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LAMPIRAN

A. ALUR PENELITIAN

```
┌─────────────────────┐
│   Izin Penelitian   │
└─────────────────────┘
           │
           ▼
┌─────────────────────┐
│   Penyiapan sampel  │
└─────────────────────┘
     │           │
     ▼           ▼
```

| Tikus putih betina 20 ekor | Daun Ciplukan |

diadaptasi
dipuasakan
ditimbang
dikelompokkan

Maserasi dengan etanol 70%

| Diambil darah awal sebelum perlakuan | Ekstrak cair |

Di uapkan dengan rotary evaporator

Ekstrak kental

Perlakuan ← Pembagian dan pembuatan dosis ekstrak

| Kelompok I kontrol negatif Na-CMC 1% | Kelompok II Dosis ekstrak konsentrasi 100 mg/kgBB | Kelompok III Dosis ekstrak konsentrasi 500 mg/kgBB | Kelompok IV Dosis ekstrak konsentrasi 1000 mg/kgBB |

Diberi perlakuan selama 28 hari

Diambil darah akhir tikus untuk mengetahui nilai kreatinin, ureum, SGPT, SGOT kemudian dilakukan Histologi Ginjal dan Hati pada hari ke - 28

Pengumpulan Data

Analisis Data

Pembahasan

Kesimpulan

B. PERHITUNGAN DOSIS

1. Perhitungan dosis ekstrak daun ciplukan 100 mg/kgBB

   Dosis untuk tikus 200 g $\qquad$ = $\frac{100 \, mg}{1000 \, g}$ x 200 g

   $\qquad$ = 20 mg/200 g

   Larutan stok 5 ekor tikus (3 hari) $\qquad$ = $\frac{50 \, mL}{2 \, mL}$ x 20 mg

   $\qquad$ = 500 mg/50 mL

2. Perhitungan dosis ekstrak daun ciplukan 500 mg/kgBB

   Dosis untuk tikus 200 g $\qquad$ = $\frac{500 \, mg}{1000 \, g}$ x 200 g

   $\qquad$ = 100 mg/200 g

   Larutan stok 5 ekor tikus (3 hari) $\qquad$ = $\frac{50 \, mL}{2 \, mL}$ x 100 mg

   $\qquad$ = 2500 mg/50 mL

3. Perhitungan dosis ekstrak daun ciplukan 1000 mg/kgBB

   Dosis untuk tikus 200 g $\qquad$ = $\frac{1000 \, mg}{1000 \, g}$ x 200 g

   $\qquad$ = 200 mg/200 g

   Larutan stok 5 ekor tikus (3 hari) $\qquad$ = $\frac{50 \, mL}{2 \, mL}$ x 200 mg

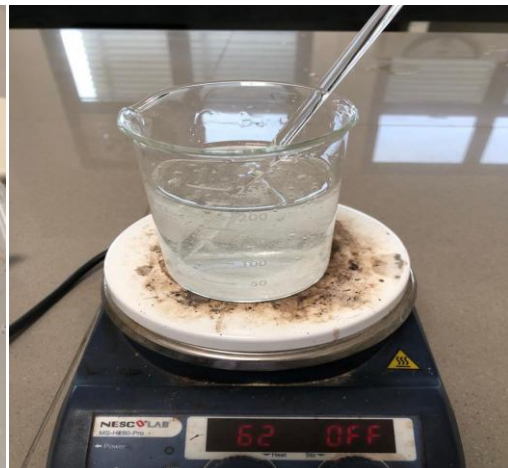 $\qquad$ = 5000 mg/50 mL

C. DOKUMENTASI PENELITIAN

Gambar 17. Sampel daun ciplukan (*Physalis angulata*)

Gambar 18. Ekstrak kental

Gambar 19. Na-CMC

Gambar 20. Pengambilan sampel darah

Gambar 21. Pemisahan serum darah

Gambar 22. Pembedahan Tikus

Gambar 23. Organ Hati dan Ginjal Tikus

D. BOBOT BADAN TIKUS

Bobot Badan Kelompok Kontrol (g)					
Hari	1	7	14	21	28
Tikus 1	244	242	242	240	242
Tikus 2	167	172	178	175	179
Tikus 3	278	284	290	298	306
Tikus 4	210	210	213	211	213
Tikus 5	192	195	195	197	199
Rata-rata	218,2 ± 43,64	220,6 ± 43,61	223,6 ± 44,04	224,2 ± 47,52	227,8 ± 49,36
Bobot Badan Kelompok EEDC 100 mg/kgBB (g)					
Tikus 1	252	252	260	262	272
Tikus 2	249	250	249	252	243
Tikus 3	230	232	242	242	240
Tikus 4	236	235	234	235	244
Tikus 5	206	210	211	209	212
Rata-rata	234,6 ± 18,38	235,8 ± 16,92	239,2 ± 18,43	240 ± 20,11	242,2 ± 21,26
Bobot Badan Kelompok EEDC 500 mg/kg BB (g)					
Tikus 1	248	233	234	227	234
Tikus 2	218	209	212	208	212
Tikus 3	256	239	251	243	248
Tikus 4	178	164	170	170	180
Tikus 5	208	203	205	213	208
Rata-rata	221,6 ± 31,54	209,6 ± 29,73	214,4 ± 30,78	212,2 ± 27,23	216,4 ± 26,09
Bobot Badan Kelompok EEDC 1000 mg/kg BB (g)					
Tikus 1	260	257	260	261	263
Tikus 2	248	242	244	243	244
Tikus 3	228	221	225	222	224
Tikus 4	190	186	188	187	189
Tikus 5	215	199	202	200	204
Rata-rata	228,2 ± 27,55	221 ± 29,35	223,8 ± 29,48	222,6 ± 30,29	224,8 ± 29,76

E. DATA STATISTIK

A. SGOT

ANOVA

Nilai Kadar SGOT Post Perlakuan

	Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	7810.858	3	2603.619	1.515	.249
Within Groups	27493.968	16	1718.373		
Total	35304.826	19			

Multiple Comparisons

Dependent Variable: Nilai Kadar SGOT Post Perlakuan

Tukey HSD

(I) Kelompok Perlakuan Ekstrak Daun Ciplukan	(J) Kelompok Perlakuan Ekstrak Daun Ciplukan	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
Kelompok Kontrol CMC	Kelompok EEDC100 mg	-26.76000	26.21735	.740	-101.7683	48.2483
	Kelompok EEDC 500 mg	-38.08000	26.21735	.487	-113.0883	36.9283
	Kelompok EEDC 1000 mg	-54.22000	26.21735	.205	-129.2283	20.7883
Kelompok EEDC100 mg	Kelompok Kontrol CMC	26.76000	26.21735	.740	-48.2483	101.7683
	Kelompok EEDC 500 mg	-11.32000	26.21735	.972	-86.3283	63.6883
	Kelompok EEDC 1000 mg	-27.46000	26.21735	.725	-102.4683	47.5483
Kelompok EEDC 500 mg	Kelompok Kontrol CMC	38.08000	26.21735	.487	-36.9283	113.0883
	Kelompok EEDC100 mg	11.32000	26.21735	.972	-63.6883	86.3283
	Kelompok EEDC 1000 mg	-16.14000	26.21735	.926	-91.1483	58.8683
Kelompok EEDC 1000 mg	Kelompok Kontrol CMC	54.22000	26.21735	.205	-20.7883	129.2283
	Kelompok EEDC100 mg	27.46000	26.21735	.725	-47.5483	102.4683
	Kelompok EEDC 500 mg	16.14000	26.21735	.926	-58.8683	91.1483

T-Test

Paired Samples Statistics

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	KELOMPOK 1 PRE	108.7600	5	48.27715	21.59020
	KELOMPOK 1 POST	107.3000	5	9.66695	4.32319
Pair 2	KELOMPOK 2 PRE	134.3600	5	42.06243	18.81089
	KELOMPOK 2 POST	149.2000	5	26.31919	11.77030
Pair 3	KELOMPOK 3 PRE	117.9200	5	66.01766	29.52400
	KELOMPOK 3 POST	145.3800	5	58.69218	26.24794
Pair 4	KELOMPOK 4 PRE	98.2200	5	21.30427	9.52756
	KELOMPOK 4 POST	153.1200	5	49.92166	22.32564

Paired Samples Test

| | | Paired Differences | | | | | | | |
| | | | Std. Deviation | Std. Error Mean | 95% Confidence Interval of the Difference | | | | Sig. (2-tailed) |
		Mean			Lower	Upper	t	df	
Pair 1	KELOMPOK 1 PRE - KELOMPOK 1 POST	1.46000	53.97549	24.13857	-65.55942	68.47942	.060	4	.955
Pair 2	KELOMPOK 2 PRE - KELOMPOK 2 POST	-14.84000	45.85224	20.50575	-71.77308	42.09308	-.724	4	.509
Pair 3	KELOMPOK 3 PRE - KELOMPOK 3 POST	-27.46000	34.14334	15.26937	-69.85456	14.93456	-1.798	4	.147
Pair 4	KELOMPOK 4 PRE - KELOMPOK 4 POST	-54.90000	45.23892	20.23146	-111.07154	1.27154	-2.714	4	.053

B. SGPT

ANOVA

Nilai Kadar SGPT Post Perlakuan

	Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	66785.666	3	22261.889	1.250	.325
Within Groups	284898.192	16	17806.137		
Total	351683.858	19			

Multiple Comparisons

Dependent Variable: Nilai Kadar SGPT Post Perlakuan

Tukey HSD

(I) Kelompok Perlakuan Ekstrak Daun Ciplukan	(J) Kelompok Perlakuan Ekstrak Daun Ciplukan	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
Kelompok Kontrol CMC	Kelompok EEDC100 mg	3.22000	84.39464	1.000	-238.2347	244.6747
	Kelompok EEDC 500 mg	-134.16000	84.39464	.412	-375.6147	107.2947
	Kelompok EEDC 1000 mg	-6.00000	84.39464	1.000	-247.4547	235.4547
Kelompok EEDC100 mg	Kelompok Kontrol CMC	-3.22000	84.39464	1.000	-244.6747	238.2347
	Kelompok EEDC 500 mg	-137.38000	84.39464	.392	-378.8347	104.0747
	Kelompok EEDC 1000 mg	-9.22000	84.39464	1.000	-250.6747	232.2347
Kelompok EEDC 500 mg	Kelompok Kontrol CMC	134.16000	84.39464	.412	-107.2947	375.6147
	Kelompok EEDC100 mg	137.38000	84.39464	.392	-104.0747	378.8347
	Kelompok EEDC 1000 mg	128.16000	84.39464	.450	-113.2947	369.6147
Kelompok EEDC 1000 mg	Kelompok Kontrol CMC	6.00000	84.39464	1.000	-235.4547	247.4547
	Kelompok EEDC100 mg	9.22000	84.39464	1.000	-232.2347	250.6747
	Kelompok EEDC 500 mg	-128.16000	84.39464	.450	-369.6147	113.2947

T-Test

Paired Samples Statistics

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	KELOMPOK 1 PRE	74.6200	5	23.45894	10.49116
	KELOMPOK 1 POST	60.7400	5	17.65313	7.89472
Pair 2	KELOMPOK 2 PRE	65.0400	5	16.37752	7.32425
	KELOMPOK 2 POST	55.4600	5	15.48315	6.92428
Pair 3	KELOMPOK 3 PRE	73.5000	5	28.26066	12.63855
	KELOMPOK 3 POST	74.6600	5	19.02362	8.50762
Pair 4	KELOMPOK 4 PRE	63.4000	5	18.70936	8.36708
	KELOMPOK 4 POST	71.2400	5	18.28149	8.17573

Paired Samples Test

| | | Paired Differences | | | | | | | |
| | | | | | 95% Confidence Interval of the Difference | | | | |
		Mean	Std. Deviation	Std. Error Mean	Lower	Upper	t	df	Sig. (2-tailed)
Pair 1	KELOMPOK 1 PRE - KELOMPOK 1 POST	13.88000	17.61653	7.87835	-7.99381	35.75381	1.762	4	.153
Pair 2	KELOMPOK 2 PRE - KELOMPOK 2 POST	9.58000	15.94763	7.13200	-10.22160	29.38160	1.343	4	.250
Pair 3	KELOMPOK 3 PRE - KELOMPOK 3 POST	-1.16000	12.80246	5.72543	-17.05635	14.73635	-.203	4	.849
Pair 4	KELOMPOK 4 PRE - KELOMPOK 4 POST	-7.84000	11.68495	5.22567	-22.34878	6.66878	-1.500	4	.208

C. UREUM

ANOVA

Nilai Kadar UREUM Post Perlakuan

	Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	387.829	3	129.276	2.146	.135
Within Groups	964.040	16	60.252		
Total	1351.869	19			

Multiple Comparisons

Dependent Variable: Nilai Kadar UREUM Post Perlakuan

Tukey HSD

(I) Kelompok Perlakuan Ekstrak Daun Ciplukan	(J) Kelompok Perlakuan Ekstrak Daun Ciplukan	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
Kelompok Kontrol CMC	Kelompok EEDC100 mg	10.26000	4.90928	.198	-3.7855	24.3055
	Kelompok EEDC 500 mg	-.36000	4.90928	1.000	-14.4055	13.6855
	Kelompok EEDC 1000 mg	.76000	4.90928	.999	-13.2855	14.8055
Kelompok EEDC100 mg	Kelompok Kontrol CMC	-10.26000	4.90928	.198	-24.3055	3.7855
	Kelompok EEDC 500 mg	-10.62000	4.90928	.176	-24.6655	3.4255
	Kelompok EEDC 1000 mg	-9.50000	4.90928	.253	-23.5455	4.5455
Kelompok EEDC 500 mg	Kelompok Kontrol CMC	.36000	4.90928	1.000	-13.6855	14.4055
	Kelompok EEDC100 mg	10.62000	4.90928	.176	-3.4255	24.6655
	Kelompok EEDC 1000 mg	1.12000	4.90928	.996	-12.9255	15.1655
Kelompok EEDC 1000 mg	Kelompok Kontrol CMC	-.76000	4.90928	.999	-14.8055	13.2855
	Kelompok EEDC100 mg	9.50000	4.90928	.253	-4.5455	23.5455
	Kelompok EEDC 500 mg	-1.12000	4.90928	.996	-15.1655	12.9255

T-Test

Paired Samples Statistics

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	KELOMPOK 1 PRE	57.0600	5	4.68860	2.09681
	KELOMPOK 1 POST	53.5600	5	10.55168	4.71886
Pair 2	KELOMPOK 2 PRE	53.3200	5	5.45454	2.43934
	KELOMPOK 2 POST	45.6800	5	4.92717	2.20350
Pair 3	KELOMPOK 3 PRE	54.0600	5	10.42607	4.66268
	KELOMPOK 3 POST	53.9200	5	9.18923	4.10955
Pair 4	KELOMPOK 4 PRE	51.7200	5	13.32505	5.95914
	KELOMPOK 4 POST	55.5400	5	9.57773	4.28329

Paired Samples Test

		Paired Differences							
					95% Confidence Interval of the Difference				
		Mean	Std. Deviation	Std. Error Mean	Lower	Upper	t	df	Sig. (2-tailed)
Pair 1	KELOMPOK 1 PRE - KELOMPOK 1 POST	3.50000	13.47423	6.02586	-13.23047	20.23047	.581	4	.593
Pair 2	KELOMPOK 2 PRE - KELOMPOK 2 POST	7.64000	10.07214	4.50440	-4.86621	20.14621	1.696	4	.165
Pair 3	KELOMPOK 3 PRE - KELOMPOK 3 POST	.14000	15.35751	6.86809	-18.92886	19.20886	.020	4	.985
Pair 4	KELOMPOK 4 PRE - KELOMPOK 4 POST	-3.82000	15.78534	7.05942	-23.42009	15.78009	-.541	4	.617

D. KREATININ

ANOVA

Nilai Kadar KREATININ Post Perlakuan

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	.009	3	.003	.402	.754
Within Groups	.119	16	.007		
Total	.128	19			

Multiple Comparisons

Dependent Variable: Nilai Kadar KREATININ Post Perlakuan

Tukey HSD

(I) Kelompok Perlakuan Ekstrak Daun Ciplukan	(J) Kelompok Perlakuan Ekstrak Daun Ciplukan	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
Kelompok Kontrol CMC	Kelompok EEDC100 mg	-.057200	.054446	.723	-.21297	.09857
	Kelompok EEDC 500 mg	-.028600	.054446	.952	-.18437	.12717
	Kelompok EEDC 1000 mg	-.042800	.054446	.860	-.19857	.11297
Kelompok EEDC100 mg	Kelompok Kontrol CMC	.057200	.054446	.723	-.09857	.21297
	Kelompok EEDC 500 mg	.028600	.054446	.952	-.12717	.18437
	Kelompok EEDC 1000 mg	.014400	.054446	.993	-.14137	.17017
Kelompok EEDC 500 mg	Kelompok Kontrol CMC	.028600	.054446	.952	-.12717	.18437
	Kelompok EEDC100 mg	-.028600	.054446	.952	-.18437	.12717
	Kelompok EEDC 1000 mg	-.014200	.054446	.994	-.16997	.14157
Kelompok EEDC 1000 mg	Kelompok Kontrol CMC	.042800	.054446	.860	-.11297	.19857
	Kelompok EEDC100 mg	-.014400	.054446	.993	-.17017	.14137
	Kelompok EEDC 500 mg	.014200	.054446	.994	-.14157	.16997

T-Test

Paired Samples Statistics

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	KELOMPOK 1 PRE	.31380	5	.192960	.086294
	KELOMPOK 1 POST	.32820	5	.108534	.048538
Pair 2	KELOMPOK 2 PRE	.33160	5	.066504	.029742
	KELOMPOK 2 POST	.38540	5	.108337	.048450
Pair 3	KELOMPOK 3 PRE	.38540	5	.108337	.048450
	KELOMPOK 3 POST	.35680	5	.050559	.022611
Pair 4	KELOMPOK 4 PRE	.41400	5	.170788	.076379
	KELOMPOK 4 POST	.37460	5	.059248	.026496

Paired Samples Test

		Paired Differences							
			Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				Sig. (2-tailed)
		Mean			Lower	Upper	T	df	
Pair 1	KELOMPOK 1 PRE - KELOMPOK 1 POST	-.014400	.254623	.113871	-.330556	.301756	-.126	4	.905
Pair 2	KELOMPOK 2 PRE - KELOMPOK 2 KREATININ	-.053800	.096144	.042997	-.173179	.065579	-1.251	4	.279
Pair 3	KELOMPOK 3 PRE - KELOMPOK 3 POST	.028600	.063673	.028476	-.050461	.107661	1.004	4	.372
Pair 4	KELOMPOK 4 PRE - KELOMPOK 4 POST	.039400	.184215	.082384	-.189334	.268134	.478	4	.657

F. KODE ETIK PENELITIAN

KEMENTERIAN PENDIDIKAN, KEBUDAYAAN
RISET, DAN TEKNOLOGI
UNIVERSITAS HASANUDDIN
FAKULTAS KESEHATAN MASYARAKAT
Jln.Perintis Kemerdekaan Km.10 Makassar 90245, Telp.(0411) 585658,
E-mail : fkm.unhas@gmail.com, website: https/fkm.unhas.ac.id/

REKOMENDASI PERSETUJUAN ETIK
Nomor : 8572/UN4.14.1/TP.01.02/2022

Tanggal : 29 Juli 2022

Dengan ini Menyatakan bahwa Protokol dan Dokumen yang Berhubungan dengan Protokol berikut ini telah mendapatkan Persetujuan Etik :

No.Protokol	22722092137	No. Sponsor Protokol	
Peneliti Utama	**Lestiariani**	Sponsor	Pribadi
Judul Peneliti	**Uji Toksisitas Subakut Ekstrak Daun Ciplukan (Physalis Angulata) Terhadap Fungsi Dan Struktur Histologi Ginjal Dan Hati Pada Tikus Putih (Rattus Norvegicus) Betina**		
No.Versi Protokol	1	Tanggal Versi	22 Juli 2022
No.Versi PSP	1	Tanggal Versi	22 Juli 2022
Tempat Penelitian	**Laboratorium BioFarmasi Fakultas Farmasi Universitas Hasanuddin**		
Judul Review	☐ Exempted ☒ Expedited ☐ Fullboard	Masa Berlaku **29 Juli 2022 Sampai 29 Juli 2023**	Frekuensi review lanjutan
Ketua Komisi Etik Penelitian	Nama : Prof.dr.Veni Hadju,M.Sc,Ph.D	Tanda tangan	Tanggal 29 Juli 2022
Sekretaris komisi Etik Penelitian	Nama : Dr. Wahiduddin, SKM.,M.Kes	Tanda tangan	Tanggal 29 Juli 2022

Kewajiban Peneliti Utama :
1. Menyerahkan Amandemen Protokol untuk persetujuan sebelum di implementasikan
2. Menyerahkan Laporan SAE ke Komisi Etik dalam 24 Jam dan dilengkapi dalam 7 hari dan Lapor SUSAR dalam 72 Jam setelah Peneliti Utama menerima laporan
3. Menyerahkan Laporan Kemajuan (progress report) setiap 6 bulan untuk penelitian resiko tinggi dan setiap setahun untuk penelitian resiko rendah
4. Menyerahkan laporan akhir setelah Penelitian berakhir
5. Melaporakn penyimpangan dari protokol yang disetujui (protocol deviation/violation)
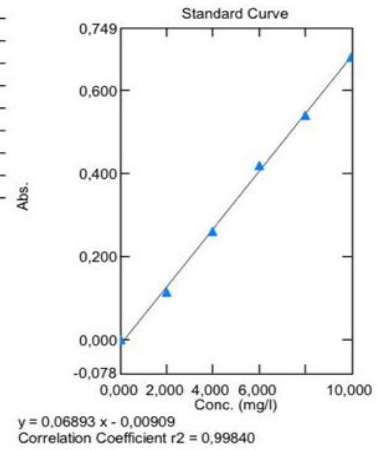6. Mematuhi semua peraturan yang ditentukan

G. KURVA STANDAR QUERSETN

LABORATORIUM BIOFARMAKA
FAKULTAS FARMASI UNIVERSITAS HASANUDDIN
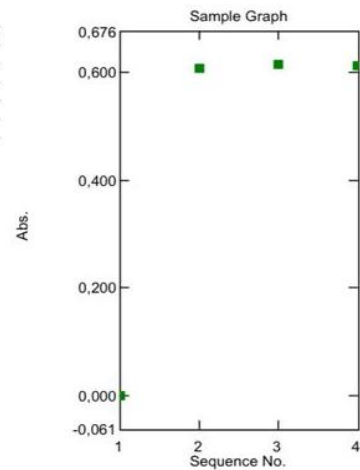
Gedung Pusat Kegiatan Penelitian Lantai IV Wing B

Standard Table

	Sample ID	Type	Ex	Conc	WL432,5	Wgt.Factor
1	blank	Standard		0,000	0,000	1,000
2	quersetin 1	Standard		2,000	0,115	1,000
3	quersetin 2	Standard		4,000	0,261	1,000
4	quersetin 3	Standard		6,000	0,419	1,000
5	quersetin 4	Standard		8,000	0,538	1,000
6	quersetin 5	Standard		10,000	0,680	1,000
7						

Standard Curve

$y = 0,06893 x - 0,00909$
Correlation Coefficient $r2 = 0,99840$

Sample Table

|	Sample ID	Type	Ex	Conc	WL432,5	Com
1	blank	Unknown		0,136	0,000	
2	sampel ekstrak 1	Unknown		8,955	0,608	
3	sampel ekstrak 2	Unknown		9,048	0,615	
4	sampel ekstrak 3	Unknown		9,012	0,612	
5						

Sample Graph

Makassar, 01/11/2022
Analis

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H. PANJANG GELOMBANG MAKSIMUM QUERSETIN

LABORATORIUM BIOFARMAKA
FAKULTAS FARMASI UNIVERSITAS HASANUDDIN

Gedung Pusat Kegiatan Penelitian Lantai IV Wing B
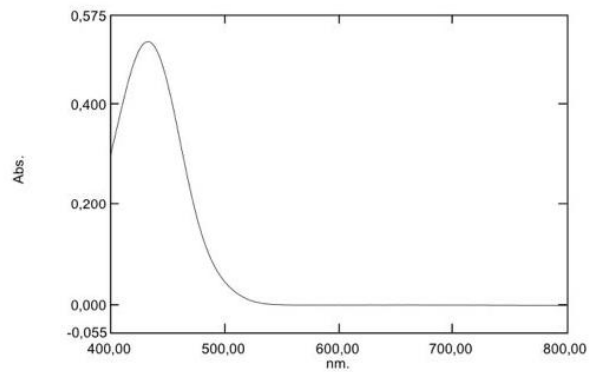
No.	P/V	Wavelength	Abs.	Description
1	⊕	432,50	0,523	

01/11/2022

Makassar,
Analis

I. PERHITUNGAN KADAR FLAVONOID TOTAL

Ekstrak daun ciplukan	Absorban	Konsentrasi total flavonoid sampel (ppm)	Berat sampel (mg)	Faktor pengenceran	Volume ekstrak yang digunakan (ml)
Sampel 1	0,608	8,955	100,2	25	10
Sampel 2	0,615	9,048	100,2	25	10
Sampel 3	0,612	9,012	100,2	25	10
Rata-rata	0,612	9,005	100,2	25	10

$$\text{Kadar Flavonoid Total} = \frac{C x V x f p . 10-6}{g} \text{ x } 100 \text{ \%}$$

$$= \frac{9,005 x 10 x 25 . 10-6}{0,1002 g} \text{ x } 100 \text{ \%}$$

$$= 2,247 \text{ \%}$$

Ket:

C = Konsentrasi total flavonoid sampel

V = Volume ekstrak yang digunakan

fp = Faktor pengenceran

g = Berat sampel