

L

A

M

P

I

R

A

N

Lampiran 1. Hasil *Ethical Clearance* (EC)

2/22/2021

KEPK-RSDM



HEALTH RESEARCH ETHICS COMMITTEE KOMISI ETIK PENELITIAN KESEHATAN

Dr. Moewardi General Hospital
RSUD Dr. Moewardi

ETHICAL CLEARANCE KELAIKAN ETIK

Nomor : 150 / II / HREC / 2021

The Health Research Ethics Committee Dr. Moewardi
Komisi Etik Penelitian Kesehatan RSUD Dr. Moewardi

after reviewing the proposal design, herewith to certify
setelah menilai rancangan penelitian yang diusulkan, dengan ini menyatakan

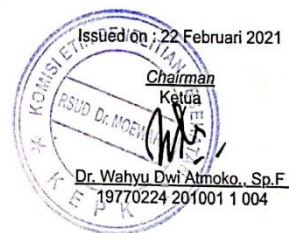
That the research proposal with topic :
Bahwa usulan penelitian dengan judul

UJI AKTIVITAS ANTIOKSIDAN EKSTRAK ETANOL DAUN ALPUKAT (*Persea americana* Mill) SECARA IN VITRO DENGAN METODE DPPH DAN IN VIVO TERHADAP TIKUS PUTIH GALUR WISTAR

Principal investigator : Evita Rahma Putri
Peneliti Utama 23175111A

Location of research : Universitas Setia Budi Surakarta
Lokasi Tempat Penelitian

Is ethically approved
Dinyatakan layak etik



Lampiran 2. Hasil Determinasi Tanaman Daun Alpukat



UPT-LABORATORIUM

Jl. Letjen Sutoyo, Mojosongo-Solo 57127 Telp. 0271-852518, Fax. 0271-853275

Nomor : 142/DET/UPT-LAB/05.03.2021

Hal : Hasil determinasi tumbuhan

Lamp. : -

Nama Pemesan : Evita Rahma Putri

NIM : 23175111A

Fakultas : Farmasi, Universitas Setia Budi, Surakarta

Nama Sampel : Alpukat/ *Persea americana* Mill.

HASIL DETERMINASI TUMBUHAN

Klasifikasi

Kingdom : Plantae
 Super Divisi : Spermatophyta
 Divisi : Magnoliophyta
 Class : Magnoliopsida/Dicotyledoneae
 Ordo : Ranales
 Famili : Lauraceae
 Genus : *Persea*
 Species : *Persea americana* Mill.

Hasil Determinasi menurut Steenis, C.G.G.J.V, Bloembergen, H, Eyma, P.J. 1992 :

1b – 2b – 3b – 4b – 6b – 7b – 9b – 10b – 11b – 12b – 13b – 14b – 15b. Golongan 8. 109b – 119b – 120b – 128b – 129b – 135b – 136b – 139b – 140b – 142b – 143b – 146b – 154b – 155b – 156b – 162b – 163a – 164b – 165a. familia 52. Lauraceae. 1a – 2a. *Persea americana* Mill.

Deskripsi:

Habitus : Pohon, tinggi 3 – 10 m.

Akar : Tunggang.

Batang : Batang bulat, percabangan monopodial, berkayu.

Daun : Daun tunggal, tersebar, bertangkai, berjejal-jejal pada ujung ranting, bulat telur memanjang atau elips, ujung runcing, pangkal runcing, tepi rata, seperti kulit, waktu muda berambut rapat, kemudian gundul, panjang 10,1 – 14,7 cm, lebar 5,2 – 5,7 cm, permukaan atas hijau tua, mengkilat, permukaan bawah hijau muda.

Bunga : Bunga aktinomorf, berkelamin 2, dalam malai yang bertangkai dan berbunga banyak, terdapat di dekat ujung ranting. Tenda bunga garis tengah 1 – 1,5 cm, putih kuning, berbau enak, berambut, dengan tabung pendek dan 6 taju yang terbentang, 3 taju terluar kecil, benangsari 12 dalam 4 lingkaran, 3 terdalam direduksi menjadi staminodia. Ruangsari 4. Staminodia oranye atau coklat.

Buah : Buah buni bentuk bola atau buah peer, panjang 5 – 20 cm, hijau atau hijau kuning.

Biji : Biji bentuk bola, coklat, garis tengah 2,5 – 5 cm.

Kepala UPT-LAB
Universitas Setia Budi



Asik Gunawan, Amdk

Surakarta, 5 Maret 2021

Penanggung jawab
Determinasi Tumbuhan

Dra. Dewi Sulistyawati. M.Sc.

Lampiran 3. Surat keterangan sehat hewan uji



PEMERINTAH KOTA SURAKARTA
DINAS PERTANIAN,
KETAHANAN PANGAN DAN PERIKANAN
Jl. Yap Tjwan Bing (Jagalan) No. 26 Telp. (0271) 656816 – Fax. (0271) 656816
Website www.dispertan.surakarta.co.id E-mail pertanian_ska@yahoo.co.id
SURAKARTA Kode Pos 57124

SURAT KETERANGAN KESEHATAN HEWAN

Nomor : 524.3/ 293M2 /SKKH

Yang bertandatangan di bawah ini **drh. Abdul Aziz MK** Dokter Hewan yang berwenang di wilayah **Kota Surakarta**, menerangkan bahwa pada hari **Selasa** tanggal **23** bulan **Maret** tahun **2021** telah memeriksa hewan di bawah ini :

NO	JENIS HEWAN	SUB SPESIES/ TRAH	JUMLAH (ekor)			UMUR (bln)	Tanda / Warna
			Jtn	Btn	Total		
1	Tikus	Wistar	25	-	25	3-4	Putih

Menerangkan bahwa hewan-hewan tersebut di atas : **sehat** , atau saat pemeriksaan tidak menunjukkan tanda klinis penyakit hewan menular.

KETERANGAN :

Nama pemilik/pengirim : Sdr. Yulianto Ratno Saputro
No KTP/SIM pemilik/pengirim : 3372053007720003
No telp. Pemilik/pengirim : 082133998945
Alamat pemilik/pengirim : Sumber RT 04 RW 03 Surakarta.
Daerah asal hewan : Pasar Burung Depok Manahan Surakarta.
Daerah tujuan : Universitas Setia Budi Surakarta.
Nama dan alamat Penerima : Sdr. Evita Rahma Putri, Universitas Setia Budi Surakarta.
Rencana dikirim : Selasa, 23 Maret 2021
Kendaraan : Mobil
Setelah sampai di daerah tujuan segera melaporkan ke dinas yang membidangi fungsi peternakan dan kesehatan hewan.

Surakarta, 23 Maret 2021.

Dokter Hewan Berwenang,

drh. ABDUL AZIZ MK
NIP. 19810428 200501 1 006

Tembusan Yth. :

1. Walikota Surakarta (sebagai laporan);
2. Kepala Dinas Peternakan dan Kesehatan Hewan Provinsi Jawa Tengah;
3. Arslp.

Lampiran 4. Bahan Penelitian



Gambar Daun Alpukat Basah



Gambar Daun Alpukat Kering



Gambar Serbuk Daun Alpukat



Gambar DPPH 0,4 mm



Gambar Larutan Stok DPPH



Gambar Larutan Hemaviton C1000
1000 ppm

Lampiran 5. Alat Penelitian



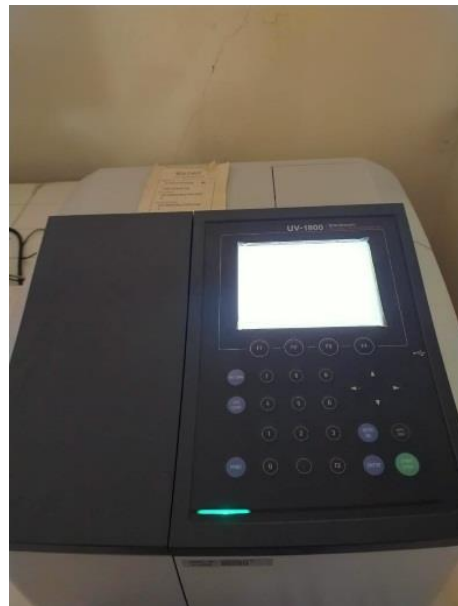
Gambar Neraca Analitik



Gambar Moisture Balance



Gambar Evaporator



Gambar Spektrofotometer uv-vis



Gambar Oven



Gambar Desikator



Gambar Sentrifius



Gambar Botol Maserasi

Lampiran 6. Hasil Penetapan Susut Pengerinan Serbuk Daun Alpukat

Replikasi 1



Replikasi 2



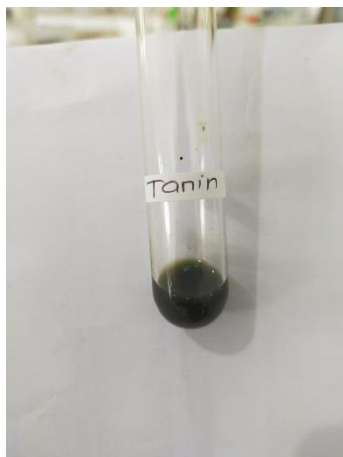
Replikasi 3

Lampiran 7. Identifikasi Kandungan Senyawa Kimia Ekstrak Daun Alpukat

Flavonoid



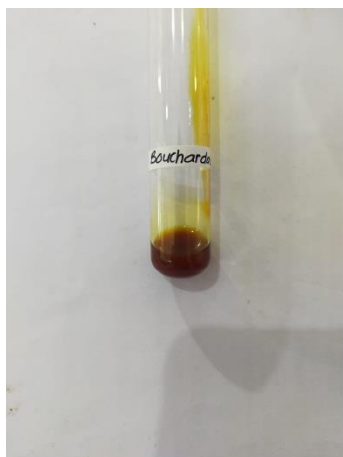
Saponin



Tanin



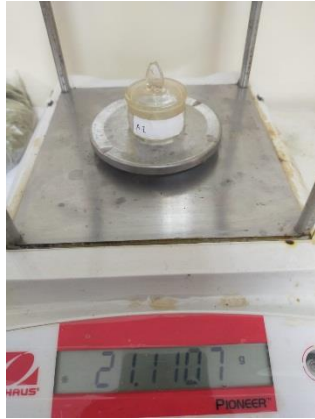
Alkaloid - Mayer



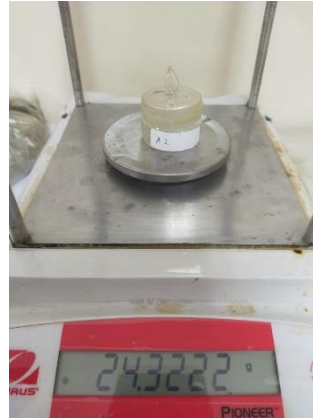
Bouchardat



Dragendrof

Lampiran 8. Gambar Kadar air dan Serbuk Daun Alpukat**A. Berat botol kosong**

Replikasi I



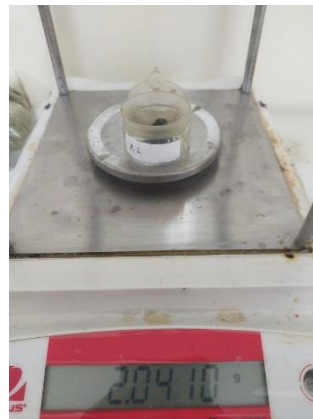
Replikasi II



Replikasi III

B. Berat Ekstrak (g)

Replikasi I



Replikasi II



Replikasi III

C. Berat botol + Ekstrak setelah di Oven

Replikasi I



Replikasi II



Replikasi III

Lampiran 9. Perlakuan Hewan Uji



Tikus 1



Tikus 2



Tikus 3



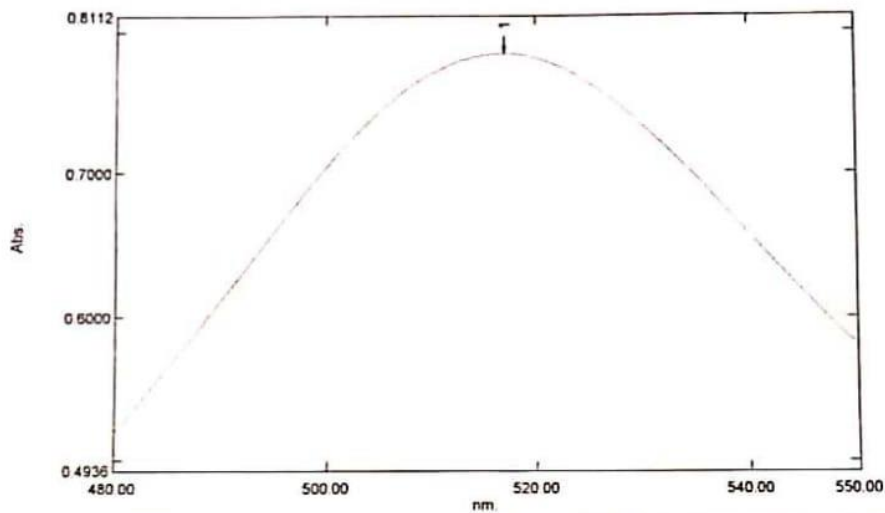
Tikus 4

Lampiran 10. Lamda Max DPPH

Spectrum Peak Pick Report

04/14/2021 11:16:26 AM

Data Set: File_210414_111550 - RawData



[Measurement Properties]
 Wavelength Range (nm): 480.00 to 550.00
 Scan Speed: Fast
 Sampling Interval: 1.0
 Auto Sampling Interval: Disabled
 Scan Mode: Single

No.	P/V	Wavelength	Abs.	Description
1	⊕	517.00	0.7847	

[Instrument Properties]
 Instrument Type: UV-1800 Series
 Measuring Mode: Absorbance
 Slit Width: 1.0 nm
 Light Source Change Wavelength: 340.0 nm
 S/R Exchange: Normal

[Attachment Properties]
 Attachment: None

[Operation]
 Threshold: 0.0010000
 Points: 4
 InterPolate: Disabled
 Average: Disabled

[Sample Preparation Properties]

Weight:

Volume:

Dilution:

Path Length:

Additional Information:

Lampiran 11. Operating Time Ekstrak Daun Alpukat

Daun alpukat (100 ppm)

04/16/2021 01:45:46 PM

Kinetics Data Print Report

Time (Minute)	RawData ...
0.000	0.503
1.000	0.484
2.000	0.472
3.000	0.461
4.000	0.456
5.000	0.449
6.000	0.444
7.000	0.439
8.000	0.434
9.000	0.431
10.000	0.427
11.000	0.424
12.000	0.422
13.000	0.419
14.000	0.416
15.000	0.414
16.000	0.412
17.000	0.409
18.000	0.407
19.000	0.405
20.000	0.403
21.000	0.401
22.000	0.399
23.000	0.398
24.000	0.396
25.000	0.394
26.000	0.393
27.000	0.391
28.000	0.390
29.000	0.389
30.000	0.387
31.000	0.386
32.000	0.385
33.000	0.384
34.000	0.383
35.000	0.382
36.000	0.380
37.000	0.379
38.000	0.378
39.000	0.377
40.000	0.376
41.000	0.376
42.000	0.374
43.000	0.373
44.000	0.373
45.000	0.372
46.000	0.371
47.000	0.370
48.000	0.369
49.000	0.368
50.000	0.368



Kinetics Data Print Report

04/16/2021 01:45:46 PM

Time (Minute)	RawData ...
51.000	0.367
52.000	0.368
53.000	0.365
54.000	0.364
55.000	0.364
56.000	0.363
57.000	0.362
58.000	0.362
59.000	0.361
60.000	0.360

Lampiran 12. Operating Time Hemaviton C1000

Kinetics Data Print Report

03/22/2021 03:52:28 PM

Time (Minute)	RawData --
0 000	0 753
1 000	0 754
2 000	0 754
3 000	0 754
4 000	0 754
5 000	0 754
6 000	0 754
7 000	0 753
8 000	0 753
9 000	0 753
10 000	0 753
11 000	0 752
12 000	0 752
13 000	0 752
14 000	0 752
15 000	0 752
16 000	0 751
17 000	0 751
18 000	0 751
19 000	0 750
20 000	0 750
21 000	0 750
22 000	0 750
23 000	0 749
24 000	0 749
25 000	0 749
26 000	0 748
27 000	0 748
28 000	0 748
29 000	0 748
30 000	0 747
31 000	0 747
32 000	0 747
33 000	0 747
34 000	0 746
35 000	0 746
36 000	0 746
37 000	0 746
38 000	0 745
39 000	0 745
40 000	0 745
41 000	0 744
42 000	0 744
43 000	0 744
44 000	0 744
45 000	0 743
46 000	0 743
47 000	0 743
48 000	0 743
49 000	0 743
50 000	0 742

Page 1 / 2

Kinetics Data Print Report

03/22/2021 03:52:28 PM

Time (Minute)	RawData ...
51.000	0.742
52.000	0.742
53.000	0.742
54.000	0.741
55.000	0.741
56.000	0.741
57.000	0.741
58.000	0.741
59.000	0.741
60.000	0.741

Lampiran 13. Surat Hasil MDA



UNIVERSITAS GADJAH MADA PUSAT STUDI PANGAN DAN GIZI

Alamat : Gedung PAU-UGM, Jalan Teknik Utara, Berek, Yogyakarta 55281, Phone/Fax. (0274) 589242
http://cfns.ugm.ac.id, E-mail : cfns@ugm.ac.id

LAPORAN HASIL UJI

(Analysis Certificate)

No.PSPG/235/VII/2021

Nomor Pengujian (Analysis Report Number)	: PS/281/VI/2021
Nama Pelanggan (Name of client)	: Evita Rahma Putri (23175111A)
Alamat Pelanggan (Address of client)	: Universitas Setia Budi Surakarta
No. Telepon Pelanggan (Phone No. of client)	:
Contoh Uji (Type of sample)	: Daun Alpukat
Tanggal Penerimaan Contoh Uji	: Juni 2021
Tanggal Pengujian (Date of analysis)	: Juni 2021
Metode Uji (Analysis Method)	: TBARs
Hasil Uji (Analysis Result)	: MDA

Hasil analisis terlampir

Yogyakarta, 5 Juli 2021
Publik Servis PSPG – UGM



Sriyono

CARA KERJA PEMERIKSAAN MDA

Metode : TBARS

Wuryastuti et al, 1996 (Indonesian Food and Nutrition Progress, 2000 vol 7 no 2)

	Sampel	Standart	Blangko
H ₃ PO ₄	750 µl	750 µl	750 µl
TBA	250 µl	250 µl	250 µl
Sampel	50 µl		
Standart		50 µl	
Aquabides			750 µl
Aquabides	450 µl	450 µl	450 µl

Mix, Masukkan Penangas Air Suhu 100°C selama 60 menit

Sampel, standart dan blangko keluar dari penangas air masukkan es Bath

Penyiapan Column Sep-Pak₁₈

masukkan metanol 5 ml

↓ → di buang

masukkan Aquabides 5 ml

↓ → di buang

masukkan sampel

↓ → di buang

masukkan Aquabides 4 ml

↓ → di buang

masukkan metanol 4 ml

↓ → di tampung

di baca dengan spektrofotometer panjang gelombang λ 532 nm



Standart

1,1,3,3-TETRAETHOXYPROPANE

**SAMPEL DAUN
ALPUKAT**

Perlakuan	SEBELUM		SESUDAH		MDA (nmol/mL)
	Kode	Abs	MDA (nmol/mL)	Abs	
kontrol positif	K1.1	0,068	3,18	0,050	1,99
	K1.2	0,061	2,71	0,043	1,53
	K1.3	0,076	3,7	0,060	2,65
	K1.4	0,072	3,44	0,052	2,12
	K1.5	0,068	3,18	0,061	2,71
kontrol negative	K2.1	0,164	9,5	0,171	9,96
	K2.2	0,16	9,24	0,168	9,75
	K2.3	0,165	9,57	0,166	9,63
	K2.4	0,162	9,37	0,170	9,89
	K2.5	0,158	9,1	0,163	9,46
dosis 8 mg/200 gBB	K3.1	0,075	3,64	0,068	3,18
	K3.2	0,077	3,77	0,072	3,44
	K3.3	0,08	3,97	0,075	3,64
	K3.4	0,052	2,12	0,045	1,65
	K3.5	0,057	2,45	0,049	1,92
dosis 16 mg/200 gBB	K4.1	0,061	2,71	0,052	2,12
	K4.2	0,068	3,18	0,058	2,52
	K4.3	0,06	2,65	0,057	2,45
	K4.4	0,076	3,7	0,068	3,18
	K4.5	0,080	3,97	0,074	3,57
dosis 24 mg/200 gBB	K5.1	0,06	2,65	0,050	1,99
	K5.2	0,052	2,12	0,043	1,53
	K5.3	0,079	3,90	0,060	2,65
	K5.4	0,074	3,57	0,052	2,12
	K5.5	0,075	3,64	0,057	2,45

Standart 1,1,3,3-TETRAETHOXYPROPANE

Cont	Abs	FP	S
0	0,023		
0,375	0,043		
0,75	0,071	a	0,0198000
1,5	0,145	b	0,0759000
3	0,244	r	0,996751



Lampiran 14. Hasil perhitungan bobot basah dan bobot kering daun alpukat

$$\begin{aligned}
 \text{Presentase bobot} &= \frac{\text{berat kering (g)}}{\text{berat basah (g)}} \times 100\% \\
 &= \frac{2344 \text{ gram}}{6900 \text{ gram}} \times 100\% \\
 &= 33,97 \%
 \end{aligned}$$

Lampiran 15. Perhitungan rendemen serbuk

$$\text{Berat daun alpukat kering} = 2,344 \text{ kg}$$

$$\text{Berat serbuk daun alpukat} = 2,300 \text{ kg}$$

$$\begin{aligned}
 \% \text{ Rendemen} &= \frac{\text{berat serbuk daun alpukat}}{\text{berat daun alpukat kering}} \times 100\% \\
 &= \frac{2,300 \text{ kg}}{2,344 \text{ kg}} \times 100\% \\
 &= 98,12\%
 \end{aligned}$$

Lampiran 16. Hasil perhitungan randemen ekstrak daun alpukat

$$\begin{aligned}
 \% \text{ Rendemen ekstrak} &= \frac{\text{berat ekstrak (g)}}{\text{berat serbuk (g)}} \times 100\% \\
 &= \frac{190 \text{ gram}}{700 \text{ gram}} \times 100\% \\
 &= 27,14 \%
 \end{aligned}$$

Lampiran 17. Hasil perhitungan penetapan susut pengeringan serbuk daun alpukat

$$\text{Susut pengeringan I} = 9,2\%$$

$$\text{Susut pengeringan II} = 9,2\%$$

$$\text{Susut pengeringan III} = 9,5\%$$

$$\begin{aligned}
 \text{Rata-rata persentase susut pengeringan} &= \frac{9,2\% + 9,2\% + 9,5\%}{3} \\
 &= 9,3\%
 \end{aligned}$$

Lampiran 18. Hasil perhitungan kadar air serbuk daun alpukat

Replikasi	Berat botol kosong	Berat cawan+ekstrak	Berat ekstrak (g)	Berat botol + ekstrak setelah dioven	Berat akhir (g)	Kadar air (%)
1	21,1107	23,1588	2,0481	22,9789	1,8682	8,78
2	24,3222	26,3632	2,0410	26,1801	1,8579	8,97
3	21,5316	23,5588	2,0272	23,3701	1,8285	9,3
Rata-rata						9,01

Perhitungan :

$$\text{Rumus} = \frac{\text{berat sebelum pengeringan (g)} - \text{berat setelah pengeringan (g)}}{\text{berat sebelum pengeringan (g)}} \times 100\%$$

$$\text{Replikasi I} = \frac{2,0481 - 1,8682}{2,0481} \times 100\% = 8,78\%$$

$$\text{Replikasi II} = \frac{2,0410 - 1,8579}{2,0410} \times 100\% = 8,97\%$$

$$\text{Replikasi III} = \frac{2,0272 - 1,8385}{2,0272} \times 100\% = 9,3\%$$

$$\text{Rata-rata} = \frac{8,78\% + 8,97\% + 9,3\%}{3} = 9,01\%$$

Lampiran 19. Hasil uji aktivitas antioksidan ekstrak secara in vivo

Perhitungan dosis dan volume pemberian

1. Kelompok 1 (kontrol positif diberi Hemaviton C1000 dosis 72 mg/200 gram BB tikus)

4 gram dilarutkan dalam 200 ml = 4 gram/200 ml = 2 gram/100 ml = 2%

- Tikus 1 (BB = 174 gram)

$$\text{Dosis tikus 174 gram} = \frac{174 \text{ gram}}{200 \text{ gram}} \times 72 \text{ mg} = 62,64 \text{ mg} = 0,06264 \text{ gram}$$

$$\text{Volume pemberian} = \frac{0,06264 \text{ gram}}{2 \text{ gram}} \times 100 \text{ ml} = 3,132 \text{ ml}$$

- Tikus 2 (BB = 178 gram)

$$\text{Dosis tikus 178 gram} = \frac{178 \text{ gram}}{200 \text{ gram}} \times 72 \text{ mg} = 64,08 \text{ mg} = 0,06408 \text{ gram}$$

$$\text{Volume pemberian} = \frac{0,06408 \text{ gram}}{2 \text{ gram}} \times 100 \text{ ml} = 3,204 \text{ ml}$$

- Tikus 3 (BB = 175 gram)

$$\text{Dosis tikus 175 gram} = \frac{175 \text{ gram}}{200 \text{ gram}} \times 72 \text{ mg} = 63 \text{ mg} = 0,063 \text{ gram}$$

$$\text{Volume pemberian} = \frac{0,063 \text{ gram}}{2 \text{ gram}} \times 100 \text{ ml} = 3,15 \text{ ml}$$

- Tikus 4 (BB = 176 gram)

$$\text{Dosis tikus 176 gram} = \frac{176 \text{ gram}}{200 \text{ gram}} \times 72 \text{ mg} = 63,36 \text{ mg} = 0,06336 \text{ gram}$$

$$\text{Volume pemberian} = \frac{0,06336 \text{ gram}}{2 \text{ gram}} \times 100 \text{ ml} = 3,168 \text{ ml}$$

- Tikus 5 (BB = 173 gram)

$$\text{Dosis tikus 173 gram} = \frac{173 \text{ gram}}{200 \text{ gram}} \times 72 \text{ mg} = 62,28 \text{ mg} = 0,06228 \text{ gram}$$

$$\text{Volume pemberian} = \frac{0,063 \text{ gram}}{2 \text{ gram}} \times 100 \text{ ml} = 3,15 \text{ ml}$$

2. Kelompok 2 (kontrol negatif diberi CMC Na 0,5% sebanyak 2 ml)

3. Kelompok 3 (dosis ekstrak 8 mg/200g BB tikus)

Larutan stok = 2%

Dosis tikus = 0,008 g = 8 mg

- Tikus 1 (BB = 180 gram)

$$\text{Dosis tikus 180 gram} = \frac{180 \text{ gram}}{200 \text{ gram}} \times 8 \text{ mg} = 7,2 \text{ mg} = 0,0072 \text{ gram}$$

$$\text{Volume pemberian} = \frac{0,0072 \text{ gram}}{2 \text{ gram}} \times 100 \text{ ml} = 0,36 \text{ ml}$$

➤ Tikus 2 (BB = 184 gram)

$$\text{Dosis tikus 184 gram} = \frac{184 \text{ gram}}{200 \text{ gram}} \times 8 \text{ mg} = 7,36 \text{ mg} = 0,00736 \text{ gram}$$

$$\text{Volume pemberian} = \frac{0,00736 \text{ gram}}{2 \text{ gram}} \times 100 \text{ ml} = 0,368 \text{ ml}$$

➤ Tikus 3 (BB = 185 gram)

$$\text{Dosis tikus 185 gram} = \frac{185 \text{ gram}}{200 \text{ gram}} \times 8 \text{ mg} = 7,4 \text{ mg} = 0,0074 \text{ gram}$$

$$\text{Volume pemberian} = \frac{0,0074 \text{ gram}}{2 \text{ gram}} \times 100 \text{ ml} = 0,37 \text{ ml}$$

➤ Tikus 4 (BB = 187 gram)

$$\text{Dosis tikus 187 gram} = \frac{187 \text{ gram}}{200 \text{ gram}} \times 8 \text{ mg} = 7,48 \text{ mg} = 0,00748 \text{ gram}$$

$$\text{Volume pemberian} = \frac{0,00748 \text{ gram}}{2 \text{ gram}} \times 100 \text{ ml} = 0,374 \text{ ml}$$

➤ Tikus 5 (BB = 190 gram)

$$\text{Dosis tikus 190 gram} = \frac{190 \text{ gram}}{200 \text{ gram}} \times 8 \text{ mg} = 7,6 \text{ mg} = 0,0076 \text{ gram}$$

$$\text{Volume pemberian} = \frac{0,0076 \text{ gram}}{2 \text{ gram}} \times 100 \text{ ml} = 0,38 \text{ ml}$$

4. Kelompok 4 (dosis ekstrak 16 mg/200g BB tikus)

$$\text{Larutan stok} = 2\%$$

$$\text{Dosis tikus} = 0,016 \text{ g} = 16 \text{ mg}$$

➤ Tikus 1 (BB = 193 gram)

$$\text{Dosis tikus 193 gram} = \frac{193 \text{ gram}}{200 \text{ gram}} \times 16 \text{ mg} = 15,44 \text{ mg} = 0,01544 \text{ gram}$$

$$\text{Volume pemberian} = \frac{0,01544 \text{ gram}}{2 \text{ gram}} \times 100 \text{ ml} = 0,772 \text{ ml}$$

➤ Tikus 2 (BB = 188 gram)

$$\text{Dosis tikus 188 gram} = \frac{188 \text{ gram}}{200 \text{ gram}} \times 16 \text{ mg} = 15,04 \text{ mg} = 0,01504 \text{ gram}$$

$$\text{Volume pemberian} = \frac{0,01504 \text{ gram}}{2 \text{ gram}} \times 100 \text{ ml} = 0,752 \text{ ml}$$

➤ Tikus 3 (BB = 190 gram)

$$\text{Dosis tikus 190 gram} = \frac{190 \text{ gram}}{200 \text{ gram}} \times 16 \text{ mg} = 15,2 \text{ mg} = 0,0152 \text{ gram}$$

$$\text{Volume pemberian} = \frac{0,0152 \text{ gram}}{2 \text{ gram}} \times 100 \text{ ml} = 0,76 \text{ ml}$$

➤ Tikus 4 (BB = 192 gram)

$$\text{Dosis tikus 192 gram} = \frac{192 \text{ gram}}{200 \text{ gram}} \times 16 \text{ mg} = 15,36 \text{ mg} = 0,01536 \text{ gram}$$

$$\text{Volume pemberian} = \frac{0,01536 \text{ gram}}{2 \text{ gram}} \times 100 \text{ ml} = 0,768 \text{ ml}$$

➤ Tikus 5 (BB = 186 gram)

$$\text{Dosis tikus 188 gram} = \frac{188 \text{ gram}}{200 \text{ gram}} \times 16 \text{ mg} = 15,04 \text{ mg} = 0,01504 \text{ gram}$$

$$\text{Volume pemberian} = \frac{0,01504 \text{ gram}}{2 \text{ gram}} \times 100 \text{ ml} = 0,752 \text{ ml}$$

5. Kelompok 5 (dosis ekstrak 24 mg/200g BB tikus)

$$\text{Larutan stok} = 2\%$$

$$\text{Dosis tikus} = 0,024 \text{ g} = 24 \text{ mg}$$

➤ Tikus 1 (BB = 188 gram)

$$\text{Dosis tikus 188 gram} = \frac{188 \text{ gram}}{200 \text{ gram}} \times 24 \text{ mg} = 22,56 \text{ mg} = 0,02256 \text{ gram}$$

$$\text{Volume pemberian} = \frac{0,02256 \text{ gram}}{2 \text{ gram}} \times 100 \text{ ml} = 1,128 \text{ ml}$$

➤ Tikus 2 (BB = 194 gram)

$$\text{Dosis tikus 194 gram} = \frac{194 \text{ gram}}{200 \text{ gram}} \times 24 \text{ mg} = 23,28 \text{ mg} = 0,02328 \text{ gram}$$

$$\text{Volume pemberian} = \frac{0,02328 \text{ gram}}{2 \text{ gram}} \times 100 \text{ ml} = 1,164 \text{ ml}$$

➤ Tikus 3 (BB = 190 gram)

$$\text{Dosis tikus 190 gram} = \frac{190 \text{ gram}}{200 \text{ gram}} \times 24 \text{ mg} = 22,8 \text{ mg} = 0,0228 \text{ gram}$$

$$\text{Volume pemberian} = \frac{0,0228 \text{ gram}}{2 \text{ gram}} \times 100 \text{ ml} = 1,14 \text{ ml}$$

➤ Tikus 4 (BB = 190 gram)

$$\text{Dosis tikus 190 gram} = \frac{190 \text{ gram}}{200 \text{ gram}} \times 24 \text{ mg} = 22,8 \text{ mg} = 0,0228 \text{ gram}$$

$$\text{Volume pemberian} = \frac{0,0228 \text{ gram}}{2 \text{ gram}} \times 100 \text{ ml} = 1,14 \text{ ml}$$

➤ Tikus 5 (BB = 186 gram)

$$\text{Dosis tikus 186 gram} = \frac{186 \text{ gram}}{200 \text{ gram}} \times 24 \text{ mg} = 22,32 \text{ mg} = 0,02232 \text{ gram}$$

$$\text{Volume pemberian} = \frac{0,02232 \text{ gram}}{2 \text{ gram}} \times 100 \text{ ml} = 1,116 \text{ ml}$$

Lampiran 20. Hasil pengukuran kadar MDA plasma darah

Kurva Baku TEP

Konsentrasi (nmol/mL)	abs
0	0,023
0,375	0,043
0,75	0,071
1,5	0,145
3	0,244

$$FP = 5$$

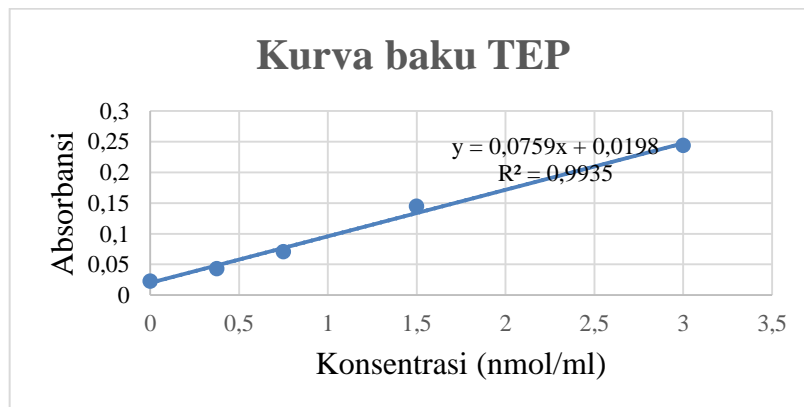
Regresi linear :

$$a = 0,0198$$

$$b = 0,0759$$

$$r = 0,996751$$

Persamaan garis = $y = 0,0198 + 0,0759x$



Perlakuan	Kode	SEBELUM		SESUDAH		Selisih
		Abs	MDA (nmol/mL)	Abs	MDA (nmol/mL)	
kontrol positif	K1.1	0,068	3,18	0,050	1,99	-1,19
	K1.2	0,061	2,71	0,043	1,53	-1,18
	K1.3	0,076	3,7	0,060	2,65	-1,05
	K1.4	0,072	3,44	0,052	2,12	-1,32
	K1.5	0,068	3,18	0,061	2,71	-0,47
	Rata-rata ± SD		3,24 ± 0,37		2,20 ± 0,49	(-) 1,04 ± 0,33
kontrol negative	K2.1	0,164	9,5	0,171	9,96	0,46
	K2.2	0,16	9,24	0,168	9,76	0,52
	K2.3	0,165	9,57	0,166	9,63	0,06
	K2.4	0,162	9,37	0,170	9,89	0,52
	K2.5	0,158	9,1	0,163	9,46	0,36
	Rata-rata ± SD		9,36 ± 0,19		9,73 ± 0,21	0,38 ± 0,193
dosis 8 mg/200 gBB	K3.1	0,075	3,64	0,068	3,18	-0,46
	K3.2	0,077	3,77	0,072	3,44	-0,33
	K3.3	0,08	3,97	0,075	3,64	-0,33
	K3.4	0,052	2,12	0,045	1,65	-0,47
	K3.5	0,057	2,45	0,049	1,92	-0,53
	Rata-rata ± SD		3,19 ± 0,84		2,77 ± 0,91	(-) 0,42 ± 0,09
dosis 16 mg/200 gBB	K4.1	0,061	2,71	0,052	2,12	-0,59
	K4.2	0,068	3,18	0,058	2,52	-0,66
	K4.3	0,06	2,65	0,057	2,45	-0,20
	K4.4	0,076	3,7	0,068	3,18	-0,52
	K4.5	0,080	3,97	0,074	3,57	-0,40
	Rata-rata ± SD		3,25 ± 0,59		2,77 ± 0,59	(-) 0,47 ± 0,18
dosis 24 mg/200 gBB	K5.1	0,06	2,65	0,050	1,99	-0,66
	K5.2	0,052	2,12	0,043	1,53	-0,59
	K5.3	0,079	3,90	0,060	2,65	-1,25
	K5.4	0,074	3,57	0,052	2,12	-1,45
	K5.5	0,075	3,64	0,057	2,45	-0,19
	Rata-rata ± SD		3,18 ± 0,76		2,15 ± 0,43	(-) 1,03 ± 0,38

Hasil pengukuran kadar MDA plasma darah tikus sebelum dan sesudah perlakuan:

Lampiran 21. Hasil uji statistik aktivitas antioksidan secara in vivo

Hasil uji *t* berpasangan

→ T-Test

[DataSet0]

Paired Samples Statistics

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	Sebelum perlakuan	4,4412	25	2,56724	,51345
	Sesudah perlakuan	3,9244	25	3,02606	,60521

Paired Samples Correlations

		N	Correlation	Sig.
Pair 1	Sebelum perlakuan & Sesudah perlakuan	25	,992	,000

Paired Samples Test

		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference		t	df	Sig. (2-tailed)
					Lower	Upper			
Pair 1	Sebelum perlakuan - Sesudah perlakuan	,51680	,58213	,11643	,27651	,75709	4,439	24	,000

Tests of Normality

KELOMPOK PERLAKUAN		Kolmogorov-Smirnov ^a			Shapiro-Wilk		
		Statistic	df	Sig.	Statistic	df	Sig.
SELISIH KADAR MDA	Kontrol Positif	,310	5	,132	,805	5	,088
	Kontrol Negatif	,283	5	,200*	,781	5	,056
	Dosis 8 mg/200g BB	,256	5	,200*	,860	5	,228
	Dosis 16 mg/200g BB	,200	5	,200*	,946	5	,706
	Dosis 24 mg/200g BB	,265	5	,200*	,878	5	,299

*. This is a lower bound of the true significance.

a. Lilliefors Significance Correction

Hasil *one-way* ANNOVA

→ Oneway

Descriptives

SELISIH KADAR MDA

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
Kontrol Positif	5	-1,0420	,33372	,14924	-1,4564	-,6276	-1,32	-,47
Kontrol Negatif	5	,3880	,19215	,08593	,1494	,6266	,06	,52
Dosis 8 mg/200g BB	5	-,4240	,08989	,04020	-,5356	-,3124	-,53	-,33
Dosis 16 mg/200g BB	5	-,4740	,18078	,08085	-,6985	-,2495	-,66	-,20
Dosis 24 mg/200g BB	5	-1,0280	,38108	,17042	-1,5012	-,5548	-1,45	-,59
Total	25	-,5160	,58340	,11668	-,7568	-,2752	-1,45	,52

Test of Homogeneity of Variances

SELISIH KADAR MDA

Levene Statistic	df1	df2	Sig.
2,748	4	20	,057

ANOVA

SELISIH KADAR MDA

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	6,831	4	1,708	25,546	,000
Within Groups	1,337	20	,067		
Total	8,168	24			

Multiple Comparisons

Dependent Variable: SELISIH KADAR MDA

Tukey HSD

(I) KELOMPOK PERLAKUAN	(J) KELOMPOK PERLAKUAN	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
Kontrol Positif	Kontrol Negatif	-1,42600*	,16357	,000	-1,9155	-,9365
	Dosis 8 mg/200g BB	-,61800*	,16357	,009	-1,1075	-,1285
	Dosis 16 mg/200g BB	-,56800*	,16357	,018	-1,0575	-,0785
	Dosis 24 mg/200g BB	-,01400	,16357	1,000	-,5035	,4755
Kontrol Negatif	Kontrol Positif	1,42600*	,16357	,000	,9365	1,9155
	Dosis 8 mg/200g BB	,80800*	,16357	,001	,3185	1,2975
	Dosis 16 mg/200g BB	,85800*	,16357	,000	,3685	1,3475
	Dosis 24 mg/200g BB	1,41200*	,16357	,000	,9225	1,9015
Dosis 8 mg/200g BB	Kontrol Positif	,61800*	,16357	,009	,1285	1,1075
	Kontrol Negatif	-,80800*	,16357	,001	-1,2975	-,3185
	Dosis 16 mg/200g BB	,05000	,16357	,998	-,4395	,5395
	Dosis 24 mg/200g BB	,60400*	,16357	,011	,1145	1,0935
Dosis 16 mg/200g BB	Kontrol Positif	,56800*	,16357	,018	,0785	1,0575
	Kontrol Negatif	-,85800*	,16357	,000	-1,3475	-,3685
	Dosis 8 mg/200g BB	-,05000	,16357	,998	-,5395	,4395
	Dosis 24 mg/200g BB	,55400*	,16357	,022	,0645	1,0435
Dosis 24 mg/200g BB	Kontrol Positif	,01400	,16357	1,000	-,4755	,5035
	Kontrol Negatif	-1,41200*	,16357	,000	-1,9015	-,9225
	Dosis 8 mg/200g BB	-,60400*	,16357	,011	-1,0935	-,1145
	Dosis 16 mg/200g BB	-,55400*	,16357	,022	-1,0435	-,0645

* The mean difference is significant at the 0.05 level.

Homogeneous Subsets

SELISIH KADAR MDA

Tukey HSD^a

KELOMPOK PERLAKUAN	N	Subset for alpha = 0.05		
		1	2	3
Kontrol Positif	5	-1,0420		
Dosis 24 mg/200g BB	5	-1,0280		
Dosis 16 mg/200g BB	5		-,4740	
Dosis 8 mg/200g BB	5		-,4240	
Kontrol Negatif	5			,3880
Sig.		1,000	,998	1,000

Means for groups in homogeneous subsets are displayed.

a. Uses Harmonic Mean Sample Size = 5,000.

Lampiran 22. Perhitungan larutan DPPH 0,4 mM

Mr DPPH = 394,32 gram/mol

DPPH 0,5 mM = 0,0004 M dalam 100 ml

Berat serbuk DPPH yang dibutuhkan :

$$M = \frac{g}{Mr} \times \frac{1000}{\text{volume (ml)}}$$

$$0,0004 = \frac{g}{394,32} \times \frac{1000}{100}$$

$$0,0004 = \frac{g}{394,32} \times 10$$

$$10 \times g = 0,0004 \times 394,32$$

$$10 \times g = 0,157728$$

$$g = \frac{0,157728}{10}$$

$$g = 0,0157728 \text{ g} \approx 15,773 \text{ g} \approx 16 \text{ mg}$$

Lampiran 23. Pembuatan larutan stok ekstrak daun alpukat

Pembuatan larutan stok ekstrak daun alpukat dilakukan dengan cara ditimbang ekstrak 25 mg dimasukkan dalam labu takar 50 ml kemudian ditambahkan etanol p.a sampai tanda batas, sehingga diperoleh konsentrasi 500 ppm.

$$\begin{aligned}\text{Konsentrasi larutan ekstrak} &= 25 \text{ mg} / 50 \text{ mL} \\ &= 500 \text{ mg} / 1000 \text{ mL} \\ &= 500 \text{ ppm}\end{aligned}$$

Larutan ekstrak 500 ppm diencerkan menjadi 5 seri pengenceran yaitu, konsentrasi 10 ppm, 30 ppm, 45 ppm, 60 ppm dan 70 ppm.

➤ **Konsentrasi 10 ppm**

$$\begin{aligned}V_1 \times C_1 &= V_2 \times C_2 \\ V_1 \times 500 \text{ ppm} &= 50 \text{ ml} \times 10 \text{ ppm} \\ V_1 &= \frac{50 \text{ ml} \times 10 \text{ ppm}}{500 \text{ ppm}} \\ V_1 &= 0,2 \text{ ml}\end{aligned}$$

➤ **Konsentrasi 30 ppm**

$$\begin{aligned}V_1 \times C_1 &= V_2 \times C_2 \\ V_1 \times 500 \text{ ppm} &= 50 \text{ ml} \times 30 \text{ ppm} \\ V_1 &= \frac{50 \text{ ml} \times 30 \text{ ppm}}{500 \text{ ppm}} \\ V_1 &= 0,6 \text{ ml}\end{aligned}$$

➤ **Konsentrasi 45 ppm**

$$\begin{aligned}V_1 \times C_1 &= V_2 \times C_2 \\ V_1 \times 500 \text{ ppm} &= 50 \text{ ml} \times 45 \text{ ppm} \\ V_1 &= \frac{50 \text{ ml} \times 45 \text{ ppm}}{500 \text{ ppm}} \\ V_1 &= 0,9 \text{ ml}\end{aligned}$$

➤ **Konsentrasi 60 ppm**

$$\begin{aligned}V_1 \times C_1 &= V_2 \times C_2 \\V_1 \times 500 \text{ ppm} &= 50 \text{ ml} \times 60 \text{ ppm} \\V_1 &= \frac{50 \text{ ml} \times 60 \text{ ppm}}{500 \text{ ppm}} \\V_1 &= 1,2 \text{ ml}\end{aligned}$$

➤ **Konsentrasi 70 ppm**

$$\begin{aligned}V_1 \times C_1 &= V_2 \times C_2 \\V_1 \times 500 \text{ ppm} &= 50 \text{ ml} \times 70 \text{ ppm} \\V_1 &= \frac{50 \text{ ml} \times 70 \text{ ppm}}{500 \text{ ppm}} \\V_1 &= 1,4 \text{ ml}\end{aligned}$$

Lampiran 24. Perhitungan IC50 Ekstrak etanol daun alpukat

Absorbansi DPPH = 0,789

Konsentrasi (ppm)	Absorbansi		
	Replikasi 1	Replikasi 2	Replikasi 3
10	0,676	0,674	0,677
30	0,568	0,567	0,566
45	0,463	0,464	0,465
60	0,426	0,425	0,427
70	0,349	0,347	0,351

% peredaman			Rata-rata %peredaman
Replikasi 1	Replikasi 2	Replikasi 3	
14,322	14,575	14,195	14,364
28,010	28,137	28,264	28,137
41,318	41,191	41,065	123,574
46,134	46,134	45,881	46,049
55,767	56,020	55,513	55,766

$$\text{Nilai \%peredaman} = \frac{(\text{Abs DPPH}-\text{Abs sampel})}{\text{Abs DPPH}} \times 100\%$$

REPLIKASI 1

- Konsentrasi 10 ppm = $\frac{(0,789-0,676)}{0,789} \times 100\%$ = 14,321%
- Konsentrasi 30 ppm = $\frac{(0,789-0,568)}{0,789} \times 100\%$ = 28,010%
- Konsentrasi 45 ppm = $\frac{(0,789-0,463)}{0,789} \times 100\%$ = 41,318%
- Konsentrasi 60 ppm = $\frac{(0,789-0,426)}{0,789} \times 100\%$ = 46,007%
- Konsentrasi 70 ppm = $\frac{(0,789-0,349)}{0,789} \times 100\%$ = 55,766%

REPLIKASI 2

- Konsentrasi 10 ppm = $\frac{(0,789-0,674)}{0,789} \times 100\%$ = 14,575%
- Konsentrasi 30 ppm = $\frac{(0,789-0,567)}{0,789} \times 100\%$ = 28,136%
- Konsentrasi 45 ppm = $\frac{(0,789-0,464)}{0,789} \times 100\%$ = 41,191%
- Konsentrasi 60 ppm = $\frac{(0,789-0,425)}{0,789} \times 100\%$ = 46,134%
- Konsentrasi 70 ppm = $\frac{(0,789-0,347)}{0,789} \times 100\%$ = 56,020%

REPLIKASI 3

- Konsentrasi 10 ppm = $\frac{(0,789-0,677)}{0,789} \times 100\%$ = 14,195%
- Konsentrasi 30 ppm = $\frac{(0,789-0,566)}{0,789} \times 100\%$ = 28,263%
- Konsentrasi 45 ppm = $\frac{(0,789-0,465)}{0,789} \times 100\%$ = 41,064%
- Konsentrasi 60 ppm = $\frac{(0,789-0,427)}{0,789} \times 100\%$ = 45,880%
- Konsentrasi 70 ppm = $\frac{(0,789-0,351)}{0,789} \times 100\%$ = 55,513%

Rata-rata %peredaman masing-masing konsentrasi :

- Konsentrasi 10 ppm = $\frac{14,321\%+14,575\%+14,195\%}{3}$ = 14,363%
- Konsentrasi 30 ppm = $\frac{28,010\%+28,136\%+28,263\%}{3}$ = 27,469%
- Konsentrasi 45 ppm = $\frac{41,318\%+41,191\%+41,064\%}{3}$ = 41,191%
- Konsentrasi 60 ppm = $\frac{46,007\%+46,134\%+45,880\%}{3}$ = 46,007%

- Konsentrasi 70 ppm = $\frac{55,766\%+56,020\%+55,513\%}{3} = 55,766\%$

Regresi linier (abs vs %peredaman) :

Replikasi	Regresi linier			IC ₅₀ (ppm)	Rata-rata IC ₅₀ ± SD
	a	b	r		
1	8,160	0,673	0,993	62,199	62,229 ± 0,22
2	8,310	0,672	0,993	62,027	
3	8,221	0,669	0,993	62,459	

Nilai IC₅₀ ekstrak etanol daun kelor = $\frac{(50-a)}{b}$

REPLIKASI 1 = $\frac{(50-8,160)}{0,673} = 62,169$ ppm

REPLIKASI 2 = $\frac{(50-8,310)}{0,672} = 62,038$ ppm

REPLIKASI 3 = $\frac{(50-8,221)}{0,669} = 62,449$ ppm

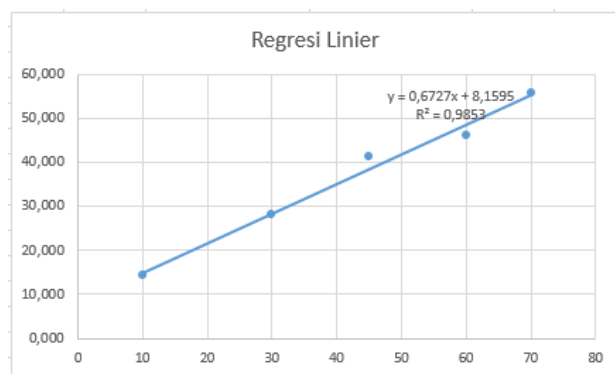
Rata-rata nilai IC₅₀ ekstrak etanol daun kelor :

$$\frac{62,169 \text{ ppm} + 62,038 \text{ ppm} + 62,449 \text{ ppm}}{3} = 62,218 \text{ ppm}$$

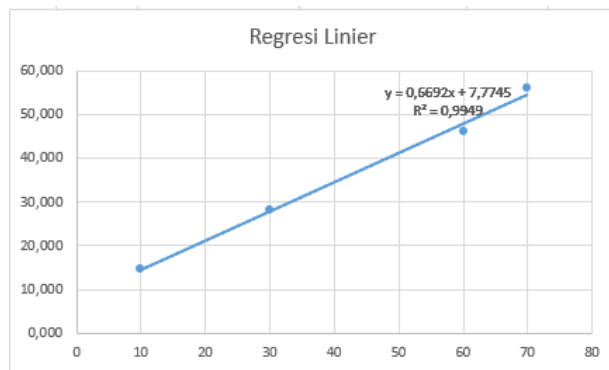
(kategori aktif 50 - 100 ppm)

Grafik IC₅₀ ekstrak daun alpukat

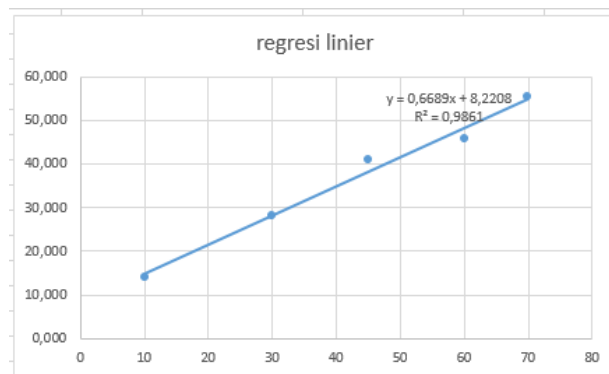
➤ Replikasi I



➤ Replikasi II



➤ Replikasi III



Lampiran 25. Pembuatan larutan stok Hemaviton C1000

Pembuatan larutan stok hemaviton C1000 dilakukan dengan cara ditimbang hemaviton C1000 sebanyak 25 mg dimasukkan dalam labu takar 25 ml kemudian ditambahkan etanol p.a sampai tanda batas, sehingga diperoleh konsentrasi 1000 ppm.

$$\begin{aligned} \text{Konsentrasi larutan hemaviton C1000} &= 25 \text{ mg} / 25 \text{ mL} \\ &= 1000 \text{ mg} / 1000 \text{ mL} \\ &= 1000 \text{ ppm} \end{aligned}$$

Larutan hemaviton C1000 1000 ppm diencerkan menjadi 5 seri pengenceran yaitu, konsentrasi 50 ppm, 70 ppm, 90 ppm, 110 ppm dan 130 ppm.

➤ **Konsentrasi 50 ppm**

$$\begin{aligned} V_1 \times C_1 &= V_2 \times C_2 \\ V_1 \times 1000 \text{ ppm} &= 10 \text{ ml} \times 50 \text{ ppm} \\ V_1 &= \frac{10 \text{ ml} \times 50 \text{ ppm}}{1000 \text{ ppm}} \\ V_1 &= 0,5 \text{ ml} \end{aligned}$$

Dipipet larutan stok hemaviton C1000 1000 ppm sebanyak 0,5 mL dimasukkan dalam labu takar 10 mL kemudian ditambahkan etanol p.a sampai tanda batas.

➤ **Konsentrasi 70 ppm**

$$\begin{aligned} V_1 \times C_1 &= V_2 \times C_2 \\ V_1 \times 1000 \text{ ppm} &= 10 \text{ ml} \times 70 \text{ ppm} \\ V_1 &= \frac{10 \text{ ml} \times 70 \text{ ppm}}{1000 \text{ ppm}} \\ V_1 &= 0,7 \text{ ml} \end{aligned}$$

Dipipet larutan stok hemaviton C1000 1000 ppm sebanyak 0,7 mL dimasukkan dalam labu takar 10 mL kemudian ditambahkan etanol p.a sampai tanda batas.

➤ **Konsentrasi 90 ppm**

$$\begin{aligned}
 V_1 \times C_1 &= V_2 \times C_2 \\
 V_1 \times 1000 \text{ ppm} &= 10 \text{ ml} \times 90 \text{ ppm} \\
 V_1 &= \frac{10 \text{ ml} \times 90 \text{ ppm}}{1000 \text{ ppm}} \\
 V_1 &= 0,9 \text{ ml}
 \end{aligned}$$

Dipipet larutan stok hemaviton C1000 1000 ppm sebanyak 0,9 mL dimasukkan dalam labu takar 10 mL kemudian ditambahkan etanol p.a sampai tanda batas.

➤ **Konsentrasi 110 ppm**

$$\begin{aligned}
 V_1 \times C_1 &= V_2 \times C_2 \\
 V_1 \times 1000 \text{ ppm} &= 10 \text{ ml} \times 110 \text{ ppm} \\
 V_1 &= \frac{10 \text{ ml} \times 110 \text{ ppm}}{1000 \text{ ppm}} \\
 V_1 &= 1,1 \text{ ml}
 \end{aligned}$$

Dipipet larutan stok hemaviton C1000 1000 ppm sebanyak 1,1 mL dimasukkan dalam labu takar 10 mL kemudian ditambahkan etanol p.a sampai tanda batas.

➤ **Konsentrasi 130 ppm**

$$\begin{aligned}
 V_1 \times C_1 &= V_2 \times C_2 \\
 V_1 \times 1000 \text{ ppm} &= 10 \text{ ml} \times 130 \text{ ppm} \\
 V_1 &= \frac{10 \text{ ml} \times 130 \text{ ppm}}{1000 \text{ ppm}} \\
 V_1 &= 1,3 \text{ ml}
 \end{aligned}$$

Dipipet larutan stok hemaviton C1000 1000 ppm sebanyak 1,3 mL dimasukkan dalam labu takar 10 mL kemudian ditambahkan etanol p.a sampai tanda batas.

Lampiran 26. Hasil uji aktivitas antioksidan seara in vitro

Kontrol positif Hemaviton C1000

Absorbansi DPPH = 0,737

Konsentrasi (ppm)	Absorbansi		
	Replikasi 1	Replikasi 2	Replikasi 3
10	0,725	0,723	0,720
50	0,688	0,687	0,687
90	0,496	0,495	0,494
130	0,343	0,343	0,342
170	0,222	0,221	0,219

% peredaman			Rata-rata
Replikasi 1	Replikasi 2	Replikasi 3	%peredaman
1,628	1,900	2,307	1,945
6,649	6,784	6,784	6,739
32,700	32,836	32,972	32,836
53,460	53,460	53,596	53,505
69,878	70,014	70,285	70,059

$$\text{Nilai \%peredaman} = \frac{(\text{Abs DPPH}-\text{Abs sampel})}{\text{Abs DPPH}} \times 100\%$$

REPLIKASI 1

- Konsentrasi 10 ppm = $\frac{(0,737-0,725)}{0,737} \times 100\% = 1,628\%$
- Konsentrasi 50 ppm = $\frac{(0,737-0,688)}{0,737} \times 100\% = 6,649\%$
- Konsentrasi 90 ppm = $\frac{(0,737-0,496)}{0,737} \times 100\% = 32,700\%$
- Konsentrasi 130 ppm = $\frac{(0,737-0,343)}{0,737} \times 100\% = 53,460\%$

- Konsentrasi 170 ppm = $\frac{(0,737-0,222)}{0,737} \times 100\%$ = 69,878%

REPLIKASI 2

- Konsentrasi 10 ppm = $\frac{(0,737-0,723)}{0,737} \times 100\%$ = 1,900%

- Konsentrasi 50 ppm = $\frac{(0,737-0,687)}{0,737} \times 100\%$ = 6,784%

- Konsentrasi 90 ppm = $\frac{(0,737-0,495)}{0,737} \times 100\%$ = 32,836%

- Konsentrasi 130 ppm = $\frac{(0,737-0,343)}{0,737} \times 100\%$ = 53,460%

- Konsentrasi 170 ppm = $\frac{(0,737-0,221)}{0,737} \times 100\%$ = 70,014%

REPLIKASI 3

- Konsentrasi 10 ppm = $\frac{(0,737-0,720)}{0,737} \times 100\%$ = 2,307%

- Konsentrasi 50 ppm = $\frac{(0,737-0,687)}{0,737} \times 100\%$ = 6,784%

- Konsentrasi 90 ppm = $\frac{(0,737-0,494)}{0,737} \times 100\%$ = 32,972%

- Konsentrasi 130 ppm = $\frac{(0,737-0,342)}{0,737} \times 100\%$ = 53,596%

- Konsentrasi 170 ppm = $\frac{(0,737-0,219)}{0,737} \times 100\%$ = 70,285%

Rata-rata %peredaman masing-masing konsentrasi :

- Konsentrasi 10 ppm = $\frac{1,628\%+1,900\%+2,307\%}{3}$ = 1,945%

- Konsentrasi 50 ppm = $\frac{6,649\%+6,784\%+6,784\%}{3}$ = 6,739%

- Konsentrasi 90 ppm = $\frac{32,700\%+32,836\%+32,972\%}{3}$ = 32,836%

- Konsentrasi 130 ppm = $\frac{53,460\%+53,460\%+53,596\%}{3}$ = 53,505%
- Konsentrasi 170 ppm = $\frac{69,878\%+70,014\%+70,285\%}{3}$ = 70,059%

Regresi linier (abs vs %peredaman) :

Replikasi	Regresi linier			IC ₅₀ (ppm)	Rata-rata IC ₅₀ ± SD
	a	B	r		
1	-8,382	0,458	0,986	127,395	127,123 ± 0,305
2	-8,155	0,457	0,986	127,181	
3	-7,934	0,457	0,985	126,793	

$$\text{Nilai IC}_{50} \text{ Hemaviton C1000} = \frac{(50-a)}{b}$$

$$\text{REPLIKASI 1} = \frac{(50-(-8,382))}{0,458} = 127,395 \text{ ppm}$$

$$\text{REPLIKASI 2} = \frac{(50-(-8,155))}{0,457} = 127,181 \text{ ppm}$$

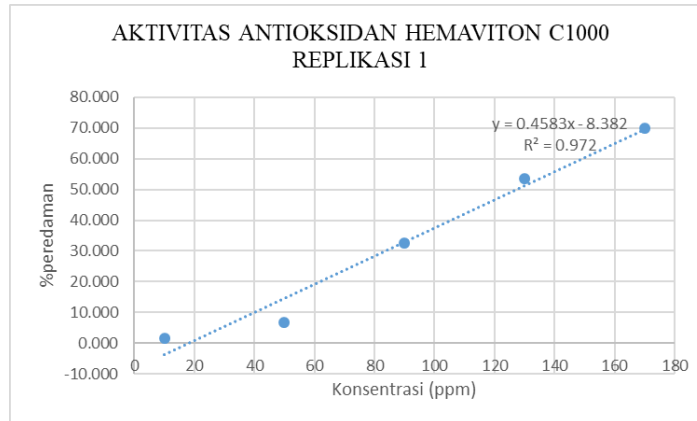
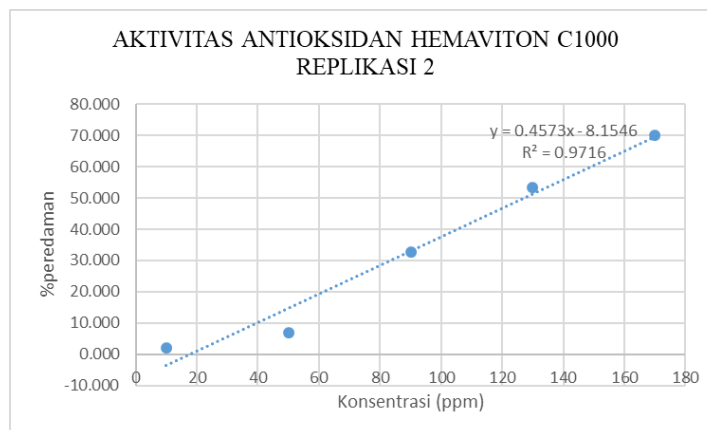
$$\text{REPLIKASI 3} = \frac{(50-(-7,934))}{0,457} = 126,793 \text{ ppm}$$

Rata-rata nilai IC₅₀ Hemaviton C1000 =

$$\frac{127,395 \text{ ppm}+127,181 \text{ ppm}+126,793 \text{ ppm}}{3}$$

$$= 127,123 \text{ ppm}$$

(kategori sedang 101 – 250 ppm)

Grafik IC₅₀ Hemaviton C1000**➤ Replikasi I****➤ Replikasi II****➤ Replikasi III**