

## **BAB V**

### **KESIMPULAN DAN SARAN**

#### **A. Kesimpulan**

Berdasarkan dari hasil penelitian dan pembahasan dapat ditarik kesimpulan sebagai berikut:

1. Pemberian ekstrak etanol bunga pisang raja (*Musa paradisisaca* L) secara oral selama 1 bulan tidak memberikan efek toksik pada organ hati tikus putih jantan galur wistar yang dilihat dari hasil pemeriksaan kadar ALT dan AST serta yang diamati dari parameter histopatologi.
2. Pemberian ekstrak etanol bunga pisang raja (*Musa paradisisaca* L) pada dosis yang semakin besar akan memiliki efek toksik semakin besar juga pada organ hati tikus putih jantan galur wistar yang diamati dari parameter histopatologi.

#### **B. Saran**

Berdasarkan analisa data dan kesimpulan, penulis memberikan saran sebagai berikut:

1. Perlu dilakukan penelitian lebih lanjut tentang waktu pemberian ekstrak etanol bunga pisang raja (*Musa paradisisaca* L) dengan berbagai varian dosis dalam waktu yang lebih lama untuk melihat apakah kenaikan kadar ALT dan AST lebih tinggi serta apakah gambaran histopatologi mengalami kerusakan yang lebih parah.
2. Perlu dilakukan penelitian lebih lanjut mengenai kandungan kadar flavonoid, tannin, dan saponin pada ekstrak etanol bunga pisang raja (*Musa paradisisaca* L) untuk uji aktivitas hiperglikemik.

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**Lampiran 1. Surat keterangan Identifikasi**



**BAGIAN BIOLOGI FARMASI  
FAKULTAS FARMASI  
UNIVERSITAS GADJAH MADA YOGYAKARTA**

Alamat: Sekip Utara Jl. Kaliurang Km 4, Yogyakarta 55281  
Telp. , 0274.649.2568 Fax. +274-543120

**SURAT KETERANGAN**  
No.: BF/1q3/ Ident/Det/IV/2014

Kepada Yth. :  
**Sdri/Sdr. Ezadhitya Annis Mustika**  
**NIM. 16102897 A**  
**Fakultas Farmasi Universitas Setia Budi**  
**Di Surakarta**

Dengan hormat,

Bersama ini kami sampaikan hasil identifikasi/determinasi sampel yang Saudara kirimkan ke Bagian Biologi Farmasi, Fakultas Farmasi UGM, adalah :

No.Pendaftaran	Jenis	Suku
193	<i>Musa paradisiaca L.</i>	Musaceae

Demikian, semoga dapat digunakan sebagaimana mestinya.

Yogyakarta, 30 April 2014

Ketua



Prof. Dr. Wahyono, SU., Apt.  
NIP. 195007011977021001

**Lampiran 2. Surat keterangan pembuatan preparat dan pembacaan histopatologi**



DEPARTEMEN PENDIDIKAN DAN KEBUDAYAAN  
 UNIVERSITAS SEBELAS MARET  
 FAKULTAS KEDOKTERAN  
 LABORATORIUM HISTOLOGI

**SURAT KETERANGAN**  
25 /UN27.6.6.2.1/2013

Bagian Histologi Fakultas Kedokteran Universitas Sebelas Maret Surakarta menerangkan bahwa mahasiswa tersebut di bawah ini :

Nama : Ezadhiyya Annis Mustika  
 Nim : 16102897A  
 Fakultas : Farmasi/ S1 Farmasi  
 Universitas : Universitas Setia Budi

Telah melaksanakan kegiatan penelitian Skripsi S1 Farmasi di Bagian Histologi Fakultas Kedokteran UNS dengan kegiatan :

1. Pembuatan preparat organ hepar dengan pewarnaan HE
2. Pembacaan hasil penelitian preparat hepar menggunakan fasilitas di bagian Histologi Fakultas Kedokteran UNS.

Untuk keperluan data skripsi dengan judul :

Uji Toksisitas Sub Kronik Ekstrak Etanol Bunga Pisang Raja (*Musa paradisiaca L*) Terhadap Kadar ALT Dan AST Serta Gambaran Histopatologi Organ Hati Tikus Putih Jantan' Galur Wistar

Demikian surat keterangan ini dibuat agar dapat digunakan sebagaimana mestinya.

Surakarta, 18 Juni 2014

Kepala Bagian Histologi FK UNS



Muthmainah, dr. M.Kes.  
 NIP. 19660702 199802 2 001

### Lampiran 3. Surat keterangan hewan uji

**"ABIMANYU FARM"**  
✓ Mencit putih jantan    ✓ Tikus Wistar    ✓ Swis Webster    ✓ Cacing  
✓ Mencit Balb/C              ✓ Kelinci New Zeland  
Ngampon RT 04 / RW 04, Mojosongo Kec. Jebres Surakarta. Phone 085 629 994 33 / Lab USB Ska

Yang bertanda tangan di bawah ini:

Nama : Sigit Pramono

Selaku pengelola Abimanyu Farm, menerangkan bahwa hewan uji yang digunakan untuk penelitian, oleh:

Nama : Ezadhitya Annis M  
Nim : 16102897 A  
Institusi : Universitas Setia Budi Surakarta

Merupakan hewan uji dengan spesifikasi sebagai berikut:

Jenis hewan : Tikus Wistar  
Umur : 2-3 bulan  
Jenis kelamin : Jantan  
Jumlah : 20  
Keterangan : Sehat  
Asal-usul : Unit Pengembangan Hewan Percobaan UGM Yogyakarta

Yang pengembangan dan pengelolaannya disesuaikan standar baku penelitian. Demikian surat keterangan ini dibuat untuk digunakan sebagaimana mestinya.

Surakarta, 2 Juni 2014  
Hormat kami



"ABIMANYU FARM"

**Lampiran 4. Tanaman pisang dan bunga pisang raja**

Tanaman pisang raja



Jantung dan bunga pisang raja

**Lampiran 5. Alat-alat dalam proses maserasi ekstrak etanol bunga pisang raja**



**Timbangan analitik**



**Botol maserasi**



**alat evaporator**



*Sterlling-Bidwell*



*Mesin penggiling*



*Mesin pengayak dengan ayakan 40 mesh*



*Alat pengering ( oven)*

**Lampiran 6. Foto serbuk, ekstrak dan larutan stok ekstrak bunga pisang raja**



Serbuk bunga pisang raja



ekstrak bunga pisang raja



Larutan stok ekstrak bunga pisang raja

**Lampiran 7. Hasil presentase rendemen berat kering terhadap berat basah bungapisang raja**

Dari hasil penelitian diperoleh data sebagai berikut :

Berat basah (gr)	Berat kering (gr)	Persentase (%)
3478	500	14,37%

Perhitungan % rendemen bobot kering terhadap bobot basah :

$$\begin{aligned}
 \% \text{ Rendemen} &= \frac{\text{Bobot kering (gram)}}{\text{Bobot basah (gram)}} \times 100 \% \\
 &= \frac{500 \text{ (gram)}}{3478 \text{ (gram)}} \times 100 \% \\
 &= 14,37\%
 \end{aligned}$$

Jadi, rendemen berat kering terhadap berat basah adalah 14,37%

**Lampiran 8. Hasil rendemen ekstrak etanol 70% bungapisang raja menggunakan pelarut etanol 70%**

Dari hasil penelitian diperoleh data sebagai berikut :

No.	Simplisia	Berat wadah Kosong	Berat wadah + Ekstrak(gr)	Ekstrak (gr)	Rendemen (%)
1.	500	114,39	150,18	35,7	8.83

Perhitungan % rendemen berat akhir terhadap berat awal :

$$\begin{aligned}
 \% \text{ Rendemen} &= \frac{\text{berat akhri(gram)}}{\text{berat awal(gram)}} \times 100 \% \\
 &= \frac{35,7 \text{ (gram)}}{500(\text{gram})} \times 100 \% \\
 &= 7,14\%
 \end{aligned}$$

Jadi, rendemen ekstrak bunga pisang raja adalah 7,14%

### Lampiran 7. Hasil penetapan kadar air ekstrak etanol 70%bungapisang raja

Dari hasil penelitian dapat diperoleh:

No.	Berat awal (gr)	Volume akhir (ml)	Kadar air (%)
1.	20,3	1,5	7,3
2.	20,3	1,5	7,3
3.	20,3	1,5	7,3
Rata-rata			7,3

$$\text{Kadar air no. 1} = \frac{1,5 \text{ ml}}{20,3} \times 100\% = 7,3\%$$

$$\text{Kadar air no. 2} = \frac{1,5 \text{ ml}}{20,3} \times 100\% = 7,3\%$$

$$\text{Kadar air no. 3} = \frac{1,5 \text{ ml}}{20,3} \times 100\% = 7,3\%$$

$$\text{Rata-rata kadar air serbuk bunga pisang raja adalah } \frac{7,3+7,3+7,3}{3} \times 100\% = 7,3$$

**Lampiran 8. Foto hasil identifikasi kimia serbuk dan ekstrak bunga pisang raja**



**Flavonoid (serbuk)**



**flavonoid (ekstrak)**



**Saponin (serbuk)**



**saponin (ekstrak)**



Tanin (ekstrak)	tanin (serbuk)
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**Lampiran 9. Perhitungan dosis ekstrak bungapisang raja dan volume pemberian**

- ❖ Dosis maksimal dari jurnal penelitian terdahulu Sunil *et al.*(2012) yang bisa menurunkan kadar gula darah adalah 500 mg/ kg bb. Variasi dosis ekstrak bunga pisang raja yang digunakan dalam penelitian ini adalah dosis I = 5 mg/200 g BB tikus, dosis II = 10 mg/200 g BB tikus, dosis III = 20 mg/200 g BB tikus, dan dosis IV = 100 mg /200 g BB tikus
- ❖ Perhitungan dosis pemberian pada hewan uji :

Dibuat larutan stok 0,2 % = 0,2 gram/ 100 ml = 200 mg/100 ml= 2 mg/ml

Dengan menimbang 600 mg ekstrak bunga pisang raja + aquadest ad volume 300ml.

➤ Dosis I = 5 mg/200 g BB tikus

$$1. \quad \text{Tikus dengan berat badan } 150 \text{ gram} = \frac{150 \text{ gram}}{200 \text{ gram}} \times 5 \text{ mg} = 3,75 \text{ mg}$$

$$\text{Volume pemberian } \frac{3,75 \text{ mg}}{2 \text{ mg}} \times 1 \text{ ml} = 1,875 \text{ ml}$$

$$2. \quad \text{Tikus dengan berat badan } 155 \text{ gram} = \frac{155 \text{ gram}}{200 \text{ gram}} \times 5 \text{ mg} = 3,875 \text{ mg}$$

$$\text{Volume pemberian } \frac{3,875 \text{ mg}}{2 \text{ mg}} \times 1 \text{ ml} = 1,945 \text{ ml}$$

$$3. \quad \text{Tikus dengan berat badan } 180 \text{ gram} = \frac{180 \text{ gram}}{200 \text{ gram}} \times 5 \text{ mg} = 4,5 \text{ mg}$$

$$\text{Volume pemberian } \frac{4,5 \text{ mg}}{2 \text{ mg}} \times 1 \text{ ml} = 2,25 \text{ ml}$$

$$4. \quad \text{Tikus dengan berat badan } 160 \text{ gram} = \frac{160 \text{ gram}}{200 \text{ gram}} \times 5 \text{ mg} = 4 \text{ mg}$$

$$\text{Volume pemberian } \frac{4 \text{ mg}}{2 \text{ mg}} \times 1 \text{ ml} = 2 \text{ ml}$$

Dibuat larutan stok 0,4 % = 0,4 gram/ 100 ml = 400 mg/100 ml= 4 mg/ml

Dengan menimbang 1200 mg ekstrak bunga pisang raja + aquadest ad volume 300ml.

➤ Dosis II = 10 mg/200 g BB tikus

1. Tikus dengan berat badan 180 gram  $= \frac{180 \text{ gram}}{200 \text{ gram}} \times 10 \text{ mg} = 9 \text{ mg}$   
Volume pemberian  $\frac{9 \text{ mg}}{4 \text{ mg}} \times 1 \text{ ml} = 2,25 \text{ ml}$
2. Tikus dengan berat badan 150 gram  $= \frac{150 \text{ gram}}{200 \text{ gram}} \times 10 \text{ mg} = 7,5 \text{ mg}$   
Volume pemberian  $\frac{7,5 \text{ mg}}{4 \text{ mg}} \times 1 \text{ ml} = 1,875 \text{ ml}$
3. Tikus dengan berat badan 160 gram  $= \frac{160 \text{ gram}}{200 \text{ gram}} \times 10 \text{ mg} = 8 \text{ mg}$   
Volume pemberian  $\frac{8 \text{ mg}}{4 \text{ mg}} \times 1 \text{ ml} = 2 \text{ ml}$
4. Tikus dengan berat badan 150 gram  $= \frac{150 \text{ gram}}{200 \text{ gram}} \times 10 \text{ mg} = 7,5 \text{ mg}$   
Volume pemberian  $\frac{7,5 \text{ mg}}{4 \text{ mg}} \times 1 \text{ ml} = 1,875 \text{ ml}$

Dibuat larutan stok 0,8 % = 0,8 gram/ 100 ml = 800 mg/100 ml= 8 mg/ml

Dengan menimbang 2400 mg ekstrak bunga pisang raja + aquadest ad volume 300ml.

➤ Dosis III = 20 mg/200 g BB tikus

1. Tikus dengan berat badan 150 gram  $= \frac{150 \text{ gram}}{200 \text{ gram}} \times 20 \text{ mg} = 15 \text{ mg}$

Volume pemberian  $\frac{15 \text{ mg}}{8 \text{ mg}} \times 1 \text{ ml} = 1,875 \text{ ml}$

2. Tikus dengan berat badan 160 gram  $= \frac{160 \text{ gram}}{200 \text{ gram}} \times 20 \text{ mg} = 16 \text{ mg}$

Volume pemberian  $\frac{16 \text{ mg}}{8 \text{ mg}} \times 1 \text{ ml} = 2 \text{ ml}$

3. Tikus dengan berat badan 150 gram  $= \frac{150 \text{ gram}}{200 \text{ gram}} \times 20 \text{ mg} = 15 \text{ mg}$

Volume pemberian  $\frac{15 \text{ mg}}{8 \text{ mg}} \times 1 \text{ ml} = 1,875 \text{ ml}$

4. Tikus dengan berat badan 160 gram  $= \frac{160 \text{ gram}}{200 \text{ gram}} \times 20 \text{ mg} = 16 \text{ mg}$

Volume pemberian  $\frac{16 \text{ mg}}{8 \text{ mg}} \times 1 \text{ ml} = 2 \text{ ml}$

Dibuat larutan stok 4 % = 4 gram/ 100 ml = 4000 mg/100 ml= 40 mg/ml

Dengan menimbang 12000 mg ekstrak bunga pisang raja + aquadest ad volume 300ml.

➤ Dosis IV = 100 mg/200 g BB tikus

1. Tikus dengan berat badan 170 gram =  $\frac{170 \text{ gram}}{200 \text{ gram}} \times 100 \text{ mg} = 85 \text{ mg}$

$$\text{Volume pemberian } \frac{85 \text{ mg}}{40 \text{ mg}} \times 1 \text{ ml} = 2,125 \text{ ml}$$

2. Tikus dengan berat badan 200 gram =  $\frac{200 \text{ gram}}{200 \text{ gram}} \times 100 \text{ mg} = 100 \text{ mg}$

$$\text{Volume pemberian } \frac{100 \text{ mg}}{40 \text{ mg}} \times 1 \text{ ml} = 2,5 \text{ ml}$$

3. Tikus dengan berat badan 180 gram =  $\frac{180 \text{ gram}}{200 \text{ gram}} \times 100 \text{ mg} = 90 \text{ mg}$

$$\text{Volume pemberian } \frac{90 \text{ mg}}{40 \text{ mg}} \times 1 \text{ ml} = 2,25 \text{ ml}$$

4. Tikus dengan berat badan 150 gram =  $\frac{150 \text{ gram}}{200 \text{ gram}} \times 100 \text{ mg} = 75 \text{ mg}$

$$\text{Volume pemberian } \frac{75 \text{ mg}}{40 \text{ mg}} \times 1 \text{ ml} = 1,875 \text{ ml}$$

**Lampiran 10.** Uji toksisitas ekstrak etanol bunga pisang raja pada tikus putih galur wistar



Foto pemberian ekstrak etanol bunga pisang raja



Pengambilan darah tikus lewat vena mata



Vortex



Sentrifuse



Foto alat standart FC untuk membaca kadar ALT &amp;AST

**Lampiran 11. Data hasil pengamatan berat badan tikus putih jantan sebelum dan sesudah perlakuan**

**Berat badan tikus pada Aquadestilata**

TIKUS	WAKTU(minggu)				
	(t0)	(t1)	(t2)	(t3)	(t4)
1	180	183	181	181	184
2	175	176	175	177	177
3	160	160	161	165	162
4	190	190	190	191	193

**NPar Tests**

**Descriptive Statistics**

	N	Mean	Std. Deviation	Minimum	Maximum
t0	4	176.25	12.500	160	190
t1	4	177.25	12.842	160	190
t2	4	176.75	12.176	161	190
t3	4	178.50	10.755	165	191
t4	4	179.00	13.089	162	193

**One-Sample Kolmogorov-Smirnov Test**

		t0	t1	t2	t3	t4
N		4	4	4	4	4
Normal Parameters <sup>a,,b</sup>	Mean	176.25	177.25	176.75	178.50	179.00
	Std. Deviation	12.500	12.842	12.176	10.755	13.089
Most Extreme Differences	Absolute	.210	.211	.193	.195	.189
	Positive	.153	.160	.152	.158	.153
	Negative	-.210	-.211	-.193	-.195	-.189
Kolmogorov-Smirnov Z		.420	.422	.386	.389	.379
Asymp. Sig. (2-tailed)		.994	.994	.998	.998	.999

a. Test distribution is Normal.

b. Calculated from data.

**T-Test****Paired Samples Statistics**

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	t0	176.25	4	12.500	6.250
	t1	177.25	4	12.842	6.421
Pair 2	t0	176.25	4	12.500	6.250
	t2	176.75	4	12.176	6.088
Pair 3	t0	176.25	4	12.500	6.250
	t3	178.50	4	10.755	5.377
Pair 4	t0	176.25	4	12.500	6.250
	t4	179.00	4	13.089	6.545

**Paired Samples Correlations**

		N	Correlation	Sig.
Pair 1	t0 & t1	4	.994	.006
Pair 2	t0 & t2	4	.999	.001
Pair 3	t0 & t3	4	.998	.002
Pair 4	t0 & t4	4	.998	.002

**Paired Samples Test**

		Paired Differences					t	df	Sig. (2-tailed)	
					95% Confidence Interval of the Difference					
		Mean	Std. Deviation	Std. Error Mean	Lower	Upper				
Pair 1	t0 - t1	-1.000	1.414	.707	-3.250	1.250	-1.414	3	.252	
Pair 2	t0 - t2	-.500	.577	.289	-1.419	.419	-1.732	3	.182	
Pair 3	t0 - t3	-2.250	1.893	.946	-5.262	.762	-2.377	3	.098	
Pair 4	t0 - t4	-2.750	.957	.479	-4.273	-1.227	-5.745	3	.010	

**Berat badan tikus pada dosis I (ekstrak etanol 5mg/200 g BB tikus)**

<b>TIKUS</b>	<b>Waktu (minggu)</b>				
	<b>(t0)</b>	<b>(t1)</b>	<b>(t2)</b>	<b>(t3)</b>	<b>(t4)</b>
<b>1</b>	150	150	151	151	151
<b>2</b>	155	155	154	153	156
<b>3</b>	180	180	176	176	180
<b>4</b>	160	161	161	160	160

**NPar Tests**

**Descriptive Statistics**

	<b>N</b>	<b>Mean</b>	<b>Std. Deviation</b>	<b>Minimum</b>	<b>Maximum</b>
t0	4	161.25	13.150	150	180
t1	4	161.50	13.128	150	180
t2	4	160.50	11.150	151	176
t3	4	160.00	11.343	151	176
t4	4	161.75	12.712	151	180

**One-Sample Kolmogorov-Smirnov Test**

	<b>t0</b>	<b>t1</b>	<b>t2</b>	<b>t3</b>	<b>t4</b>
N	4	4	4	4	4
Normal Parameters <sup>a,,b</sup>					
Mean	161.25	161.50	160.50	160.00	161.75
Std. Deviation	13.150	13.128	11.150	11.343	12.712
Most Extreme					
Differences					
Absolute	.288	.265	.232	.250	.305
Positive	.288	.265	.232	.250	.305
Negative	-.196	-.191	-.197	-.214	-.199
Kolmogorov-Smirnov Z	.576	.530	.464	.500	.609
Asymp. Sig. (2-tailed)	.895	.941	.982	.964	.851

a. Test distribution is Normal.

b. Calculated from data.

**T-Test****Paired Samples Statistics**

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	t0	161.25	4	13.150	6.575
	t1	161.50	4	13.128	6.564
Pair 2	t0	161.25	4	13.150	6.575
	t2	160.50	4	11.150	5.575
Pair 3	t0	161.25	4	13.150	6.575
	t3	160.00	4	11.343	5.672
Pair 4	t0	161.25	4	13.150	6.575
	t4	161.75	4	12.712	6.356

**Paired Samples Correlations**

		N	Correlation	Sig.
Pair 1	t0 & t1	4	.999	.001
Pair 2	t0 & t2	4	.995	.005
Pair 3	t0 & t3	4	.994	.006
Pair 4	t0 & t4	4	1.000	.000

**Paired Samples Test**

		Paired Differences				95% Confidence Interval of the Difference						
		Mean	Std. Deviation	Std. Error Mean	Lower							
					t				df	Sig. (2-tailed)		
Pair 1	t0 - t1	-.250	.500	.250	-1.046	.546	-1.000	3	.391			
Pair 2	t0 - t2	.750	2.363	1.181	-3.010	4.510	.635	3	.571			
Pair 3	t0 - t3	1.250	2.217	1.109	-2.278	4.778	1.127	3	.342			
Pair 4	t0 - t4	-.500	.577	.289	-1.419	.419	-1.732	3	.182			

**Berat badan tikus pada dosis II (ekstrak bunga pisang raja 10 mg/200 g BB tikus)**

Tikus	Waktu (minggu)				
	(t0)	(t1)	(t2)	(t3)	(t4)
1	180	180	182	182	181
2	150	150	152	151	151
3	160	160	161	160	163
4	150	152	151	151	152

**NPar Tests**

**Descriptive Statistics**

	N	Mean	Std. Deviation	Minimum	Maximum
t0	4	160.00	14.142	150	180
t1	4	160.50	13.699	150	180
t2	4	161.50	14.387	151	182
t3	4	161.00	14.629	151	182
t4	4	161.75	13.937	151	181

**One-Sample Kolmogorov-Smirnov Test**

		t0	t1	t2	t3	t4
N		4	4	4	4	4
Normal Parameters <sup>a,b</sup>	Mean	160.00	160.50	161.50	161.00	161.75
	Std. Deviation	14.142	13.699	14.387	14.629	13.937
Most Extreme Differences	Absolute	.260	.265	.264	.277	.258
	Positive	.260	.265	.264	.277	.258
	Negative	-.240	-.222	-.233	-.247	-.220
Kolmogorov-Smirnov Z		.520	.529	.528	.554	.516
Asymp. Sig. (2-tailed)		.949	.942	.943	.918	.953

a. Test distribution is Normal.

b. Calculated from data.

## T-Test

**Paired Samples Statistics**

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	t0	160.00	4	14.142	7.071
	t1	160.50	4	13.699	6.850
Pair 2	t0	160.00	4	14.142	7.071
	t2	161.50	4	14.387	7.194
Pair 3	t0	160.00	4	14.142	7.071
	t3	161.00	4	14.629	7.314
Pair 4	t0	160.00	4	14.142	7.071
	t4	161.75	4	13.937	6.969

**Paired Samples Correlations**

		N	Correlation	Sig.
Pair 1	t0 & t1	4	.998	.002
Pair 2	t0 & t2	4	.999	.001
Pair 3	t0 & t3	4	.999	.001
Pair 4	t0 & t4	4	.998	.002

**Paired Samples Test**

		Paired Differences					T	df	Sig. (2-tailed)	
		95% Confidence Interval of the Difference								
		Mean	Std. Deviation	Std. Error	Lower	Upper				
Pair 1	t0 - t1	-.500	1.000	.500	-2.091	1.091	-1.000	3	.391	
Pair 2	t0 - t2	-1.500	.577	.289	-2.419	-.581	-5.196	3	.014	
Pair 3	t0 - t3	-1.000	.816	.408	-2.299	.299	-2.449	3	.092	
Pair 4	t0 - t4	-1.750	.957	.479	-3.273	-.227	-3.656	3	.035	

**Berat badan tikus pada dosis III (ekstrak etanol bunga pisang raja 20 mg/200 gram BB tikus)**

TIKUS	WAKTU(minggu)				
	(t0)	(t1)	(t2)	(t3)	(t4)
1	150	150	151	150	151
2	160	160	161	160	160
3	150	155	150	151	150
4	160	160	161	163	160

**NPar Tests**

**Descriptive Statistics**

	N	Mean	Std. Deviation	Minimum	Maximum
t0	4	155.00	5.774	150	160
t1	4	156.25	4.787	150	160
t2	4	155.75	6.076	150	161
t3	4	156.00	6.481	150	163
t4	4	155.25	5.500	150	160

**One-Sample Kolmogorov-Smirnov Test**

		t0	t1	t2	t3	t4
N		4	4	4	4	4
Normal Parameters <sup>a,b</sup>	Mean	155.00	156.25	155.75	156.00	155.25
	Std. Deviation	5.774	4.787	6.076	6.481	5.500
Most Extreme Differences	Absolute	.307	.283	.306	.280	.306
	Positive	.307	.217	.283	.280	.280
	Negative	-.307	-.283	-.306	-.231	-.306
Kolmogorov-Smirnov Z		.614	.567	.612	.560	.612
Asymp. Sig. (2-tailed)		.846	.905	.847	.913	.848

a. Test distribution is Normal.

b. Calculated from data.

## T-Test

**Paired Samples Statistics**

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	t0	155.00	4	5.774	2.887
	t1	156.25		4.787	2.394
Pair 2	t0	155.00	4	5.774	2.887
	t2	155.75		6.076	3.038
Pair 3	t0	155.00	4	5.774	2.887
	t3	156.00		6.481	3.240
Pair 4	t0	155.00	4	5.774	2.887
	t4	155.25		5.500	2.750

**Paired Samples Correlations**

		N	Correlation	Sig.
Pair 1	t0 & t1	4	.905	.095
Pair 2	t0 & t2	4	.998	.002
Pair 3	t0 & t3	4	.980	.020
Pair 4	t0 & t4	4	.997	.003

**Paired Samples Test**

		Paired Differences					t	df	Sig. (2-tailed)
					95% Confidence Interval of the Difference				
		Mean	Std. Deviation	Std. Error Mean	Lower	Upper			
Pair 1	t0 - t1	-1.250	2.500	1.250	-5.228	2.728	-1.000	3	.391
Pair 2	t0 - t2	-.750	.500	.250	-1.546	.046	-3.000	3	.058
Pair 3	t0 - t3	-1.000	1.414	.707	-3.250	1.250	-1.414	3	.252
Pair 4	t0 - t4	-.250	.500	.250	-1.046	.546	-1.000	3	.391

**Berat badan tikus pada dosis IV (ekstrak etanol bunga pisang raja 100 mg/200 gram BB tikus)**

<b>TIKUS</b>	<b>WAKTU (minggu)</b>				
	<b>(t0)</b>	<b>(t1)</b>	<b>(t2)</b>	<b>(t3)</b>	<b>(t4)</b>
<b>1</b>	170	174	172	170	172
<b>2</b>	200	200	198	198	198
<b>3</b>	180	180	181	178	175
<b>4</b>	150	150	151	150	150

**NPar Tests**

**Descriptive Statistics**

	N	Mean	Std. Deviation	Minimum	Maximum
t0	4	175.00	20.817	150	200
t1	4	176.00	20.591	150	200
t2	4	175.50	19.570	151	198
t3	4	174.00	19.866	150	198
t4	4	173.75	19.636	150	198

**One-Sample Kolmogorov-Smirnov Test**

	t0	t1	t2	t3	t4
N	4	4	4	4	4
Normal Parameters <sup>a,b</sup>					
Mean	175.00	176.00	175.50	174.00	173.75
Std. Deviation	20.817	20.591	19.570	19.866	19.636
Most Extreme Differences					
Absolute	.155	.211	.179	.170	.225
Positive	.155	.173	.145	.170	.225
Negative	-.155	-.211	-.179	-.170	-.214
Kolmogorov-Smirnov Z	.310	.423	.358	.340	.449
Asymp. Sig. (2-tailed)	1.000	.994	1.000	1.000	.988

a. Test distribution is Normal.

b. Calculated from data.

**T-Test**

### Paired Samples Statistics

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	t0	175.00	4	20.817	10.408
	t1	176.00	4	20.591	10.296
Pair 2	t0	175.00	4	20.817	10.408
	t2	175.50	4	19.570	9.785
Pair 3	t0	175.00	4	20.817	10.408
	t3	174.00	4	19.866	9.933
Pair 4	t0	175.00	4	20.817	10.408
	t4	173.75	4	19.636	9.818

### Paired Samples Correlations

		N	Correlation	Sig.
Pair 1	t0 & t1	4	.995	.005
Pair 2	t0 & t2	4	.998	.002
Pair 3	t0 & t3	4	.999	.001
Pair 4	t0 & t4	4	.991	.009

### Paired Samples Test

		Paired Differences					t	df	Sig. (2-tailed)
					95% Confidence Interval of the Difference				
		Mean	Std. Deviation	Std. Error Mean	Lower	Upper			
Pair 1	t0 - t1	-1.000	2.000	1.000	-4.182	2.182	-1.000	3	.391
Pair 2	t0 - t2	-.500	1.732	.866	-3.256	2.256	-.577	3	.604
Pair 3	t0 - t3	1.000	1.155	.577	-.837	2.837	1.732	3	.182
Pair 4	t0 - t4	1.250	2.986	1.493	-3.502	6.002	.837	3	.464

**Berat badan tikus pada minggu keempat (t4) pada semua perlakuan**

<b>WAKTU (minggu)</b>	<b>PERLAKUAN</b>				
	<b>Aquadest</b>	<b>Dosis I</b>	<b>Dosis II</b>	<b>Dosis III</b>	<b>Dosis IV</b>
<b>1</b>	184	151	181	151	172
<b>2</b>	177	156	151	160	198
<b>3</b>	162	180	163	150	175
<b>4</b>	193	160	152	160	150

**NPar Tests**

**Descriptive Statistics**

	<b>N</b>	<b>Mean</b>	<b>Std. Deviation</b>	<b>Minimum</b>	<b>Maximum</b>
BB	20	166.3000	15.13135	150.00	198.00

**One-Sample Kolmogorov-Smirnov Test**

		BB
N		20
Normal Parameters <sup>a,b</sup>	Mean	166.3000
	Std. Deviation	15.13135
Most Extreme Differences	Absolute	.186
	Positive	.186
	Negative	-.141
Kolmogorov-Smirnov Z		.833
Asymp. Sig. (2-tailed)		.491

a. Test distribution is Normal.

b. Calculated from data.

## Oneway

### Descriptives

BB

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
aquadest	4	179.0000	13.08944	6.54472	158.1718	199.8282	162.00	193.00
dosis I	4	161.7500	12.71154	6.35577	141.5231	181.9769	151.00	180.00
dosis II	4	161.7500	13.93736	6.96868	139.5726	183.9274	151.00	181.00
dosis III	4	155.2500	5.50000	2.75000	146.4983	164.0017	150.00	160.00
dosis IV	4	173.7500	19.63628	9.81814	142.5043	204.9957	150.00	198.00
Total	20	166.3000	15.13135	3.38347	159.2183	173.3817	150.00	198.00

### Test of Homogeneity of Variances

BB

Levene Statistic	df1	df2	Sig.
.517	4	15	.725

### ANOVA

BB

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	1521.200	4	380.300	2.016	.144
Within Groups	2829.000	15	188.600		
Total	4350.200	19			

## Lampiran 12. Data hasil uji biokimia ALT

### Kadar ALT pada aquadest

<b>Tikus</b>	<b>Waktu (minggu)</b>				
	<b>(t0)</b>	<b>(t1)</b>	<b>(t2)</b>	<b>(t3)</b>	<b>(t4)</b>
<b>1</b>	11	10	10	9,4	9,2
<b>2</b>	8	8	8,7	7	7,4
<b>3</b>	9	9	8	8,4	8
<b>4</b>	10	10	11	8,5	8,2

### NPar Tests

#### Descriptive Statistics

	N	Mean	Std. Deviation	Minimum	Maximum
t0	4	9.500	1.2910	8.0	11.0
t1	4	9.250	.9574	8.0	10.0
t2	4	9.425	1.3376	8.0	11.0
t3	4	8.325	.9912	7.0	9.4
t4	4	8.225	.7932	7.4	9.3

#### One-Sample Kolmogorov-Smirnov Test

		t0	t1	t2	t3	t4
N		4	4	4	4	4
Normal	Mean	9.500	9.250	9.425	8.325	8.225
Parameters <sup>a,,b</sup>	Std. Deviation	1.2910	.9574	1.3376	.9912	.7932
Most Extreme	Absolute	.151	.283	.206	.280	.263
Differences	Positive	.151	.217	.206	.180	.263
	Negative	-.151	-.283	-.166	-.280	-.162
Kolmogorov-Smirnov Z		.301	.567	.412	.560	.525
Asymp. Sig. (2-tailed)		1.000	.905	.996	.912	.946

a. Test distribution is Normal.

b. Calculated from data.

**T-Test****Paired Samples Statistics**

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	t0	9.500	4	1.2910	.6455
	t1	9.250	4	.9574	.4787
Pair 2	t0	9.500	4	1.2910	.6455
	t2	9.425	4	1.3376	.6688
Pair 3	t0	9.500	4	1.2910	.6455
	t3	8.325	4	.9912	.4956
Pair 4	t0	9.500	4	1.2910	.6455
	t4	8.225	4	.7932	.3966

**Paired Samples Correlations**

		N	Correlation	Sig.
Pair 1	t0 & t1	4	.944	.056
Pair 2	t0 & t2	4	.666	.334
Pair 3	t0 & t3	4	.951	.049
Pair 4	t0 & t4	4	.960	.040

**Paired Samples Test**

		Paired Differences				t	df	Sig. (2-tailed)
				95% Confidence Interval of the Difference				
		Mean	Std. Deviation	Std. Error Mean	Lower	Upper		
Pair 1	t0 - t1	.2500	.5000	.2500	-.5456	1.0456	1.000	3 .391
Pair 2	t0 - t2	.0750	1.0751	.5375	-1.6357	1.7857	.140	3 .898
Pair 3	t0 - t3	1.1750	.4646	.2323	.4358	1.9142	5.058	3 .015
Pair 4	t0 - t4	1.2750	.5737	.2869	.3621	2.1879	4.445	3 .021

**Kadar ALT pada dosis I (ekstrak etanol bunga pisang raja5 mg/200 gram BB tikus)**

TIKUS	WAKTU (minggu)				
	(t0)	(t1)	(t2)	(t3)	(t4)
1	6	5	5	6	6
2	5	5.3	5	6	5
3	5	5	5	5	6.5
4	5	9	8	8	9

**NPar Tests**

**Descriptive Statistics**

	N	Mean	Std. Deviation	Minimum	Maximum
t0	4	5.250	.5000	5.0	6.0
t1	4	6.075	1.9551	5.0	9.0
t2	4	5.750	1.5000	5.0	8.0
t3	4	6.250	1.2583	5.0	8.0
t4	4	6.625	1.7017	5.0	9.0

**One-Sample Kolmogorov-Smirnov Test**

	t0	t1	t2	t3	t4
N	4	4	4	4	4
Normal Parameters <sup>a,b</sup>					
Mean	5.250	6.075	5.750	6.250	6.625
Std. Deviation	.5000	1.9551	1.5000	1.2583	1.7017
Most Extreme Differences					
Absolute	.441	.404	.441	.329	.279
Positive	.441	.404	.441	.329	.279
Negative	-.309	-.291	-.309	-.171	-.170
Kolmogorov-Smirnov Z	.883	.808	.883	.657	.559
Asymp. Sig. (2-tailed)	.417	.531	.417	.780	.914

a. Test distribution is Normal.

b. Calculated from data.

**T-Test****Paired Samples Statistics**

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	t0	5.250	4	.5000	.2500
	t1	6.075	4	1.9551	.9776
Pair 2	t0	5.250	4	.5000	.2500
	t2	5.750	4	1.5000	.7500
Pair 3	t0	5.250	4	.5000	.2500
	t3	6.250	4	1.2583	.6292
Pair 4	t0	5.250	4	.5000	.2500
	t4	6.625	4	1.7017	.8509

**Paired Samples Correlations**

		N	Correlation	Sig.
Pair 1	t0 & t1	4	-.367	.633
Pair 2	t0 & t2	4	-.333	.667
Pair 3	t0 & t3	4	-.132	.868
Pair 4	t0 & t4	4	-.245	.755

**Paired Samples Test**

		Paired Differences					t	df	Sig. (2-tailed)			
					95% Confidence Interval of the Difference							
		Mean	Std. Deviation	Std. Error Mean	Lower	Upper						
Pair 1	t0 - t1	-.8250	2.1884	1.0942	-4.3073	2.6573	-.754	3	.506			
Pair 2	t0 - t2	-.5000	1.7321	.8660	-3.2561	2.2561	-.577	3	.604			
Pair 3	t0 - t3	-1.0000	1.4142	.7071	-3.2503	1.2503	-1.414	3	.252			
Pair 4	t0 - t4	-1.3750	1.8875	.9437	-4.3784	1.6284	-1.457	3	.241			

**Kadar ALT pada dosis I1 (ekstrak etanol bunga pisang raja10 mg/200 gram BB tikus)**

TIKUS	Waktu (minggu)				
	(t0)	(t1)	(t2)	(t3)	(t4)
1	4.8	5.2	5	4.7	5
2	10	10	9	9.1	10
3	6	10	6.8	7	7
4	6	6	5.5	5	6

**NPar Tests**

**Descriptive Statistics**

	N	Mean	Std. Deviation	Minimum	Maximum
t0	4	6.700	2.2716	4.8	10.0
t1	4	7.800	2.5612	5.2	10.0
t2	4	6.575	1.7858	5.0	9.0
t3	4	6.450	2.0404	4.7	9.1
t4	4	7.000	2.1602	5.0	10.0

**One-Sample Kolmogorov-Smirnov Test**

		t0	t1	t2	t3	t4
N		4	4	4	4	4
Normal Parameters <sup>a,,b</sup>	Mean	6.700	7.800	6.575	6.450	7.000
	Std. Deviation	2.2716	2.5612	1.7858	2.0404	2.1602
Most Extreme Differences	Absolute	.371	.305	.226	.261	.250
	Positive	.371	.259	.226	.261	.250
	Negative	-.201	-.305	-.189	-.196	-.177
Kolmogorov-Smirnov Z		.742	.610	.453	.523	.500
Asymp. Sig. (2-tailed)		.641	.851	.987	.948	.964

a. Test distribution is Normal.

b. Calculated from data.

**T-Test**

### Paired Samples Statistics

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	t0	6.700	4	2.2716	1.1358
	t1	7.800		2.5612	1.2806
Pair 2	t0	6.700	4	2.2716	1.1358
	t2	6.575		1.7858	.8929
Pair 3	t0	6.700	4	2.2716	1.1358
	t3	6.450		2.0404	1.0202
Pair 4	t0	6.700	4	2.2716	1.1358
	t4	7.000		2.1602	1.0801

### Paired Samples Correlations

		N	Correlation	Sig.
Pair 1	t0 & t1	4	.683	.317
Pair 2	t0 & t2	4	.952	.048
Pair 3	t0 & t3	4	.913	.087
Pair 4	t0 & t4	4	.978	.022

### Paired Samples Test

		Paired Differences					t	df	Sig. (2-tailed)
		95% Confidence Interval of the Difference							
		Mean	Std. Deviation	Std. Error Mean	Lower	Upper			
Pair 1	t0 - t1	-1.1000	1.9425	.9713	-4.1910	1.9910	-1.133	3	.340
Pair 2	t0 - t2	.1250	.7890	.3945	-1.1305	1.3805	.317	3	.772
Pair 3	t0 - t3	.2500	.9256	.4628	-1.2228	1.7228	.540	3	.627
Pair 4	t0 - t4	-.3000	.4761	.2380	-1.0576	.4576	-1.260	3	.297

**Kadar ALT pada dosis III (ekstrak etanol bunga pisang raja20 mg/200 gram BB tikus)**

<b>TIKUS</b>	<b>Waktu (minggu)</b>				
	<b>(t0)</b>	<b>(t1)</b>	<b>(t2)</b>	<b>(t3)</b>	<b>(t4)</b>
<b>1</b>	10	10.7	10	11	10.2
<b>2</b>	7	7	6.9	7	8
<b>3</b>	8	9	8	9	10
<b>4</b>	9	8	8	9	9

### NPar Tests

#### Descriptive Statistics

	N	Mean	Std. Deviation	Minimum	Maximum
t0	4	8.500	1.2910	7.0	10.0
t1	4	8.675	1.5777	7.0	10.7
t2	4	8.225	1.2920	6.9	10.0
t3	4	9.000	1.6330	7.0	11.0
t4	4	9.300	1.0132	8.0	10.2

#### One-Sample Kolmogorov-Smirnov Test

	t0	t1	t2	t3	t4
N	4	4	4	4	4
Normal Parameters <sup>a,b</sup>					
Mean	8.500	8.675	8.225	9.000	9.300
Std. Deviation	1.2910	1.5777	1.2920	1.6330	1.0132
Most Extreme					
Differences					
Absolute	.151	.168	.319	.250	.255
Positive	.151	.168	.319	.250	.187
Negative	-.151	-.150	-.181	-.250	-.255
Kolmogorov-Smirnov Z	.301	.337	.638	.500	.510
Asymp. Sig. (2-tailed)	1.000	1.000	.810	.964	.957

a. Test distribution is Normal.

b. Calculated from data.

### T-Test

#### Paired Samples Statistics

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	t0	8.500	4	1.2910	.6455
	t1	8.675	4	1.5777	.7889
Pair 2	t0	8.500	4	1.2910	.6455
	t2	8.225	4	1.2920	.6460
Pair 3	t0	8.500	4	1.2910	.6455
	t3	9.000	4	1.6330	.8165
Pair 4	t0	8.500	4	1.2910	.6455
	t4	9.300	4	1.0132	.5066

### Paired Samples Correlations

	N	Correlation	Sig.
Pair 1 t0 & t1	4	.826	.174
Pair 2 t0 & t2	4	.929	.071
Pair 3 t0 & t3	4	.949	.051
Pair 4 t0 & t4	4	.714	.286

### Paired Samples Test

		Paired Differences					t	df	Sig. (2-tailed)	
					95% Confidence Interval of the Difference					
		Mean	Std. Deviation	Std. Error Mean	Lower	Upper				
Pair 1	t0 - t1	-.1750	.8884	.4442	-1.5886	1.2386	-.394	3	.720	
Pair 2	t0 - t2	.2750	.4856	.2428	-.4977	1.0477	1.133	3	.340	
Pair 3	t0 - t3	-.5000	.5774	.2887	-1.4187	.4187	-1.732	3	.182	
Pair 4	t0 - t4	-.8000	.9092	.4546	-2.2468	.6468	-1.760	3	.177	

**Kadar ALT pada dosis IV (ekstrak etanol bunga pisang raja100 mg/200 gram BB tikus)**

TIKUS	WAKTU(minggu)				
	(t0)	(t1)	(t2)	(t3)	(t4)
1	6	8	6	8	9
2	7	7.8	8	6.4	7.6
3	8	7	7.4	8	8
4	8	8.1	9	10	9.7

**NPar Tests**

**Descriptive Statistics**

	N	Mean	Std. Deviation	Minimum	Maximum
t0	4	7.250	.9574	6.0	8.0
t1	4	7.725	.4992	7.0	8.1
t2	4	7.600	1.2543	6.0	9.0
t3	4	8.100	1.4742	6.4	10.0
t4	4	8.575	.9535	7.6	9.7

**One-Sample Kolmogorov-Smirnov Test**

	t0	t1	t2	t3	t4
N	4	4	4	4	4
Normal Parameters <sup>a,,b</sup>					
Mean	7.250	7.725	7.600	8.100	8.575
Std. Deviation	.9574	.4992	1.2543	1.4742	.9535
Most Extreme Differences					
Absolute	.283	.310	.187	.277	.227
Positive	.217	.226	.149	.277	.227
Negative	-.283	-.310	-.187	-.223	-.172
Kolmogorov-Smirnov Z	.567	.619	.373	.554	.454
Asymp. Sig. (2-tailed)	.905	.838	.999	.919	.986

a. Test distribution is Normal.

b. Calculated from data.

**T-Test****Paired Samples Statistics**

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	t0	7.250	4	.9574	.4787
	t1	7.725	4	.4992	.2496
Pair 2	t0	7.250	4	.9574	.4787
	t2	7.600	4	1.2543	.6272
Pair 3	t0	7.250	4	.9574	.4787
	t3	8.100	4	1.4742	.7371
Pair 4	t0	7.250	4	.9574	.4787
	t4	8.575	4	.9535	.4768

**Paired Samples Correlations**

		N	Correlation	Sig.
Pair 1	t0 & t1	4	-.436	.564
Pair 2	t0 & t2	4	.777	.223
Pair 3	t0 & t3	4	.449	.551
Pair 4	t0 & t4	4	.046	.954

**Paired Samples Test**

		Paired Differences				t	df	Sig. (2-tailed)
		95% Confidence Interval of the Difference						
		Mean	Std. Deviation	Std. Error Mean	Lower	Upper		
Pair 1	t0 - t1	-.4750	1.2580	.6290	-2.4767	1.5267	-.755	3 .505
Pair 2	t0 - t2	-.3500	.7895	.3948	-1.6063	.9063	-.887	3 .441
Pair 3	t0 - t3	-.8500	1.3503	.6752	-2.9986	1.2986	-1.259	3 .297
Pair 4	t0 - t4	-1.3250	1.3200	.6600	-3.4255	.7755	-2.008	3 .138

**Kadar ALT tikus pada minggu keempat (t4) pada semua perlakuan**

Waktu (minggu)	Perlakuan				
	Aquadest	Dosis I	Dosis II	Dosis III	Dosis IV
1	9,2	6	5	10,2	9
2	7,4	5	10	8	7,6
3	8	6,5	7	10	8
4	8,2	9	6	9	9,7

**NPar Tests**

**Descriptive Statistics**

	N	Mean	Std. Deviation	Minimum	Maximum
ALT	20	7.9400	1.62072	5.00	10.20

**One-Sample Kolmogorov-Smirnov Test**

		ALT
N		20
Normal Parameters <sup>a,,b</sup>	Mean	7.9400
	Std. Deviation	1.62072
Most Extreme Differences	Absolute	.143
	Positive	.084
	Negative	-.143
Kolmogorov-Smirnov Z		.642
Asymp. Sig. (2-tailed)		.805

a. Test distribution is Normal.

b. Calculated from data.

### Descriptives

ALT

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
aquadest	4	8.2000	.74833	.37417	7.0092	9.3908	7.40	9.20
dosis I	4	6.6250	1.70171	.85086	3.9172	9.3328	5.00	9.00
dosis II	4	7.0000	2.16025	1.08012	3.5626	10.4374	5.00	10.00
dosis III	4	9.3000	1.01325	.50662	7.6877	10.9123	8.00	10.20
dosis IV	4	8.5750	.95350	.47675	7.0578	10.0922	7.60	9.70
Total	20	7.9400	1.62072	.36240	7.1815	8.6985	5.00	10.20

### Oneway

#### Test of Homogeneity of Variances

ALT

Levene Statistic	df1	df2	Sig.
.963	4	15	.456

#### ANOVA

ALT

	Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	19.733	4	4.933	2.452	.091
Within Groups	30.175	15	2.012		
Total	49.908	19			

### Lampiran 13. Data hasil uji biokimia AST

#### Kadar AST pada Aquadestilata

TIKUS	WAKTU (minggu)				
	(t0)	(t1)	(t2)	(t3)	(t4)
1	133	133	130	130	133
2	122	120	117	113	117
3	117	110	122	122	115
4	95	105	101	101	104

#### NPar Tests

##### Descriptive Statistics

	N	Mean	Std. Deviation	Minimum	Maximum
t0	4	116.75	15.966	95	133
t1	4	117.00	12.356	105	133
t2	4	117.50	12.234	101	130
t3	4	116.50	12.450	101	130
t4	4	117.25	11.955	104	133

##### One-Sample Kolmogorov-Smirnov Test

		t0	t1	t2	t3	t4
N		4	4	4	4	4
Normal Parameters <sup>a,b</sup>	Mean	116.75	117.00	117.50	116.50	117.25
	Std. Deviation	15.966	12.356	12.234	12.450	11.955
Most Extreme Differences	Absolute	.256	.214	.234	.171	.258
	Positive	.163	.214	.161	.143	.258
	Negative	-.256	-.166	-.234	-.171	-.175
Kolmogorov-Smirnov Z		.512	.429	.467	.341	.517
Asymp. Sig. (2-tailed)		.955	.993	.981	1.000	.952

a. Test distribution is Normal.

b. Calculated from data.

**T-Test****Paired Samples Statistics**

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	t0	116.75	4	15.966	7.983
	t1	117.00		12.356	6.178
Pair 2	t0	116.75	4	15.966	7.983
	t2	117.50		12.234	6.117
Pair 3	t0	116.75	4	15.966	7.983
	t3	116.50		12.450	6.225
Pair 4	t0	116.75	4	15.966	7.983
	t4	117.25		11.955	5.977

**Paired Samples Correlations**

		N	Correlation	Sig.
Pair 1	t0 & t1	4	.904	.096
Pair 2	t0 & t2	4	.957	.043
Pair 3	t0 & t3	4	.905	.095
Pair 4	t0 & t4	4	.947	.053

**Paired Samples Test**

		Paired Differences				95% Confidence Interval of the Difference			Sig. (2-tailed)	
		Mean	Std. Deviation	Std. Error Mean	Lower	Upper	t	df		
Pair 1	t0 - t1	-.250	7.136	3.568	-11.604	11.104	-.070	3	.949	
Pair 2	t0 - t2	-.750	5.560	2.780	-9.598	8.098	-.270	3	.805	
Pair 3	t0 - t3	.250	7.089	3.544	-11.030	11.530	.071	3	.948	
Pair 4	t0 - t4	-.500	6.028	3.014	-10.091	9.091	-.166	3	.879	

**Kadar AST pada dosis 1 (ekstrak etanol bunga pisang raja 5mg/200 gram BB tikus)**

<b>Tikus</b>	<b>Waktu(minggu)</b>				
	<b>(t0)</b>	<b>(t1)</b>	<b>(t2)</b>	<b>(t3)</b>	<b>(t4)</b>
<b>1</b>	104	106	104	105	107
<b>2</b>	108	112	109	111	113
<b>3</b>	124	119	121	123	127
<b>4</b>	97	105	99	108	107

**NPar Tests**

**Descriptive Statistics**

	<b>N</b>	<b>Mean</b>	<b>Std. Deviation</b>	<b>Minimum</b>	<b>Maximum</b>
t0	4	108.25	11.442	97	124
t1	4	110.50	6.455	105	119
t2	4	108.25	9.430	99	121
t3	4	111.75	7.890	105	123
t4	4	113.50	9.434	107	127

### one-Sample Kolmogorov-Smirnov Test

		t0	t1	t2	t3	t4
N		4	4	4	4	4
Normal Parameters <sup>a,,b</sup>	Mean	108.25	110.50	108.25	111.75	113.50
	Std. Deviation	11.442	6.455	9.430	7.890	9.434
Most Extreme Differences	Absolute	.259	.257	.218	.288	.271
	Positive	.259	.257	.218	.288	.271
	Negative	-.166	-.197	-.163	-.196	-.245
Kolmogorov-Smirnov Z		.517	.514	.437	.576	.542
Asymp. Sig. (2-tailed)		.952	.954	.991	.895	.930

a. Test distribution is Normal.

b. Calculated from data.

### T-Test

#### Paired Samples Statistics

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	t0	108.25	4	11.442	5.721
	t1	110.50	4	6.455	3.227
Pair 2	t0	108.25	4	11.442	5.721
	t2	108.25	4	9.430	4.715
Pair 3	t0	108.25	4	11.442	5.721
	t3	111.75	4	7.890	3.945
Pair 4	t0	108.25	4	11.442	5.721
	t4	113.50	4	9.434	4.717

### Paired Samples Correlations

		N	Correlation	Sig.
Pair 1	t0 & t1	4	.968	.032
Pair 2	t0 & t2	4	.997	.003
Pair 3	t0 & t3	4	.917	.083
Pair 4	t0 & t4	4	.968	.032

### Paired Samples Test

		Paired Differences					t	Df	Sig. (2-tailed)
		95% Confidence Interval of the Difference							
		Mean	Std. Deviation	Std. Error Mean	Lower	Upper			
Pair 1	t0 - t1	-2.250	5.439	2.720	-10.905	6.405	-.827	3	.469
Pair 2	t0 - t2	.000	2.160	1.080	-3.437	3.437	.000	3	1.000
Pair 3	t0 - t3	-3.500	5.260	2.630	-11.870	4.870	-1.331	3	.275
Pair 4	t0 - t4	-5.250	3.304	1.652	-10.507	.007	-3.178	3	.050

**Kadar AST pada dosis 1I (ekstrak etanol bunga pisang raja 10mg/200 gram BB tikus)**

<b>Tikus</b>	<b>Waktu (minggu)</b>				
	<b>(t0)</b>	<b>(t1)</b>	<b>(t2)</b>	<b>(t3)</b>	<b>(t4)</b>
<b>1</b>	102	104	100	102	105
<b>2</b>	99	108	110	120	124
<b>3</b>	134	127	124	122	127
<b>4</b>	114	107	102	105	103

**NPar Tests**

**Descriptive Statistics**

	<b>N</b>	<b>Mean</b>	<b>Std. Deviation</b>	<b>Minimum</b>	<b>Maximum</b>
t0	4	112.25	15.882	99	134
t1	4	136.50	48.059	104	207
t2	4	109.00	10.893	100	124
t3	4	112.25	10.210	102	122
t4	4	114.75	12.500	103	127

**One-Sample Kolmogorov-Smirnov Test**

	<b>t0</b>	<b>t1</b>	<b>t2</b>	<b>t3</b>	<b>t4</b>
N	4	4	4	4	4
Normal Parameters <sup>a,,b</sup>	Mean	112.25	136.50	109.00	112.25
	Std. Deviation	15.882	48.059	10.893	10.210
Most Extreme Differences	Absolute	.241	.328	.240	.276
	Positive	.241	.328	.240	.261
	Negative	-.202	-.249	-.204	-.276
Kolmogorov-Smirnov Z		.481	.657	.480	.552
Asymp. Sig. (2-tailed)		.975	.782	.976	.921
					.907

a. Test distribution is Normal.

b. Calculated from data.

**T-Test****Paired Samples Statistics**

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	t0	112.25	4	15.882	7.941
	t1	136.50	4	48.059	24.029
Pair 2	t0	112.25	4	15.882	7.941
	t2	109.00	4	10.893	5.447
Pair 3	t0	112.25	4	15.882	7.941
	t3	112.25	4	10.210	5.105
Pair 4	t0	112.25	4	15.882	7.941
	t4	114.75	4	12.500	6.250

**Paired Samples Correlations**

		N	Correlation	Sig.
Pair 1	t0 & t1	4	.274	.726
Pair 2	t0 & t2	4	.757	.243
Pair 3	t0 & t3	4	.415	.585
Pair 4	t0 & t4	4	.375	.625

**Paired Samples Test**

		Paired Differences					t	df	Sig. (2-tailed)
		95% Confidence Interval of the Difference			Lower	Upper			
		Mean	Std. Deviation	Std. Error Mean	Lower	Upper			
Pair 1	t0 - t1	-24.250	46.299	23.149	-97.922	49.422	-1.048	3	.372
Pair 2	t0 - t2	3.250	10.436	5.218	-13.357	19.857	.623	3	.578
Pair 3	t0 - t3	.000	14.900	7.450	-23.709	23.709	.000	3	1.000
Pair 4	t0 - t4	-2.500	16.114	8.057	-28.141	23.141	-.310	3	.777

**Kadar AST pada dosis 1II (ekstrak bunga pisang raja 20mg/200 gram BB tikus)**

Tikus	Waktu (minggu)				
	(t0)	(t1)	(t2)	(t3)	(t4)
1	89	94	93	93	95
2	117	120	121	121	118
3	123	118	120	120	121
4	96	95	114	113	115

**NPar Tests**

**Descriptive Statistics**

	N	Mean	Std. Deviation	Minimum	Maximum
t0	4	106.25	16.317	89	123
t1	4	106.75	14.175	94	120
t2	4	112.00	13.038	93	121
t3	4	111.75	12.997	93	121
t4	4	112.25	11.758	95	121

**One-Sample Kolmogorov-Smirnov Test**

		t0	t1	t2	t3	t4
N		4	4	4	4	4
Normal Parameters <sup>a,,b</sup>	Mean	106.25	106.75	112.00	111.75	112.25
	Std. Deviation	16.317	14.175	13.038	12.997	11.758
Most Extreme Differences	Absolute	.245	.296	.311	.288	.342
	Positive	.235	.296	.245	.238	.228
	Negative	-.245	-.286	-.311	-.288	-.342
Kolmogorov-Smirnov Z		.490	.593	.622	.577	.685
Asymp. Sig. (2-tailed)		.970	.874	.834	.894	.736

a. Test distribution is Normal.

b. Calculated from data.

**T-Test****Paired Samples Statistics**

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	t0	106.25	4	16.317	8.159
	t1	106.75	4	14.175	7.087
Pair 2	t0	106.25	4	16.317	8.159
	t2	112.00	4	13.038	6.519
Pair 3	t0	106.25	4	16.317	8.159
	t3	111.75	4	12.997	6.498
Pair 4	t0	106.25	4	16.317	8.159
	t4	112.25	4	11.758	5.879

**Paired Samples Correlations**

		N	Correlation	Sig.
Pair 1	t0 & t1	4	.967	.033
Pair 2	t0 & t2	4	.843	.157
Pair 3	t0 & t3	4	.862	.138
Pair 4	t0 & t4	4	.830	.170

**Paired Samples Test**

		Paired Differences				t	df	Sig. (2-tailed)	
		95% Confidence Interval of the Difference							
		Mean	Std. Deviation	Std. Error Mean	Lower	Upper			
Pair 1	t0 - t1	-.500	4.435	2.217	-7.557	6.557	-.225	3	.836
Pair 2	t0 - t2	-5.750	8.808	4.404	-19.766	8.266	-1.306	3	.283
Pair 3	t0 - t3	-5.500	8.347	4.173	-18.781	7.781	-1.318	3	.279
Pair 4	t0 - t4	-6.000	9.274	4.637	-20.756	8.756	-1.294	3	.286

**Kadar AST pada dosis IV (ekstrak etanol bunga pisang raja 100mg/200 gram BB tikus)**

<b>Tikus</b>	<b>Waktu(minggu)</b>				
	<b>(t0)</b>	<b>(t1)</b>	<b>(t2)</b>	<b>(t3)</b>	<b>(t4)</b>
<b>1</b>	119	121	127	132	132
<b>2</b>	108	115	110	112	116
<b>3</b>	92	105	102	104	106
<b>4</b>	87	89	94	90	91

**NPar Tests**

**Descriptive Statistics**

	N	Mean	Std. Deviation	Minimum	Maximum
t0	4	79.00	53.022	2	119
t1	4	107.50	13.988	89	121
t2	4	108.25	14.104	94	127
t3	4	109.50	17.540	90	132
t4	4	111.25	17.231	91	132

**One-Sample Kolmogorov-Smirnov Test**

		t0	t1	t2	t3	t4
N		4	4	4	4	4
Normal Parameters <sup>a,b</sup>	Mean	79.00	107.50	108.25	109.50	111.25
	Std. Deviation	53.022	13.988	14.104	17.540	17.231
Most Extreme Differences	Absolute	.310	.204	.201	.193	.141
	Positive	.225	.167	.201	.193	.141
	Negative	-.310	-.204	-.158	-.150	-.136
Kolmogorov-Smirnov Z		.620	.408	.401	.387	.283
Asymp. Sig. (2-tailed)		.837	.996	.997	.998	1.000

a. Test distribution is Normal.

b. Calculated from data.

**T-Test**

**Paired Samples Statistics**

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	t0	79.00	4	53.022	26.511
	t1	107.50	4	13.988	6.994
Pair 2	t0	79.00	4	53.022	26.511
	t2	108.25	4	14.104	7.052
Pair 3	t0	79.00	4	53.022	26.511
	t3	109.50	4	17.540	8.770
Pair 4	t0	79.00	4	53.022	26.511
	t4	111.25	4	17.231	8.616

**Paired Samples Correlations**

		N	Correlation	Sig.
Pair 1	t0 & t1	4	.360	.640
Pair 2	t0 & t2	4	.521	.479
Pair 3	t0 & t3	4	.444	.556
Pair 4	t0 & t4	4	.441	.559

**Paired Samples Test**

		Paired Differences				95% Confidence Interval of the Difference			Sig. (2-tailed)		
		Mean	Std. Deviation	Std. Error Mean	Lower	Upper			t	df	
Pair 1	t0 - t1	-28.500	49.723	24.861	-107.620	50.620	-1.146	3	.335		
Pair 2	t0 - t2	-29.250	47.240	23.620	-104.419	45.919	-1.238	3	.304		
Pair 3	t0 - t3	-30.500	47.878	23.939	-106.685	45.685	-1.274	3	.292		
Pair 4	t0 - t4	-32.250	47.975	23.987	-108.589	44.089	-1.344	3	.271		

Kadar AST tikus pada minggu keempat (t4) pada semua perlakuan

Waktu (minggu)	Perlakuan				
	Aquadest	Dosis I	Dosis II	Dosis III	Dosis IV
1	133	107	105	95	132
2	117	113	124	118	116
3	115	127	127	121	106
4	104	107	103	115	91

## NPar Tests

Descriptive Statistics

	N	Mean	Std. Deviation	Minimum	Maximum
AST	20	113.8000	11.60127	91.00	133.00

One-Sample Kolmogorov-Smirnov Test

		AST
N		20
Normal Parameters <sup>a,b</sup>	Mean	113.8000
	Std. Deviation	11.60127
Most Extreme Differences	Absolute	.121
	Positive	.121
	Negative	-.091
Kolmogorov-Smirnov Z		.542
Asymp. Sig. (2-tailed)		.931

a. Test distribution is Normal.

b. Calculated from data.

## Oneway

### Descriptives

AST

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
Aquadest	4	117.2500	11.95478	5.97739	98.2273	136.2727	104.00	133.00
dosis I	4	113.5000	9.43398	4.71699	98.4884	128.5116	107.00	127.00
dosis II	4	114.7500	12.50000	6.25000	94.8597	134.6403	103.00	127.00
dosis III	4	112.2500	11.75798	5.87899	93.5404	130.9596	95.00	121.00
dosis IV	4	111.2500	17.23127	8.61564	83.8312	138.6688	91.00	132.00
Total	20	113.8000	11.60127	2.59412	108.3704	119.2296	91.00	133.00

### Test of Homogeneity of Variances

AST

Levene Statistic	df1	df2	Sig.
.547	4	15	.704

### ANOVA

AST

	Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	87.200	4	21.800	.132	.968
Within Groups	2470.000	15	164.667		
Total	2557.200	19			

**Lampiran 14.** Data gambaran histopatologi organ hati

**1. Aquadestilata**

No Preparat	Jumlah sel hepar			Total Sel Nekrosis	Sel Normal
	Piknotik	Karioresis	Kariolisis		
1	4	2	7	12	88
2	1	4	8	13	84
3	5	3	1	9	83
4	1	3	4	8	82
<b>jumlah</b>	<b>11</b>	<b>12</b>	<b>20</b>	<b>42</b>	<b>337</b>

**2. Dosis I = ekstrak etanol bunga pisang raja 5 mg/200 g BB tikus**

No Preparat	Jumlah sel hepar			Total Sel Nekrosis	Sel Normal
	Piknotik	Karioresis	Kariolisis		
1	7	15	8	30	84
2	1	4	14	19	76
3	8	10	7	25	78
4	6	3	17	26	75
<b>jumlah</b>	<b>22</b>	<b>32</b>	<b>46</b>	<b>74</b>	<b>313</b>

**3. Dosis II = ekstrak etanol bunga pisang raja 10 mg/200 g BB tikus**

No Preparat	Jumlah sel hepar			Total Sel Nekrosis	Sel Normal
	Piknotik	Karioresis	Kariolisis		
1	6	10	7	23	73
2	3	9	13	25	81
3	5	6	8	19	71
4	2	5	6	13	84
<b>jumlah</b>	<b>14</b>	<b>30</b>	<b>34</b>	<b>80</b>	<b>309</b>

**4. Dosis III = ekstrak etanol bunga pisang raja 20 mg/200 g BB tikus**

No Preparat	Jumlah sel hepar			Total Sel Nekrosis	Sel Normal
	Piknotik	Karioresis	Kariolisis		
1	1	2	7	13	74
2	7	4	12	21	85
3	4	6	9	19	88
4	1	3	11	15	77
<b>jumlah</b>	<b>13</b>	<b>15</b>	<b>39</b>	<b>68</b>	<b>324</b>

**5. Dosis IV = ekstrak etanol bunga pisang raja 100 mg/200 g BB tikus**

No Preparat	Jumlah sel hepar			Total Sel Nekrosis	Sel Normal
	Piknosis	Karioresis	Kariolisis		
1	9	1	10	20	87
2	5	13	16	34	90
3	3	8	12	23	76
4	2	11	9	22	89
<b>jumlah</b>	<b>19</b>	<b>33</b>	<b>47</b>	<b>99</b>	<b>342</b>

## **Analisa Statistik Gambaran Histopatologi**

### **1. Sel Nekrosis**

#### **NPar Tests**

**Descriptive Statistics**

	N	Mean	Std. Deviation	Minimum	Maximum
Perlakuan	20	3.00	1.451	1	5

**One-Sample Kolmogorov-Smirnov Test**

		Perlakuan
N		20
Normal Parameters <sup>a,b</sup>	Mean	3.00
	Std. Deviation	1.451
Most Extreme Differences	Absolute	.155
	Positive	.155
	Negative	-.155
Kolmogorov-Smirnov Z		.692
Asymp. Sig. (2-tailed)		.725

a. Test distribution is Normal.

b. Calculated from data.

## Oneway

### Descriptives

Hasil

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
aquadest	4	10.5000	2.38048	1.19024	6.7121	14.2879	8.00	13.00
Dosis I	4	25.0000	4.54606	2.27303	17.7662	32.2338	19.00	30.00
Dosis II	4	20.0000	5.29150	2.64575	11.5800	28.4200	13.00	25.00
Dosis III	4	17.0000	3.65148	1.82574	11.1897	22.8103	13.00	21.00
Dosis IV	4	24.7500	6.29153	3.14576	14.7388	34.7612	20.00	34.00
Total	20	19.4500	6.89374	1.54149	16.2236	22.6764	8.00	34.00

### Test of Homogeneity of Variances

Hasil

Levene Statistic	df1	df2	Sig.
.733	4	15	.584

### ANOVA

Hasil

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	581.200	4	145.300	6.774	.003
Within Groups	321.750	15	21.450		
Total	902.950	19			

### Multiple Comparisons

Hasil

LSD

(I) Perlakuan	(J) Perlakuan	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
aquadest	Dosis I	-14.50000*	3.27490	.000	-21.4803	-7.5197
	Dosis II	-9.50000*	3.27490	.011	-16.4803	-2.5197
	Dosis III	-6.50000	3.27490	.066	-13.4803	.4803
	Dosis IV	-14.25000*	3.27490	.001	-21.2303	-7.2697
Dosis I	aquadest	14.50000*	3.27490	.000	7.5197	21.4803
	Dosis II	5.00000	3.27490	.148	-1.9803	11.9803
	Dosis III	8.00000*	3.27490	.027	1.0197	14.9803
	Dosis IV	.25000	3.27490	.940	-6.7303	7.2303
Dosis II	aquadest	9.50000*	3.27490	.011	2.5197	16.4803
	Dosis I	-5.00000	3.27490	.148	-11.9803	1.9803
	Dosis III	3.00000	3.27490	.374	-3.9803	9.9803
	Dosis IV	-4.75000	3.27490	.168	-11.7303	2.2303
Dosis III	aquadest	6.50000	3.27490	.066	-.4803	13.4803
	Dosis I	-8.00000*	3.27490	.027	-14.9803	-1.0197
	Dosis II	-3.00000	3.27490	.374	-9.9803	3.9803
	Dosis IV	-7.75000*	3.27490	.032	-14.7303	-.7697
Dosis IV	aquadest	14.25000*	3.27490	.001	7.2697	21.2303
	Dosis I	-.25000	3.27490	.940	-7.2303	6.7303
	Dosis II	4.75000	3.27490	.168	-2.2303	11.7303
	Dosis III	7.75000*	3.27490	.032	.7697	14.7303

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