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Lampiran 1. Surat keterangan identifikasi simplisia

Lampiran 2. Surat keterangan hewan uji

Lampiran 3. Surat keterangan penelitian di bagian Gizi Pusat Antar Universitas UGM

Lampiran 4. Foto hasil pemeriksaan Makroskopis

A

B

C

Keterangan: A = buah pare segar dan irisan penampang melintang
B = simplisia kering buah pare
C = simplisia serbuk buah pare

Lampiran 5. Hasil pengeringan simplisia pare

Berat basah (gram)	Berat kering (gram)	Persentase (%)
15000	1000	6,66

Perhitungan susut pengeringan

Susut pengeringan = (berat kering) / (berat basah) x 100 %)

Susut pengeringan= (1000/15000) x 100 %

Susut pengeringan = 6,66%

Kesimpulan: persentase susut pengeringan buah pare segar sebesar 6,66%

Lampiran 6. Hasil penetapan kadar air serbuk simplisia pare

Berat awal (gram)	Volume akhir (ml)	Kadar air (%)
20,1	1,32	6,6
20,32	1,47	7,2
20,15	1,51	7,5
Rata-rata		7,1

Kadar air sampel 1 = (volume akhir) / (berat awal) x 100 %

= (1,32)/ 20,1 x 100%

= 6,6%

Kadar air sampel 2 = (volume akhir) / (berat awal) x 100 %

=(1,47/20,32) x 100%

= 7,2%

Kadar sampel 3 = (volume akhir) / (berat awal) x 100 %

=(1,51/20,15) x 100%

= 7,5%

Rata –rata kadar air sampel 1 + sampel 2 + sampel 3 = 7,1%

Hasil penetapan kadar air sesuai dengan persyaratan kadar air simplisia yaitu < 10%.

Lampiran 7. Perhitungan dosis konversi ekstrak pare

Susut pengeringan : 7,1%

Rendemen : 6,66%

Faktor konversi ke manusia : 56

Dosis tikus : 200 mg/ kg BB = 40 mg/200 gram BB tikus

Dosis ekstrak ke manusia = dosis tikus x faktor konversi tikus ke manusia

= (40 mg/ 200 BB tikus) x 56

= 2240 mg/70 kg BB manusia

=2,24 gram/70 kg BB manusia

Dosis simplisia $= \frac{\text{2,24 gram/ 70 kg BB manusia}}{\text{7,4 \%}} \times 100\%$

= 30, 27 gram

Dosis buah pare $= \frac{\text{30, 27 gram}}{\text{6,6 \%}} \times 100 \text{ gram} \times 100\%$

= 458,66 gram atau sekitar 500 gram pare segar

Jadi untuk mendapatkan efek seperti pada penelitian ini, gambaran jumlah pare yang harus dikonsumsi setiap hari adalah sebesar ½ kg.

Lampiran 8. Hasil pembuatan ekstrak maserasi buah pare

Tabel 4. Rendemen ekstrak etanol buah pare

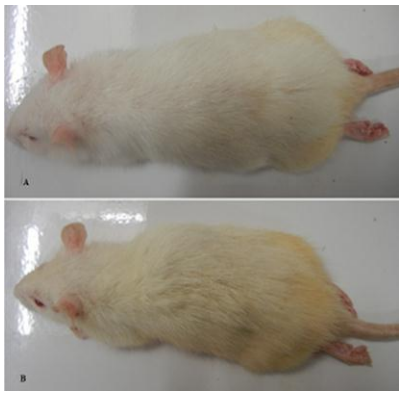
Berat serbuk (gram)	Berat ekstrak (gram)	Rendemen (%)
1000	74,35	7,435

Rendemen ekstrak = berat ekstrak / berat serbuk x 100%

= (74,35) / 1000 x 100%

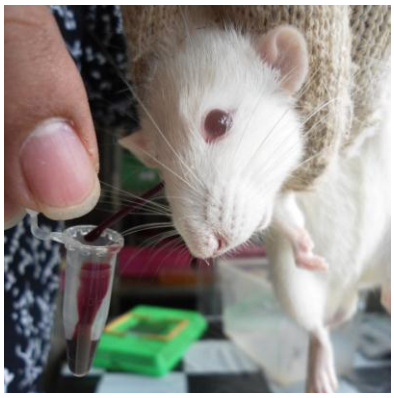
Hasil rendemen ekstrak yang diperoleh sebesar 7,435%

Lampiran 9. Foto perlakuan pada tikus

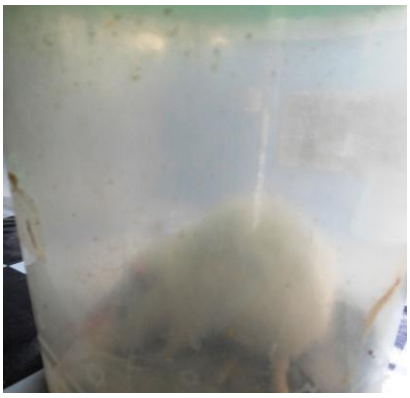


a.Tikus normal, b. Tikus DM

Proses pembedahan tikus



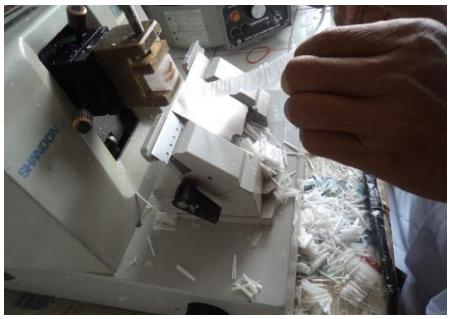
Pengambilan darah dari mata



Anastesi tikus

Lampiran 10 . Foto preparasi jaringan pankreas

Perendaman sampel



Pemotongan dengan mikrotom

Pembuatan paravin blok

Paravin dicairkan dalam air hangat

Hepar tikus

Fiksasi pankreas dalam larutan boin

Lampiran 11. Hasil penimbangan berat badan

	Berat Badan (gram)					
kelompok	0 hari	4 hari	11 hari	18 hari	25 hari	32 hari
I	194±3,7	198±3,8	206±3,6	215±4,4	223±4,4	230±5,0
II	194±4,9	189±4,9	186±5,2	183±5,3	182±5,2	180±5,2
III	192±7,0	189±6,9	191±7,0	195±7,0	202±7,7	209±7,8
IV	183±8,6	179±9,5	183±9,4	187±8,6	195±8,6	199±7,8
V	188±14,1	184±14,2	188±13,9	192±14,1	199±14,8	205±14,9

Keterangan:
I = Kelompok normal
II = Kelompok kontrol negatif
III = Kelompok kontrol positif (glibenklamid)
IV = Kelompok ekstrak MC dosis 100 mg/kg BB
V = Kelompok ekstrak MC dosis200 mg/kg BB

Rumus perhitungan Kenaikan BB :

$$\text{Kelompok I} = \frac{(\text{BB minggu ke 4} - \text{BB minggu awal sebelum perlakuan}) \times 100\%}{(\text{BB awal sebelum perlakuan})}$$

Lampiran 12. hasil perhitungan perubahan BB

kelompok	berat badan (gram)			prosentase
	0 hari	30 hari	perubahan	
I	194±3,7	230±5,0	36	18,6
II	194±4,9	180±5,2	-14	-7,2
III	192±7,0	209±7,8	17	8,9
IV	183±8,6	199±7,8	16	8,7
V	188±14,1	205±14,9	17	9,0

Keterangan:
I = Kelompok normal
II = Kelompok kontrol negatif
III = Kelompok kontrol positif (glibenklamid)
IV = Kelompok ekstrak MC dosis 100 mg/kg BB
V = Kelompok ekstrak MC dosis200 mg/kg BB

Kelompok I = (perubahan BB / BB sebelum perlakuan) x 100 %
=(36/194) x 100%
=18,6%

Kelompok II =(perubahan BB / BB sebelum perlakuan) x 100 %
=(-14/194) x 100%
=-7,2%

Kelompok III =(perubahan BB / BB sebelum perlakuan) x 100 %
=(17/192) x100%
=8,9%

Kelompok IV =(perubahan BB / BB sebelum perlakuan) x 100 %
= (16/183) x 100%
=8,7%

Kelompok V =(perubahan BB / BB sebelum perlakuan) x 100 %
= (17/188)x 100%
=9,0%

Lampiran 13. Perhitungan dosis glibenklamid

BB	Dosis
180	0,02
186	0,02
187	0,02
192	0,02
195	0,02
179	0,02

Contoh perhitungan:

Dosis glibenklamid= 0,1 mg/kg BB

Rumus perhitungan dosis =(BB/1000) x dosis konversi

= 180/1000 x 0,1

= 0,02 mg

Volume yang diberikan = dosis / BB x vol maksimum

= (0,02/ 200) x 5 ml

Lampiran 14. Perhitungan dosis ekstrak etanol 200mg/kgBB dan 100mg/kgBB

kelompok	BB	Dosis
	174	17,40
	181	18,10
Dosis 100	170	17,00
kel IV	197	19,70
	178	17,80
	175	17,50
	190	38,00
	202	40,40
kel V	163	32,60
Dosis 200	173	34,60
	193	38,60
	180	36,00

Rumus perhitungan dosis ekstrak = (BB/1000) x dosis 100 mg

Rumus perhitungan dosis ekstrak = (BB/1000) x dosis 200 mg

Dari perhitungan rumus tersebut diperoleh dosis untuk masing masing hewan uji seperti terlihat pada tabel diatas.

Lampiran 15. Hasil pengukuran kadar glukosa darah pada T=0

kelompok	kode hewan	standar	absorbansi	kadar	kadar rata rata±SD
I	I.1	0,185	0,136	73,51	79,64 ±3,32
	I.2		0,150	81,08	
	I.3		0,151	81,62	
	I.4		0,153	82,70	
	I.5		0,149	80,54	
	I.6		0,145	78,38	
II	II.1	0,185	0,140	75,68	75,50 ±1,6
	II.2		0,139	75,14	
	II.3		0,142	76,76	
	II.4		0,138	74,59	
	II.5		0,144	77,84	
	II.6		0,135	72,97	
III	III.1	0,185	0,133	71,89	73,33 ±2,2
	III.2		0,131	70,81	
	III.3		0,140	75,68	
	III.4		0,138	74,59	
	III.5		0,132	71,35	
	III.6		0,140	75,68	
IV	IV.1	0,185	0,132	71,35	74,32 ±2,2
	IV.2		0,138	74,59	
	IV.3		0,141	76,22	
	IV.4		0,133	71,89	
	IV.5		0,139	75,14	
	IV.6		0,142	76,76	
V	V.1	0,185	0,148	80,00	74,59 ±5,4
	V.2		0,153	82,70	
	V.3		0,132	71,35	
	V.4		0,128	69,19	
	V.5		0,136	73,51	
	V.6		0,131	70,81	

Lampiran 16. Hasil pengukuran kadar glukosa darah pada T=1 yaitu pada saat tikus pertama terindikasi DM (4 hari setelah injeksi aloksan)

Kelompok	Kode hewan	Standar	Absorbansi	Kadar	Kadar rata rata
I	I.1	0,257	0,189	73,54	80,16 ±3,6
	I.2		0,210	81,71	
	I.3		0,212	82,49	
	I.4		0,215	83,66	
	I.5		0,208	80,93	
	I.6		0,202	78,60	
II	II.1	0,257	0,627	243,97	242,8 ±2,7
	II.2		0,619	240,86	
	II.3		0,633	246,30	
	II.4		0,628	244,36	
	II.5		0,624	242,80	
	II.6		0,613	238,52	
III	III.1	0,257	0,632	245,91	242,8 ±2,9
	III.2		0,628	244,36	
	III.3		0,620	241,25	
	III.4		0,630	245,14	
	III.5		0,612	238,13	
	III.6		0,622	242,02	
IV	IV.1	0,257	0,633	246,30	248,77 ±2,8
	IV.2		0,629	244,75	
	IV.3		0,643	250,19	
	IV.4		0,638	248,25	
	IV.5		0,649	252,53	
	IV.6		0,644	250,58	
V	V.1	0,257	0,632	245,91	250,71 ±5,5
	V.2		0,648	252,14	
	V.3		0,640	249,03	
	V.4		0,654	254,47	
	V.5		0,665	258,75	
	V.6		0,627	243,97	

Rumus perhitungan kadar = (absorbansi/ standar) x 100

Lampiran 17. Hasil pengukuran absorbansi dan kadar glukosa T=2, minggu pertama setelah perlakuan (hari ke-11)

Kelompok	Kode hewan	Standar	Absorbansi	Kadar	Kadar rata rata
I	I.1	0,221	0,164	74,21	80,84 ±3,79
	I.2		0,181	81,90	
	I.3		0,184	83,26	
	I.4		0,187	84,62	
	I.5		0,182	82,35	
	I.6		0,174	78,73	
II	II.1	0,221	0,543	245,70	243,44 ±3,09
	II.2		0,532	240,72	
	II.3		0,546	247,06	
	II.4		0,541	244,80	
	II.5		0,538	243,44	
	II.6		0,528	238,91	
III	III.1	0,221	0,439	198,64	195,7 2,53±
	III.2		0,440	199,10	
	III.3		0,428	193,67	
	III.4		0,430	194,57	
	III.5		0,427	193,21	
	III.6		0,431	195,02	
IV	IV.1	0,221	0,473	214,03	215,76 2,85±
	IV.2		0,469	212,22	
	IV.3		0,483	218,55	
	IV.4		0,472	213,57	
	IV.5		0,480	217,19	
	IV.6		0,484	219,00	
V	V.1	0,221	0,452	204,52	198,87 3,62±
	V.2		0,445	201,36	
	V.3		0,431	195,02	
	V.4		0,432	195,48	
	V.5		0,437	197,74	
	V.6		0,440	199,10	

Rumus perhitungan kadar= (absorbansi/ standar) x 100

Lampiran 18. Hasil pengukuran glukosa darah pada T=3, dua minggu setealah perlakuan (hari ke -18)

Kelompok	Kode hewan	Standar	Absorbansi	Kadar	Kadar rata rata±sd
I	I.1	0,221	0,164	74,21	80,84± 3,79
	I.2		0,181	81,90	
	I.3		0,184	83,26	
	I.4		0,187	84,62	
	I.5		0,182	82,35	
	I.6		0,174	78,73	
II	II.1	0,221	0,543	245,70	243,44± 3,09
	II.2		0,532	240,72	
	II.3		0,546	247,06	
	II.4		0,541	244,80	
	II.5		0,538	243,44	
	II.6		0,528	238,91	
III	III.1	0,221	0,439	198,64	195,7± 2,53
	III.2		0,440	199,10	
	III.3		0,428	193,67	
	III.4		0,430	194,57	
	III.5		0,427	193,21	
	III.6		0,431	195,02	
IV	IV.1	0,221	0,473	214,03	215,76± 2,85
	IV.2		0,469	212,22	
	IV.3		0,483	218,55	
	IV.4		0,472	213,57	
	IV.5		0,480	217,19	
	IV.6		0,484	219,00	
V	V.1	0,221	0,452	204,52	198,87± 3,62
	V.2		0,445	201,36	
	V.3		0,431	195,02	
	V.4		0,432	195,48	
	V.5		0,437	197,74	
	V.6		0,440	199,10	

Rumus perhitungan kadar= (absorbansi/ standar) x 100

Lampiran 19. Hasil pengukuran kadar glukosa pada T=4, minggu ke tiga setelah perlakuan (hari ke-25)

Kelompok	Kode hewan	Standar	Absorbansi	Kadar	Kadar rata rata±sd
I	I.1	0,232	0,179	77,16	82,33± 3,39
	I.2		0,189	81,47	
	I.3		0,195	84,05	
	I.4		0,202	87,07	
	I.5		0,194	83,62	
	I.6		0,187	80,60	
II	II.1	0,232	0,578	249,14	246,62± 2,69
	II.2		0,572	246,55	
	II.3		0,579	249,57	
	II.4		0,573	246,98	
	II.5		0,569	245,26	
	II.6		0,562	242,24	
III	III.1	0,232	0,328	141,38	135,34± 4,31
	III.2		0,312	134,48	
	III.3		0,299	128,88	
	III.4		0,309	133,19	
	III.5		0,315	135,78	
	III.6		0,321	138,36	
IV	IV.1	0,232	0,450	193,97	190,8± 2,24
	IV.2		0,448	193,10	
	IV.3		0,439	189,22	
	IV.4		0,440	189,66	
	IV.5		0,437	188,36	
	IV.6		0,442	190,52	
V	V.1	0,232	0,390	168,10	166,38± 2,11
	V.2		0,381	164,22	
	V.3		0,387	166,81	
	V.4		0,379	163,36	
	V.5		0,388	167,24	
	V.6		0,391	168,53	

Rumus perhitungan kadar= (absorbansi/ standar) x 100

Lampiran 20. Hasil pengukuran kadar glukosa pada T=5, minggu ke empat setelah perlakuan (hari ke 32)

Kelompok	Kode hewan	Standar	Absorbansi	Kadar	Kadar rata rata±sd
I	I.1	0,239	0,185	77,41	83,4± 3,98
	I.2		0,197	82,43	
	I.3		0,203	84,94	
	I.4		0,214	89,54	
	I.5		0,201	84,10	
	I.6		0,196	82,01	
II	II.1	0,239	0,601	251,46	248,05± 2,59
	II.2		0,591	247,28	
	II.3		0,599	250,63	
	II.4		0,593	248,12	
	II.5		0,588	246,03	
	II.6		0,585	244,77	
III	III.1	0,239	0,294	123,01	120,85± 2,23
	III.2		0,290	121,34	
	III.3		0,285	119,25	
	III.4		0,288	120,50	
	III.5		0,281	117,57	
	III.6		0,295	123,43	
IV	IV.1	0,239	0,398	166,53	168,9± 1,80
	IV.2		0,401	167,78	
	IV.3		0,404	169,04	
	IV.4		0,407	170,29	
	IV.5		0,402	168,20	
	IV.6		0,410	171,55	
V	V.1	0,239	0,364	152,30	147,56± 3,52
	V.2		0,340	142,26	
	V.3		0,352	147,28	
	V.4		0,355	148,54	
	V.5		0,347	145,19	
	V.6		0,358	149,79	

Rumus perhitungan kadar= (absorbansi/ standar) x 100

Lampiran 21 . Perhitungan rata –rata kadar glukosa darah

Kelompok	Kadar glukosa (mg/dl)±SD					
	0	Hari ke-4(T1)	Hari ke-11(T2)	Hari ke-18(T3)	Hari ke-25(T4)	Hari ke-32(T5)
I	79,6±3,3	80,1±3,6	80,8±3,7	81,6±3,2	82,3±3,3	83,0±3,9
II	75,5±1,6	242,8±2,7	243,4±3,0	245,2±3,4	246,6±2,6	248,0±2,6
III	73,3±2,2	242,8±2,91	195,7±2,5	178,4±2,4	135,3±4,3	120,8±2,2
IV	74,3±2,2	248,7±2,8	215,7±2,8	198,5±10,0	190,8±2,2	168,±1,8
V	74,5±5,4	250,7±5,1	198,8±3,6	188,9±1,6	166,3±2,1	147,5±3,5

Keterangan:
I = Normal
II = Kontrol negatif
III = Kontrol positif
IV = Ekstrak etanol buah pare dosis 100 mg/kg BB
V = Ekstrak etanol buah pare dosis 200 mg/kg BB

Lampiran 22. Penentuan persen penurunan kadar glukosa darah

	Kadar glukosa (mg/dl)±SD					
Kelompok	T0	T1 (hari ke 4)	T2(hari ke 11	T3(hari ke 18)	T4 (hari ke 25)	T5 (hari ke 32)
I	79,6±3,3	80,1±3,6	80,8±3,7	81,6±3,2	82,3±3,3	83,0±3,9
II	75,5±1,6	242,8±2,7	243,4±3,0	245,2±3,4	246,6±2,6	248,0±2,6
III	73,3±2,2	242,8±2,91	195,7±2,5	178,4±2,4	135,3±4,3	120,8±2,2
IV	74,3±2,2	248,7±2,8	215,7±2,8	198,5±10,0	190,8±2,2	168,±1,8
V	74,5±5,4	250,7±5,1	198,8±3,6	188,9±1,6	166,3±2,1	147,5±3,5

Dari tabel kadar glukosa darah diatas, dapat dihitung persentase penurunkan kadar glukosa dengan rumus:

$$\text{Rumus perhitungan} = \frac{(\text{kadar glukosa T1-kadar hari ke-n})}{(\text{kadar glukosa t1-kadar glukosa T0})} \times 100\%$$

Dari rumus tersebut, diperoleh hasil perhitungan persen penurunan sbb**:**

kelompok	Persen penurunan kadar glukosa (%)			
	minggu I	minggu II	minggu III	minggu ke IV
Normal	0	0	0	0
Kontrol negatif	-0,38	-1,44	-2,28	-3,138
Kontrol positif	27,79	37,99	63,40	71,95
Dosis 100 mg	18,92	28,76	33,23	45,78
Dosis 200 mg	29,43	35,10	47,88	58,56

Lampiran 23. Perhitungan AUC dari rata-rata kadar glukosa

kel	hewan uji	perhitungan AUC					
		0-4 hari	4-11 hari	11-18 hari	18-25 har	25-32 hari	AUC total
I	1	294.1	517.1	528.5	538.8	541.0	2419.5
	2	325.6	572.6	571.7	570.2	573.6	2613.7
	3	328.2	580.1	583.8	586.6	591.5	2670.2
	4	332.7	589.0	597.4	606.0	618.1	2743.2
	5	322.9	571.5	577.7	582.1	587.0	2641.3
	6	314.0	550.7	553.2	559.7	569.1	2546.7
						RATA±SD	2605.8±111,8
II	1	639.3	1713.8	1726.8	1738.9	1752.1	7570.9
	2	632.0	1685.5	1699.1	1719.5	1728.4	7464.5
	3	646.1	1726.8	1736.0	1744.8	1750.7	7604.4
	4	637.9	1712.0	1719.2	1726.9	1732.8	7528.9
	5	641.3	1701.8	1707.1	1713.5	1719.5	7483.2
	6	623.0	1671.0	1673.5	1685.2	1704.5	7357.3
						RATA±SD	7501.5±87,9
III	1	635.6	1555.9	1317.0	1116.6	925.4	5550.5
	2	630.3	1552.1	1308.2	1082.1	895.4	5468.1
	3	633.8	1522.2	1309.9	1083.1	868.4	5417.5
	4	639.5	1539.0	1302.7	1087.9	887.9	5457.0
	5	619.0	1509.7	1311.3	1110.2	886.7	5436.9
	6	635.4	1529.7	1307.3	1109.0	916.3	5497.5
						RATA±SD	5471.3±47,4
IV	1	635.3	1611.2	1447.6	1377.4	1261.7	6333.2
	2	638.7	1599.4	1436.9	1370.0	1263.1	6308.0
	3	652.8	1640.6	1460.5	1357.9	1253.9	6365.7
	4	640.3	1616.4	1440.1	1356.4	1259.8	6313.0
	5	655.3	1644.0	1460.2	1359.3	1248.0	6366.8
	6	654.7	1643.6	1456.2	1356.5	1267.2	6378.1
						RATA±SD	6344.1±30,1
V	1	651.8	1576.5	1368.6	1241.1	1121.4	5959.5
	2	669.7	1587.2	1373.7	1243.8	1072.7	5947.1
	3	640.8	1554.2	1344.2	1245.4	1099.3	5883.9
	4	647.3	1574.8	1341.3	1228.9	1091.6	5884.1
	5	664.5	1597.7	1352.2	1245.5	1093.5	5953.4
	6	629.6	1550.7	1362.9	1255.9	1114.1	5913.2

RATA±SD	5923.5±34,6

Lampiran 24. Hasil pengukuran SOD

Kode	Abs	SOD %
I.1	0,035	88,05
I.2	0,038	87,03
mean		87,54
II.1	0,248	15,36
II.2	0,240	18,09
mean		16,72
III.1	0,221	24,57
III.2	0,226	22,87
mean		23,72
IV.1	0,179	38,91
IV.2	0,188	35,84
mean		37,37
V.1	0,042	85,67
V.2	0,040	86,35
mean		86,01

Standar=0,293

Rumus perhitungan % SOD = ((1 – (Abs/standar)) x 100%

Contoh perhitungan SOD sampel 1 (I.1) = ((1-(0,035/0,293) x 100%

= 88,05%

Lampiran 25. Hasil pengukuran GPx

Kode	Abs	GPx U/mg
I.1	0,471	36,35
I.2	0,469	36,19
mean		36,27
II.1	0,109	8,41
II.2	0,113	8,72
mean		8,57
III.1	0,142	10,96
III.2	0,137	10,57
mean		10,77
IV.1	0,159	12,27
IV.2	0,161	12,42
mean		12,35
V.1	0,395	30,48
V.2	0,398	30,71
mean		30,60

Rumus perhitungan GPx= ((absorbansi x 1,2 x 2 x 1000 x 1) / (6,22x 0,2))

Contoh sampel 1 (II.1) = ((0,471 x 1,2 x 2 x 1000 x 1) / (6,22 x 0,2))

= 36,35 Unit /mg

Lampiran 26. Hasil pengukuran MDA

a. Kurva baku

Kadar	Absorbansi
0	0,018
50	0,047
75	0,070
100	0,095
125	0,121
150	0,151
175	0,167
200	0,185
225	0,199
250	0,230

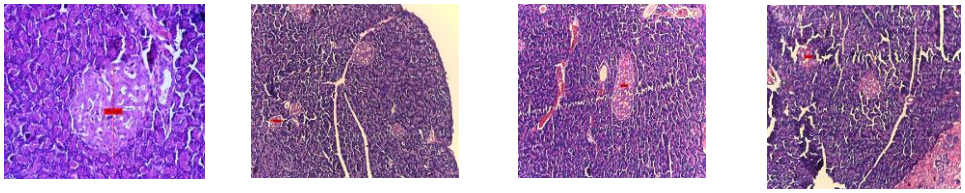
0,01101948
0,00086875

No	Kode	Abs	MDA nmol/mg
1	I.1	0,042	3,73
2	I.2	0,049	4,37
	mean		4,05
3	II.1	0,161	14,53
4	II.2	0,167	15,08
	mean		14,80
5	III.1	0,137	12,35
6	III.2	0,134	12,08
	mean		12,22
7	IV.1	0,088	7,91
8	IV.2	0,085	7,63
	mean		7,77
9	V.1	0,039	3,46
10	V.2	0,036	3,19
	mean		3,32

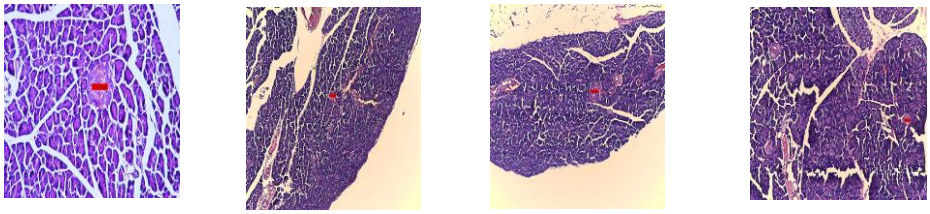
Rumus perhitungan= (absorbansi- 0,00086875) / 0,0101948

Lampiran 27. Foto hasil pengukuran diameter sel islet hasil histopatologi pankreas tikus

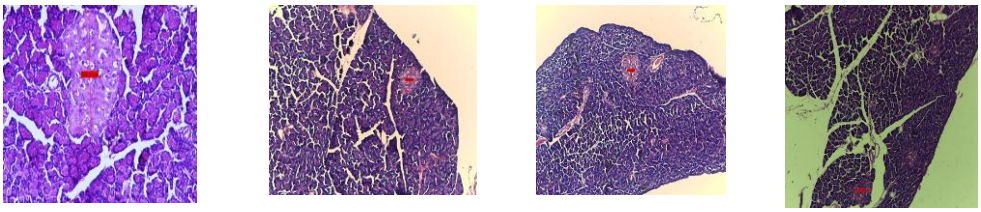
Normal



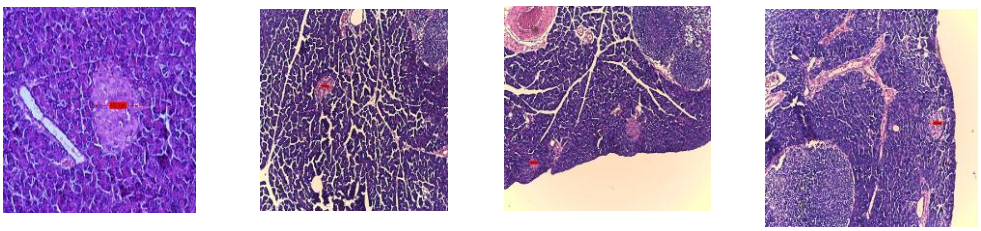
Kontrol negatif



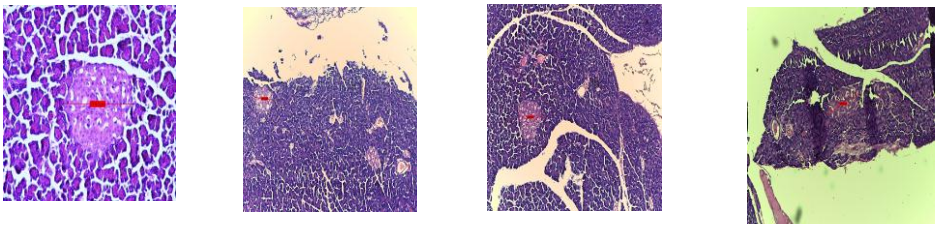
Kontrol positif



dosis ekstrak 100mg/kg BB ekstrak etanol buah pare



ekstrak dosis 200mg/kg BB



lampiran 28. Hasil perhitungan rata rata diameter sel islet dengan soft ware optilab.

kelompok	Kode tikus	Diameter preparat	rata-rata
I	1	169,4	203,8±60,1
		273,2	
		168,8	
	2	234	196,2±47,5
		211,8	
		142,9	
rata-rata diamater kelompok			200,0
II	1	94,3	77,3±16,5
		76,3	
		61,3	
	2	138,3	89,2±42,5
		63,9	
		65,4	
rata-rata diameter kelompok			83,2
III	1	196,4	131,4±56,3
		100,9	
		96,8	
	2	183,8	157,2±48,0
		101,8	
		186,1	
rata-rata diameter kelompok			144,3
IV	1	108,6	149,2±37,8
		155,7	
		183,4	
	2	125,9	130±23,7
		108,6	
		155,5	
rata-rata diameter kelompok			139,6
		256,4	

V	1	227,4	219,6±41,2
		175,1	
	2	260,05	183,2±66,5
		140,6	
		149,05	
rata-rata diameter kelompok			201,4

Dari hasil pengukuran tersebut di hitung rata rata diameter sel islet total

Hasil perhitungan rata-rata diameter

Kelompok	Diameter sel islet rata-rata(µm)		Rata-rata
I	203,8±60,1	196,3±47,5	200,0
II	77,7±16,5	89,2±42,5	83,2
III	131,4±56,3	157,3±48,0	144,3
IV	149,3±37,8	130,0±23,7	139,6
V	219,7±41,2	183,2±66,5	201,4

Lampiran 29. Hasil uji statistik anova selisih kadar glukosa darah

Univariate Analysis of Variance

Between-Subjects Factors

		Value Label	N
kelompok uji	1,00	kontrol negatif	24
	2,00	kontrol positif	24
	3,00	dosis ekstrak 100	24
	4,00	dosis ekstrak 200	24
waktu pengamatan	1,00	minggu I	24
	2,00	minggu II	24
	3,00	minggu III	24
	4,00	minggu IV	24

Descriptive Statistics

Dependent Variable:kadar glukosa

kelompok uji	waktu pengamatan	Mean	Std. Deviation	N
kontrol negatif	minggu I	-,6383	,61610	6
	minggu II	-2,4167	1,23943	6
	minggu III	-3,8233	1,33858	6

	minggu IV	-5,2450	1,71097	6
	Total	-3,0308	2,11584	24
kontrol positif	minggu I	47,1000	2,02229	6
	minggu II	64,3900	5,03048	6
	minggu III	107,4600	4,45199	6
	minggu IV	121,9500	2,11915	6
	Total	85,2250	31,38328	24
dosis ekstrak 100	minggu I	33,0050	1,60143	6
	minggu II	50,1750	2,98153	6
	minggu III	57,9633	4,97996	6
	minggu IV	79,8717	2,62179	6
	Total	55,2538	17,47140	24
dosis ekstrak 200	minggu I	51,8433	7,73448	6
	minggu II	61,8250	5,82182	6
	minggu III	84,3333	6,87868	6
	minggu IV	103,1550	8,18640	6
	Total	75,2892	21,44356	24
Total	minggu I	32,8275	21,31144	24
	minggu II	43,4933	27,89630	24
	minggu III	61,4833	42,70659	24

Tests of Between-Subjects Effects

Dependent Variable:kadar glukosa

Levene's Test of Equality of Error Variances[a]

Dependent Variable:kadar glukosa

F	df1	df2	Sig.
5,948	15	80	,000

Tests the null hypothesis that the error variance of the dependent variable is equal across groups.

a. Design: Intercept + kelompok + minggu + kelompok * minggu

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Multiple Comparisons						
Intercept	271542,400	1	271542,400	13946,778	,000	,994
kelompok	112311,730	3	37437,243	1922,826	,000	,986
minggu	25204,570	3	8401,523	431,513	,000	,942
kelompok * minggu	13590,484	9	1510,054	77,558	,000	,897
Error	1557,592	80	19,470			
Total	424206,776	96				
Corrected Total	152664,376	95				

a. R Squared = ,990 (Adjusted R Squared = ,988)

Post Hoc Tests

Dependent Variable:kadar glukosa

	(I) kelompok uji	(J) kelompok uji	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
						Lower Bound	Upper Bound
Tukey HSD	kontrol negatif	kontrol positif	-88,2558*	1,27377	,000	-91,5980	-84,9136
		dosis ekstrak 100	-58,2846*	1,27377	,000	-61,6268	-54,9424
		dosis ekstrak 200	-78,3200*	1,27377	,000	-81,6622	-74,9778
	kontrol positif	kontrol negatif	88,2558*	1,27377	,000	84,9136	91,5980
		dosis ekstrak 100	29,9713*	1,27377	,000	26,6290	33,3135
		dosis ekstrak 200	9,9358*	1,27377	,000	6,5936	13,27
	dosis ekstrak 100	kontrol negatif	58,2846*	1,27377	,000	54,9424	61,6268
		kontrol positif	-29,9713*	1,27377	,000	-33,3135	-26,6290
		dosis ekstrak 200	-20,0354*	1,27377	,000	-23,3776	-16,6932
	dosis ekstrak 200	kontrol negatif	78,3200*	1,27377	,000	74,9778	81,6622
		kontrol positif	-9,9358*	1,27377	,000	-13,2780	-6,5936
		dosis ekstrak 100	20,0354*	1,27377	,000	16,6932	23,3776
LSD	kontrol negatif	kontrol positif	-88,2558*	1,27377	,000	-90,7907	-85,7209
		dosis ekstrak 100	-58,2846*	1,27377	,000	-60,8195	-55,7497
		dosis ekstrak 200	-78,3200*	1,27377	,000	-80,8549	-75,7851
	kontrol positif	kontrol negatif	88,2558*	1,27377	,000	85,7209	90,7907
		dosis ekstrak 100	29,9713*	1,27377	,000	27,4364	32,5061
		dosis ekstrak 200	9,9358*	1,27377	,000	7,4009	12,4707
	dosis ekstrak 100	kontrol negatif	58,2846*	1,27377	,000	55,7497	60,8195
		kontrol positif	-29,9713*	1,27377	,000	-32,5061	-27,4364

		dosis ekstrak 200	-20,0354*	1,27377	,000	-22,5703	-17,5005
	dosis ekstrak 200	kontrol negatif	78,3200*	1,27377	,000	75,7851	80,8549
		kontrol positif	-9,9358*	1,27377	,000	-12,4707	-7,4009
		dosis ekstrak 100	20,0354*	1,27377	,000	17,5005	22,5703

Based on observed means.

The error term is Mean Square(Error) = 19,470.

*. The mean difference is significant at the ,05 level.

kelompok uji

Homogeneous Subsets

kadar glukosa

	kelompok uji	N	Subset 1	2	3	4
Tukey HSD[a,b]	kontrol negatif	24	-3,0308			
	dosis ekstrak 100	24		55,2538		
	dosis ekstrak 200	24			75,2892	
	kontrol positif	24				85,2250
	Sig.		1,000	1,000	1,000	1,000

Means for groups in homogeneous subsets are displayed.

Based on observed means.

The error term is Mean Square(Error) = 19,470.

a. Uses Harmonic Mean Sample Size = 24,000.

b. Alpha = ,05.

waktu pengamatan

Multiple Comparisons

Dependent Variable:kadar glukosa

	(I) waktu pengamatan	(J) waktu pengamatan	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval Lower Bound	Upper Bound
Tukey	minggu I	minggu II	-10,6658*	1,27377	,000	-14,0080	-7,3236

HSD		minggu III	-28,6558*	1,27377	,000	-31,9980	-25,3136
		minggu IV	-42,1054*	1,27377	,000	-45,4476	-38,7632
	minggu II	minggu I	10,6658*	1,27377	,000	7,3236	14,0080
		minggu III	-17,9900*	1,27377	,000	-21,3322	-14,6478
		minggu IV	-31,4396*	1,27377	,000	-34,7818	-28,0974
	minggu III	minggu I	28,6558*	1,27377	,000	25,3136	31,9980
		minggu II	17,9900*	1,27377	,000	14,6478	21,3322
		minggu IV	-13,4496*	1,27377	,000	-16,7918	-10,1074
	minggu IV	minggu I	42,1054*	1,27377	,000	38,7632	45,4476
		minggu II	31,4396*	1,27377	,000	28,0974	34,7
		minggu III	13,4496*	1,27377	,000	10,1074	16,7918
LSD	minggu I	minggu II	-10,6658*	1,27377	,000	-13,2007	-8,1309
		minggu III	-28,6558*	1,27377	,000	-31,1907	-26,1209
		minggu IV	-42,1054*	1,27377	,000	-44,6403	-39,5705
	minggu II	minggu I	10,6658*	1,27377	,000	8,1309	13,2007
		minggu III	-17,9900*	1,27377	,000	-20,5249	-15,4551
		minggu IV	-31,4396*	1,27377	,000	-33,9745	-28,9047
	minggu III	minggu I	28,6558*	1,27377	,000	26,1209	31,1907
		minggu II	17,9900*	1,27377	,000	15,4551	20,5249
		minggu IV	-13,4496*	1,27377	,000	-15,9845	-10,9147
	minggu IV	minggu I	42,1054*	1,27377	,000	39,5705	44,6403
		minggu II	31,4396*	1,27377	,000	28,9047	33,9745
		minggu III	13,4496*	1,27377	,000	10,9147	15,9845

Based on observed means.

The error term is Mean Square(Error) = 19,470.

*. The mean difference is significant at the ,05 level.

Homogeneous Subsets

kadar glukosa

waktu pengamatan	N	Subset 1	2	3	4

Tukey HSD[a,b]	minggu I	24	32,8275			
	minggu II	24		43,4933		
	minggu III	24			61,4833	
	minggu IV	24				74,9329
	Sig.		1,000	1,000	1,000	1,000

Lampiran 30. Hasil statistik anova diameter sel islet

Descriptives

diameter sel islet

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
kontrol negatif	6	83,2667	29,60530	12,08631	52,1978	114,3355	61,30	138,35
dosis ektrak 100 mg	6	139,6542	30,14897	12,30827	108,0148	171,2936	108,60	183,45
doisi ekstrak 200 mg	6	201,4417	53,43251	21,81373	145,3677	257,5156	140,60	260,05
Total	18	141,4542	61,89531	14,58886	110,6744	172,2340	61,30	260,05

Test of Homogeneity of Variances

diameter sel islet

Levene Statistic	df1	df2	Sig.
4,591	2	15	,028

ANOVA

diameter sel islet

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	41925,152	2	20962,576	13,552	,000
Within Groups	23202,338	15	1546,823		
Total	65127,490	17			

Post Hoc Tests

Multiple Comparisons

Dependent Variable:diameter sel islet

	(I) kelompok uji	(J) kelompok uji	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
						Lower Bound	Upper Bound
Tukey HSD	kontrol negatif	dosis ektrak 100 mg	-56,38750	22,70699	,062	-115,3682	2,5932
		doisi ekstrak 200 mg	-118,17500*	22,70699	,000	-177,1557	-59,1943
	dosis ektrak 100 mg	kontrol negatif	56,38750	22,70699	,062	-2,5932	115,3682
		doisi ekstrak 200 mg	-61,78750*	22,70699	,040	-120,7682	-2,8068
	doisi ekstrak 200 mg	kontrol negatif	118,17500*	22,70699	,000	59,1943	177,1557
		dosis ektrak 100 mg	61,78750*	22,70699	,040	2,8068	120,7682
LSD	kontrol negatif	dosis ektrak 100 mg	-56,38750*	22,70699	,025	-104,7863	-7,9887
		doisi ekstrak 200 mg	-118,17500*	22,70699	,000	-166,5738	-69,7762
	dosis ektrak 100 mg	kontrol negatif	56,38750*	22,70699	,025	7,9887	104,7863
		doisi ekstrak 200 mg	-61,78750*	22,70699	,016	-110,1863	-13,3887
	doisi ekstrak 200 mg	kontrol negatif	118,17500*	22,70699	,000	69,7762	166,5738

Multiple Comparisons

Dependent Variable:diameter sel islet

	(I) kelompok uji	(J) kelompok uji	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
						Lower Bound	Upper Bound
Tukey HSD	kontrol negatif	dosis ektrak 100 mg	-56,38750	22,70699	,062	-115,3682	2,5932
		doisi ekstrak 200 mg	-118,17500*	22,70699	,000	-177,1557	-59,1943
	dosis ektrak 100 mg	kontrol negatif	56,38750	22,70699	,062	-2,5932	115,3682
		doisi ekstrak 200 mg	-61,78750*	22,70699	,040	-120,7682	-2,8068
	doisi ekstrak 200 mg	kontrol negatif	118,17500*	22,70699	,000	59,1943	177,1557
		dosis ektrak 100 mg	61,78750*	22,70699	,040	2,8068	120,7682
LSD	kontrol negatif	dosis ektrak 100 mg	-56,38750*	22,70699	,025	-104,7863	-7,9887
		doisi ekstrak 200 mg	-118,17500*	22,70699	,000	-166,5738	-69,7762
	dosis ektrak 100 mg	kontrol negatif	56,38750*	22,70699	,025	7,9887	104,7863
		doisi ekstrak 200 mg	-61,78750*	22,70699	,016	-110,1863	-13,3887
	doisi ekstrak 200 mg	kontrol negatif	118,17500*	22,70699	,000	69,7762	166,5738

diameter sel islet

	kelompok uji	N	Subset for alpha = 0.05	
			1	2
Tukey HSD[a]	kontrol negatif	6	83,2667	
	dosis ektrak 100 mg	6	139,6542	
	doisi ekstrak 200 mg	6		201,4417
	Sig.		,062	1,000

Means for groups in homogeneous subsets are displayed.

a. Uses Harmonic Mean Sample Size = 6,000.

Lampiran 31. Hasil uji Korelasi AUC % penurunan kadar dengan SOD, GPx, MDA)

```
[korelasi AUC % penurunan kadar glukosa dengan SOD,GPx,MDA]
```

Correlations

		AUC % penurunan kadar glukosa	SOD	GPx	MDA
AUC % penurunan kadar	Pearson Correlation	1	,466	,453	-,564
	Sig. (2-tailed)		,534	,547	,436
	N	4	4	4	4
SOD	Pearson Correlation	,466	1	,991**	-,945
	Sig. (2-tailed)	,534		,009	,055
	N	4	4	4	4
GPx	Pearson Correlation	,453	,991**	1	-,894
	Sig. (2-tailed)	,547	,009		,106
	N	4	4	4	4
MDA	Pearson Correlation	-,564	-,945	-,894	1
	Sig. (2-tailed)	,436	,055	,106	
	N	4	4	4	4

**. Correlation is significant at the 0.01 level (2-tailed).

Lampiran 32. Hasil statistik korelasi diameter sel islet dengan SOD, GPx dan MDA

Correlations

Descriptive Statistics

	Mean	Std. Deviation	N
Diameter sel islet	153,7486	49,17699	5
SOD	50,2720	34,14424	5
GPx	19,7120	12,75753	5
MDA	8,4320	5,01680	5

Correlations

		Diameter sel islet	SOD	GPx	MDA
Diameter sel islet	Pearson Correlation	1	,927*	,900*	-,934*
	Sig. (2-tailed)		,023	,037	,020
	N	5	5	5	5
SOD	Pearson Correlation	,927*	1	,983**	-,951*
	Sig. (2-tailed)	,023		,003	,013
	N	5	5	5	5
GPx	Pearson Correlation	,900*	,983**	1	-,891*

	Sig. (2-tailed)	,037	,003		,042
	N	5	5	5	5
MDA	Pearson Correlation	-,934*	-,951*	-,891*	1
	Sig. (2-tailed)	,020	,013	,042	
	N	5	5	5	5

*. Correlation is significant at the 0.05 level (2-tailed).

**. Correlation is significant at the 0.01 level (2-tailed).

Lampiran 31. Hasil uji korelasi diameter sel islet, kadar SOD, GPx, MDA AUC persen penurunan kadar glukosa

Correlations

Descriptive Statistics

	Mean	Std. Deviation	N
diameter sel islet	153,7240	49,17104	5
SOD	50,2720	34,14424	5
GPx	19,7120	12,75753	5
MDA	8,4320	5,01680	5
AUC total	82,1380	78,11303	5

Correlations

		diameter sel islet	SOD	GPx	MDA	AUC total
diameter sel islet	Pearson Correlation	1	,927*	,900*	-,934*	,243
	Sig. (2-tailed)		,023	,037	,020	,694
	N	5	5	5	5	5
SOD	Pearson Correlation	,927*	1	,983**	-,951*	-,062
	Sig. (2-tailed)	,023		,003	,013	,921
	N	5	5	5	5	5
GPx	Pearson Correlation	,900*	,983**	1	-,891*	-,175
	Sig. (2-tailed)	,037	,003		,042	,778
	N	5	5	5	5	5
MDA	Pearson Correlation	-,934*	-,951*	-,891*	1	-,107
	Sig. (2-tailed)	,020	,013	,042		,864
	N	5	5	5	5	5
AUC total	Pearson Correlation	,243	-,062	-,175	-,107	1
	Sig. (2-tailed)	,694	,921	,778	,864	
	N	5	5	5	5	5

*. Correlation is significant at the 0.05 level (2-tailed).

**. Correlation is significant at the 0.01 level (2-tailed).