureus* ATCC 25923

Telah selesai melakukan penelitian di Laboratorium Biomedik Terintegrasi Fakultas Kedokteran Universitas Islam Sultan Agung, untuk menunjang penyusunan Tugas Akhir ataupun Laporan Penelitian. Adapun penelitian dilakukan pada Maret - April 2021, dengan hasil terlampir.

Demikian surat keterangan ini dibuat untuk dapat dipergunakan sepenuhnya.

Semarang, 28 April 2021
Mengetahui,
Kepala Lab. Biomedik Terintegrasi
Fakultas Kedokteran Unissula

dr. Masfiah, M.Si.Med, Sp.MK.
NIK.210105099



UNIVERSITAS ISLAM SULTAN AGUNG (UNISSULA)

INTEGRATED BIOMEDICAL LABORATORY

FAKULTAS KEDOKTERAN

Jl. Raya Kaligawe KM.4, Semarang 50112

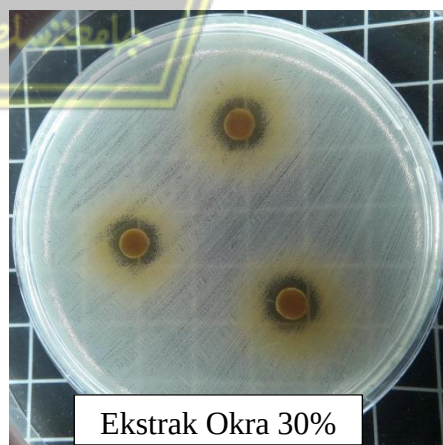
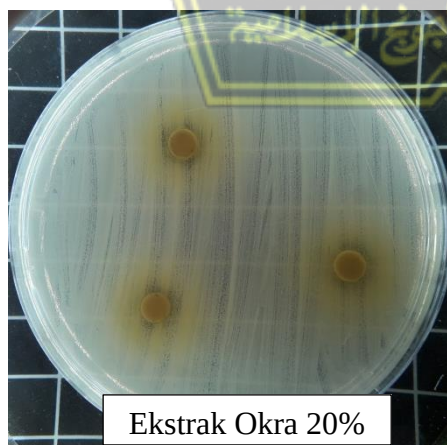
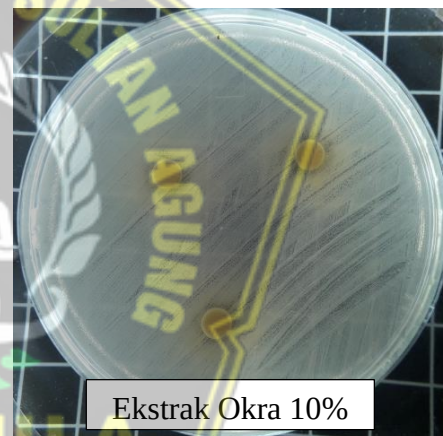
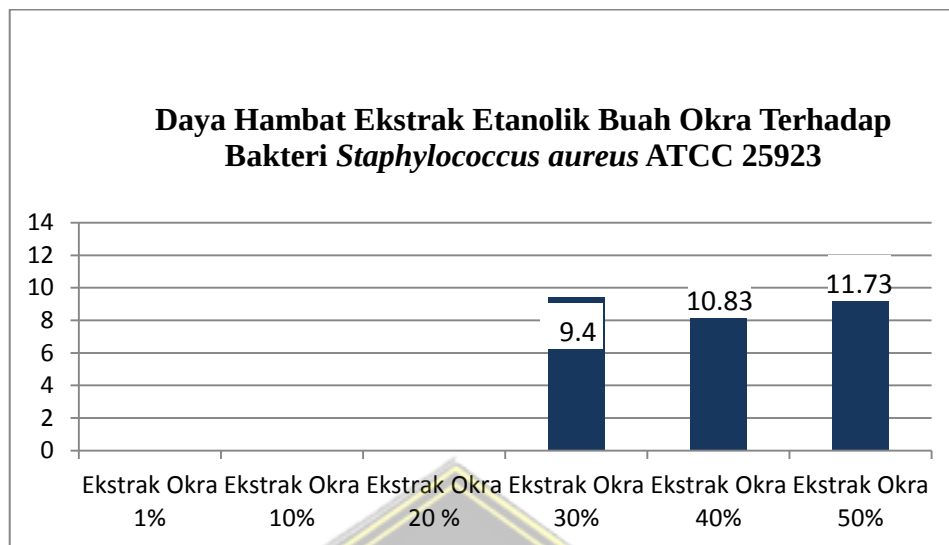
Tel. +62246583584, email: ibl@unissula.ac.id

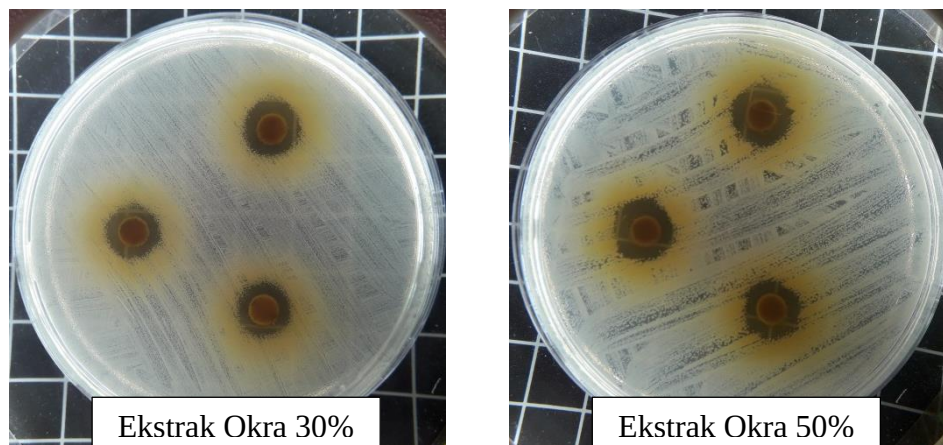
Laboratorium Biomedik Terintegrasi

Lampiran 1

Hasil Penelitian (Bakteri *Staphylococcus aureus* ATCC 25923)

Kel.	Hasil zona hambat ekstrak okra (<i>Abelmoschus esculentus</i> L.)								
	1 %	10%	20%	30%	40%	50%	Gel okra 30%	Kontrol +	Kontrol -
1	0 mm	0 mm	0 mm	9,8 mm	10,5 mm	12 mm	10,1 mm	31 mm	0 mm
2	0 mm	0 mm	0 mm	9,2 mm	11 mm	12 mm	9,0 mm	31 mm	0 mm
3	0 mm	0 mm	0 mm	9,2 mm	11 mm	11,2 mm	11 mm	30 mm	0 mm





Lampiran 9. Hasil Uji Fisik Sediaan Gel

a. Uji Organoleptis

Replikasi	1	2	3	Kontrol -	Kontrol +
Bentuk	Gel Kental	Gel Kental	Gel Kental	Gel Kental	Gel sedikit kental
Warna	Coklat	Coklat	Coklat	Putih bening	Putih
Bau	Khas okra	Khas okra	Khas okra	Khas floral	Khas antibiotik

b. Uji Homogenitas

Replikasi	Sediaan Gel	Kontrol -	Kontrol +
1	Homogen	Homogen	Homogen
2	Homogen	Homogen	Homogen
3	Homogen	Homogen	Homogen

c. Uji Daya Sebar

Replikasi	Sediaan Gel	Kontrol -	Kontrol +
1	5,2	5,0	6,0
2	5,5	5,3	6,4
3	5,9	5,5	6,5
Rata-rata$\pm$SD	5,53 $\pm$ 0,35	5,26 $\pm$ 0,25	6,30 $\pm$ 0,26

d. Uji Daya Lekat

Replikasi	Sediaan Gel	Kontrol -	Kontrol +
1	3,82	4.4	0.8
2	3,9	4.5	0.82
3	4,29	4.52	0.85
Rata-rata±SD	4,00 ± 0,25	4,47 ± 0,06	0,82 ± 0,02

e. Uji pH

Replikasi	Sediaan Gel	Kontrol -	Kontrol +
1	4,95	6.15	6.05
2	4,88	6.17	6.07
3	4,9	6.17	6.08
Rata-rata±SD	4,91 ± 0,03	6,16 ± 0,01	6,06 ± 0,01

f. Uji Viskositas

Replikasi	Sediaan Gel	Kontrol -	Kontrol +
1	40790	46760	24870
2	41780	47750	27850
3	41780	48750	30840
Rata-rata±SD	41450 ± 571,577	47753,33 ± 995,00	27853,3 ± 2985

Perhitungan Viskositas

Pengukuran viskositas menggunakan viskometer Brookfield dengan kecepatan 60rpm dan spindle 64, faktor koreksi 100.

$$\text{Viskositas} = \text{Skala yang terbaca} \times \text{Faktor Koreksi}$$

a. Sediaan Gel

$$\text{Replikasi 1 : } 407,9 \times 100 = 40790 \text{ cps}$$

$$\text{Replikasi 2 : } 417,8 \times 100 = 41780 \text{ cps}$$

$$\text{Replikasi 3 : } 417,8 \times 100 = 41780 \text{ cps}$$

b. Kontrol Negatif

$$\text{Replikasi 1 : } 467,6 \times 100 = 46760 \text{ cps}$$

Replikasi 2 : $477,5 \times 100 = 47750$ cps

Replikasi 3 : $487,5 \times 100 = 48750$ cps

c. Kontrol Positif

Replikasi 1 : $248,7 \times 100 = 24870$ cps

Replikasi 2 : $278,5 \times 100 = 27850$ cps

Replikasi 3 : $308,4 \times 100 = 30840$ cps

Lampiran 10. Hasil Analisis Data Menggunakan SPSS

1. Data Uji Daya Hambat Ekstrak Etanolik Buah Okra

a. Normalitas

Tests of Normality							
		Kolmogorov-Smirnov ^a			Shapiro-Wilk		
konsentrasi ekstrak okra		Statistic	df	Sig.	Statistic	df	Sig.
daya hambat	konsentrasi 1%		3	.		3	.
	konsentrasi 10%		3	.		3	.
	konsentrasi 20%		3	.		3	.
	konsentrasi 30%	.385	3	.	.750	3	.000
	konsentrasi 40%	.385	3	.	.750	3	.000
	konsentrasi 50%	.385	3	.	.750	3	.000
	kontrol +	.385	3	.	.750	3	.000
	kontrol -		3	.		3	.

a. Lilliefors Significance Correction

b. Homogenitas

Test of Homogeneity of Variances					
		Levene Statistic	df1	df2	Sig.
daya hambat	Based on Mean	9.742	7	16	.000
	Based on Median	.609	7	16	.741
	Based on Median and with adjusted df	.609	7	6.321	.735
	Based on trimmed mean	7.674	7	16	.000

c. Kruskal-Wallis

Test Statistics^{a,b}

daya hambat	
Kruskal-Wallis H	22.863
df	7
Asymp. Sig.	.002

a. Kruskal Wallis Test

d. Mann-Whitney

Test Statistics^a

daya hambat	
Mann-Whitney U	4.500
Wilcoxon W	10.500
Z	.000
Asymp. Sig. (2-tailed)	1.000
Exact Sig. [2*(1-tailed Sig.)]	1.000 ^b

a. Grouping Variable: konsentrasi ekstrak okra

b. Not corrected for ties.

(1-2)

Test Statistics^a

daya hambat	
Mann-Whitney U	4.500
Wilcoxon W	10.500
Z	.000
Asymp. Sig. (2-tailed)	1.000
Exact Sig. [2*(1-tailed Sig.)]	1.000 ^b

a. Grouping Variable: konsentrasi ekstrak okra

b. Not corrected for ties.

(1-3)

Test Statistics^a

daya hambat	
Mann-Whitney U	.000
Wilcoxon W	6.000
Z	-2.121
Asymp. Sig. (2-tailed)	.034
Exact Sig. [2*(1-tailed Sig.)]	.100 ^b

a. Grouping Variable: konsentrasi ekstrak okra

b. Not corrected for ties.

(1-4)

Test Statistics^a

daya hambat	
Mann-Whitney U	.000
Wilcoxon W	6.000
Z	-2.121
Asymp. Sig. (2-tailed)	.034
Exact Sig. [2*(1-tailed Sig.)]	.100 ^b

a. Grouping Variable: konsentrasi ekstrak okra

b. Not corrected for ties.

(1-5)

Test Statistics^a

daya hambat	
Mann-Whitney U	.000
Wilcoxon W	6.000
Z	-2.121
Asymp. Sig. (2-tailed)	.034
Exact Sig. [2*(1-tailed Sig.)]	.100 ^b

a. Grouping Variable: konsentrasi ekstrak okra

b. Not corrected for ties.

(1-6)

Test Statistics^a

daya hambat	
Mann-Whitney U	.000
Wilcoxon W	6.000
Z	-2.121
Asymp. Sig. (2-tailed)	.034
Exact Sig. [2*(1-tailed Sig.)]	.100 ^b

a. Grouping Variable: konsentrasi ekstrak okra

b. Not corrected for ties.

(1-7)

Test Statistics^a

daya hambat	
Mann-Whitney U	4.500
Wilcoxon W	10.500
Z	.000
Asymp. Sig. (2-tailed)	1.000
Exact Sig. [2*(1-tailed Sig.)]	1.000 ^b

a. Grouping Variable: konsentrasi ekstrak okra

b. Not corrected for ties.

(1-8)

Test Statistics^a

daya hambat	
Mann-Whitney U	4.500
Wilcoxon W	10.500
Z	.000
Asymp. Sig. (2-tailed)	1.000
Exact Sig. [2*(1-tailed Sig.)]	1.000 ^b

a. Grouping Variable: konsentrasi ekstrak okra

b. Not corrected for ties.

(2-3)

Test Statistics^a

daya hambat	
Mann-Whitney U	.000
Wilcoxon W	6.000
Z	-2.121
Asymp. Sig. (2-tailed)	.034
Exact Sig. [2*(1-tailed Sig.)]	.100 ^b

a. Grouping Variable: konsentrasi ekstrak okra

b. Not corrected for ties.

(2-4)

Test Statistics^a

daya hambat	
Mann-Whitney U	.000
Wilcoxon W	6.000
Z	-2.121
Asymp. Sig. (2-tailed)	.034
Exact Sig. [2*(1-tailed Sig.)]	.100 ^b

a. Grouping Variable: konsentrasi ekstrak okra

b. Not corrected for ties.

(2-5)

Test Statistics^a

daya hambat	
Mann-Whitney U	.000
Wilcoxon W	6.000
Z	-2.121
Asymp. Sig. (2-tailed)	.034
Exact Sig. [2*(1-tailed Sig.)]	.100 ^b

a. Grouping Variable: konsentrasi ekstrak okra

b. Not corrected for ties.

(2-6)

Test Statistics^a

daya hambat	
Mann-Whitney U	.000
Wilcoxon W	6.000
Z	-2.121
Asymp. Sig. (2-tailed)	.034
Exact Sig. [2*(1-tailed Sig.)]	.100 ^b

a. Grouping Variable: konsentrasi ekstrak okra

b. Not corrected for ties.

(2-7)

Test Statistics^a

daya hambat	
Mann-Whitney U	4.500
Wilcoxon W	10.500
Z	.000
Asymp. Sig. (2-tailed)	1.000
Exact Sig. [2*(1-tailed Sig.)]	1.000 ^b

a. Grouping Variable: konsentrasi ekstrak okra

b. Not corrected for ties.

(2-8)

Test Statistics^a

daya hambat	
Mann-Whitney U	.000
Wilcoxon W	6.000
Z	-2.121
Asymp. Sig. (2-tailed)	.034
Exact Sig. [2*(1-tailed Sig.)]	.100 ^b

a. Grouping Variable: konsentrasi ekstrak okra

b. Not corrected for ties.

(3-4)

Test Statistics^a

daya hambat	
Mann-Whitney U	.000
Wilcoxon W	6.000
Z	-2.121
Asymp. Sig. (2-tailed)	.034
Exact Sig. [2*(1-tailed Sig.)]	.100 ^b

a. Grouping Variable: konsentrasi ekstrak okra

b. Not corrected for ties.

(3-5)

Test Statistics^a

daya hambat	
Mann-Whitney U	.000
Wilcoxon W	6.000
Z	-2.121
Asymp. Sig. (2-tailed)	.034
Exact Sig. [2*(1-tailed Sig.)]	.100 ^b

a. Grouping Variable: konsentrasi ekstrak okra

b. Not corrected for ties.

(3-6)

Test Statistics^a

daya hambat	
Mann-Whitney U	.000
Wilcoxon W	6.000
Z	-2.121
Asymp. Sig. (2-tailed)	.034
Exact Sig. [2*(1-tailed Sig.)]	.100 ^b

a. Grouping Variable: konsentrasi ekstrak okra

b. Not corrected for ties.

(3-7)

Test Statistics^a

daya hambat	
Mann-Whitney U	4.500
Wilcoxon W	10.500
Z	.000
Asymp. Sig. (2-tailed)	1.000
Exact Sig. [2*(1-tailed Sig.)]	1.000 ^b

a. Grouping Variable: konsentrasi ekstrak okra

b. Not corrected for ties.

(3-8)

Test Statistics^a

daya hambat	
Mann-Whitney U	.000
Wilcoxon W	6.000
Z	-2.023
Asymp. Sig. (2-tailed)	.043
Exact Sig. [2*(1-tailed Sig.)]	.100 ^b

a. Grouping Variable: konsentrasi ekstrak okra

b. Not corrected for ties.

(4-5)

Test Statistics^a

daya hambat	
Mann-Whitney U	.000
Wilcoxon W	6.000
Z	-2.023
Asymp. Sig. (2-tailed)	.043
Exact Sig. [2*(1-tailed Sig.)]	.100 ^b

a. Grouping Variable: konsentrasi ekstrak okra

b. Not corrected for ties.

(4-6)

Test Statistics^a

daya hambat	
Mann-Whitney U	.000
Wilcoxon W	6.000
Z	-2.023
Asymp. Sig. (2-tailed)	.043
Exact Sig. [2*(1-tailed Sig.)]	.100 ^b

a. Grouping Variable: konsentrasi ekstrak okra

b. Not corrected for ties.

(4-7)

Test Statistics^a

daya hambat	
Mann-Whitney U	.000
Wilcoxon W	6.000
Z	-2.121
Asymp. Sig. (2-tailed)	.034
Exact Sig. [2*(1-tailed Sig.)]	.100 ^b

a. Grouping Variable: konsentrasi ekstrak okra

b. Not corrected for ties.

(4-8)

Test Statistics^a

daya hambat	
Mann-Whitney U	.000
Wilcoxon W	6.000
Z	-2.023
Asymp. Sig. (2-tailed)	.043
Exact Sig. [2*(1-tailed Sig.)]	.100 ^b

a. Grouping Variable: konsentrasi ekstrak okra

b. Not corrected for ties.

(5-6)

Test Statistics^a

daya hambat	
Mann-Whitney U	.000
Wilcoxon W	6.000
Z	-2.023
Asymp. Sig. (2-tailed)	.043
Exact Sig. [2*(1-tailed Sig.)]	.100 ^b

a. Grouping Variable: konsentrasi ekstrak okra

b. Not corrected for ties.

(5-7)

Test Statistics^a

daya hambat	
Mann-Whitney U	.000
Wilcoxon W	6.000
Z	-2.121
Asymp. Sig. (2-tailed)	.034
Exact Sig. [2*(1-tailed Sig.)]	.100 ^b

a. Grouping Variable: konsentrasi ekstrak okra

b. Not corrected for ties.

(5-8)

Test Statistics^a

	daya hambat
Mann-Whitney U	.000
Wilcoxon W	6.000
Z	-2.023
Asymp. Sig. (2-tailed)	.043
Exact Sig. [2*(1-tailed Sig.)]	.100 ^b

a. Grouping Variable: konsentrasi ekstrak okra

b. Not corrected for ties.

(6-7)

Test Statistics^a

	daya hambat
Mann-Whitney U	.000
Wilcoxon W	6.000
Z	-2.121
Asymp. Sig. (2-tailed)	.034
Exact Sig. [2*(1-tailed Sig.)]	.100 ^b

a. Grouping Variable: konsentrasi ekstrak okra

b. Not corrected for ties

(6-8)

Test Statistics^a

	daya hambat
Mann-Whitney U	.000
Wilcoxon W	6.000
Z	-2.121
Asymp. Sig. (2-tailed)	.034
Exact Sig. [2*(1-tailed Sig.)]	.100 ^b

a. Grouping Variable: konsentrasi ekstrak okra

b. Not corrected for ties.

(7-8)

2. Data Uji Sifat Fisik

a. Uji daya sebar

- Normalitas

Tests of Normality

	sampel	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
		Statistic	df	Sig.	Statistic	df	Sig.
uji daya sebar	gel ekstrak etanolik buah okra 30%	.204	3	.	.993	3	.843
	kontrol negatif	.219	3	.	.987	3	.780
	kontrol positif	.314	3	.	.893	3	.363

a. Lilliefors Significance Correction

- Homogenitas

Test of Homogeneity of Variances

		Levene Statistic	df1	df2	Sig.
uji daya sebar	Based on Mean	.174	2	6	.844
	Based on Median	.121	2	6	.888
	Based on Median and with adjusted df	.121	2	5.628	.888
	Based on trimmed mean	.170	2	6	.848

- Anova

ANOVA

uji daya sebar

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	1.727	2	.863	10.091	.012
Within Groups	.513	6	.086		
Total	2.240	8			

- *Post Hoc*
- ➔ **Post Hoc Tests**

Multiple Comparisons

Dependent Variable: uji daya sebar
LSD

(I) sampel	(J) sampel	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
gel ekstrak etanolik buah okra 30%	kontrol negatif	.26667	.23882	.307	-.3177	.8510
	kontrol positif	-.76667*	.23882	.018	-1.3510	-.1823
kontrol negatif	gel ekstrak etanolik buah okra 30%	-.26667	.23882	.307	-.8510	.3177
	kontrol positif	-1.03333*	.23882	.005	-1.6177	-.4490
kontrol positif	gel ekstrak etanolik buah okra 30%	.76667*	.23882	.018	.1823	1.3510
	kontrol negatif	1.03333*	.23882	.005	.4490	1.6177

*. The mean difference is significant at the 0.05 level.

- b. Uji daya lekat
- Normalitas

Tests of Normality

sampel		Kolmogorov-Smirnov ^a			Shapiro-Wilk		
		Statistic	df	Sig.	Statistic	df	Sig.
uji daya lekat	gel ekstrak etanolik buah okra 30%	.326	3	.	.873	3	.305
	kontrol negatif	.328	3	.	.871	3	.298
	kontrol positif	.219	3	.	.987	3	.780

a. Lilliefors Significance Correction

- Homogenitas

Test of Homogeneity of Variances

		Levene Statistic	df1	df2	Sig.
uji daya lekat	Based on Mean	8.395	2	6	.018
	Based on Median	1.114	2	6	.388
	Based on Median and with adjusted df	1.114	2	2.286	.460
	Based on trimmed mean	7.254	2	6	.025

- *Kruskal wallis*

Test Statistics^{a,b}

uji daya lekat	
Kruskal-Wallis H	7.200
df	2
Asymp. Sig.	.027

a. Kruskal Wallis Test

b. Grouping Variable:
sampel

- *Mann withney*

Test Statistics^a

uji daya lekat	
Mann-Whitney U	.000
Wilcoxon W	6.000
Z	-1.964
Asymp. Sig. (2-tailed)	.050
Exact Sig. [2*(1-tailed Sig.)]	.100 ^b

a. Grouping Variable: sampel

b. Not corrected for ties.

(1-2)

Test Statistics^a

uji daya lekat	
Mann-Whitney U	.000
Wilcoxon W	6.000
Z	-1.964
Asymp. Sig. (2-tailed)	.050
Exact Sig. [2*(1-tailed Sig.)]	.100 ^b

a. Grouping Variable: sampel

b. Not corrected for ties.

(1-3)

Test Statistics^a

uji daya lekat	
Mann-Whitney U	.000
Wilcoxon W	6.000
Z	-1.964
Asymp. Sig. (2-tailed)	.050
Exact Sig. [2*(1-tailed Sig.)]	.100 ^b

a. Grouping Variable: sampel

b. Not corrected for ties.

(2-3)

c. Uji pH

- Normalitas

Tests of Normality

sampel	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
uji pH gel ekstrak etanolik buah okra 30%	.276	3	.	.942	3	.537
kontrol negatif	.385	3	.	.750	3	.000
kontrol positif	.253	3	.	.964	3	.637

a. Lilliefors Significance Correction

- Homogenitas

Test of Homogeneity of Variances

		Levene Statistic	df1	df2	Sig.
uji pH	Based on Mean	2.850	2	6	.135
	Based on Median	.808	2	6	.489
	Based on Median and with adjusted df	.808	2	3.503	.515
	Based on trimmed mean	2.636	2	6	.151

- *Kruskal wallis*

Test Statistics^{a,b}

uji pH	
Kruskal-Wallis H	7.261
df	2
Asymp. Sig.	.027

a. Kruskal Wallis Test

b. Grouping Variable: sampel

- *Mann withney*

Test Statistics^a

uji pH	
Mann-Whitney U	.000
Wilcoxon W	6.000
Z	-1.993
Asymp. Sig. (2-tailed)	.046
Exact Sig. [2*(1-tailed Sig.)]	.100 ^b

a. Grouping Variable: sampel

b. Not corrected for ties.

(1-2)

Test Statistics^a

uji pH	
Mann-Whitney U	.000
Wilcoxon W	6.000
Z	-1.964
Asymp. Sig. (2-tailed)	.050
Exact Sig. [2*(1-tailed Sig.)]	.100 ^b

a. Grouping Variable: sampel

b. Not corrected for ties.

(1-3)

Test Statistics^a

uji pH	
Mann-Whitney U	.000
Wilcoxon W	6.000
Z	-1.993
Asymp. Sig. (2-tailed)	.046
Exact Sig. [2*(1-tailed Sig.)]	.100 ^b

a. Grouping Variable: sampel

b. Not corrected for ties.

(2-3)

d. Uji viskositas

- Normalitas

Tests of Normality

sampel		Kolmogorov-Smirnov ^a			Shapiro-Wilk		
		Statistic	df	Sig.	Statistic	df	Sig.
uji viskositas	gel ekstrak etanolik buah okra 30%	.385	3	.	.750	3	.000
	kontrol negatif	.175	3	.	1.000	3	.994
	kontrol positif	.175	3	.	1.000	3	.998

a. Lilliefors Significance Correction

- Homogenitas

Test of Homogeneity of Variances

		Levene Statistic	df1	df2	Sig.
uji viskositas	Based on Mean	1.901	2	6	.229
	Based on Median	1.914	2	6	.228
	Based on Median and with adjusted df	1.914	2	2.911	.295
	Based on trimmed mean	1.905	2	6	.229

- *Kruskal wallis*

Test Statistics^{a,b}

uji viskositas	
Kruskal-Wallis H	7.261
df	2
Asymp. Sig.	.027

a. Kruskal Wallis Test

b. Grouping Variable: sampel

- *Mann withney*

Test Statistics^a

uji viskositas	
Mann-Whitney U	.000
Wilcoxon W	6.000
Z	-1.993
Asymp. Sig. (2-tailed)	.046
Exact Sig. [2*(1-tailed Sig.)]	.100 ^b

a. Grouping Variable: sampel

b. Not corrected for ties.

(1-2)

Test Statistics^a

uji viskositas	
Mann-Whitney U	.000
Wilcoxon W	6.000
Z	-1.993
Asymp. Sig. (2-tailed)	.046
Exact Sig. [2*(1-tailed Sig.)]	.100 ^b

a. Grouping Variable: sampel

b. Not corrected for ties.

(1-3)

Test Statistics^a

uji viskositas	
Mann-Whitney U	.000
Wilcoxon W	6.000
Z	-1.964
Asymp. Sig. (2-tailed)	.050
Exact Sig. [2*(1-tailed Sig.)]	.100 ^b

a. Grouping Variable: sampel

b. Not corrected for ties.

(2-3)

3. Data Uji Daya Hambat Gel Ekstrak Etanolik Buah Okra

a. Normalitas

Tests of Normality							
		Kolmogorov-Smirnov ^a			Shapiro-Wilk		
sampel		Statistic	df	Sig.	Statistic	df	Sig.
daya	gel ekstrak etanolik okra konsenrasi 30%	.193	3	.	.997	3	.890
	kontrol negatif (basis gel)	.	3	.	.	3	.
	kontrol positif (klindamisin gel)	.385	3	.	.750	3	.000

a. Lilliefors Significance Correction

b. Homogenitas

Test of Homogeneity of Variances

		Levene Statistic	df1	df2	Sig.
daya	Based on Mean	3.342	2	6	.106
	Based on Median	1.478	2	6	.301
	Based on Median and with adjusted df	1.478	2	3.999	.331
	Based on trimmed mean	3.210	2	6	.113

c. Kruskal-Wallis

Test Statistics^{a,b}

daya	
Kruskal-Wallis H	7.513
df	2
Asymp. Sig.	.023

a. Kruskal Wallis Test

b. Grouping Variable:
sampel

d. Mann-Whitney

Test Statistics^a

daya	
Mann-Whitney U	.000
Wilcoxon W	6.000
Z	-2.087
Asymp. Sig. (2-tailed)	.037
Exact Sig. [2*(1-tailed Sig.)]	.100 ^b

a. Grouping Variable: sampel

b. Not corrected for ties.

(1-2)

Test Statistics^a

daya	
Mann-Whitney U	.000
Wilcoxon W	6.000
Z	-1.993
Asymp. Sig. (2-tailed)	.046
Exact Sig. [2*(1-tailed Sig.)]	.100 ^b

a. Grouping Variable: sampel

b. Not corrected for ties.

(1-3)

Test Statistics^a

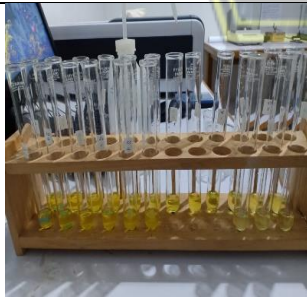
daya	
Mann-Whitney U	.000
Wilcoxon W	6.000
Z	-2.121
Asymp. Sig. (2-tailed)	.034
Exact Sig. [2*(1-tailed Sig.)]	.100 ^b

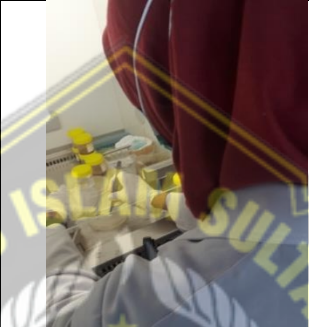
a. Grouping Variable: sampel

b. Not corrected for ties.

(2-3)

Lampiran 11. Dokumentasi Penelitian

		
Keterangan : Simplisia Basah	Keterangan : Pencucian Okra	Keterangan : Perajangan Okra
		
Keterangan : Simplisia Kering	Keterangan : Belender Okra	Keterangan : Maserasi
		
Keterangan : Proses Rotari	Keterangan : Pengentalan Ekstrak	Keterangan : Skrining Fitokimia
		
Keterangan : Uji Kadar Flavonoid	Keterangan : Pembuatan Gel	Keterangan : Uji Homogenitas

		
Keterangan : Uji Daya Sebar	Keterangan : Uji Daya Lekat	Keterangan : Uji pH
		
Keterangan : Uji Viskositas	Keterangan : Uji Daya Hambat Bakteri	Keterangan : Tanaman Okra