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LAMPIRAN

Lampiran 1. Hasil laboratorium uji fitokimia dan kadar flavonoid



LABORATORIUM BOKIMIA
DEPARTEMEN KIMIA
FAKULTAS MATEMATIKA DAN ILMU PENGETAHUAN ALAM
UNIVERSITAS HASANUDDIN

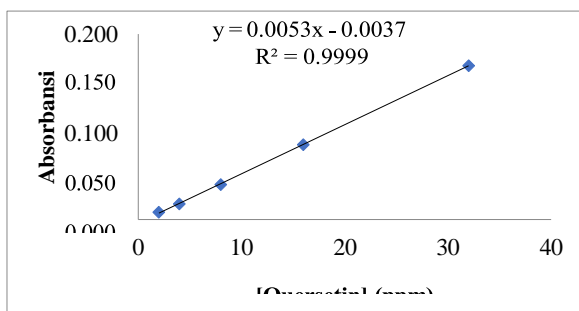
Kampus UNHAS Tamalanrea, Jl. Perintis Kemerdekaan KM. 10, Makassar 90245
 Telp/Fax : 0411-586498

LAPORAN HASIL ANALISIS
No. 80-LHP/V/BK/K/FMIPA-UH/2023

Nama : Musfira
 Asal Institusi : Universitas Hasanuddin
 Jenis Sampel : Ekstrak jahe
 Jumlah : 3 (tiga)
 Analisis : Kadar Flavonoid (Quersetin)
 Uji Fitokimia (Kualitatif)

A. KADAR TOTAL
FLAVANOID
STANDAR
QUERSETIN

[Quersetin] (ppm)	A ($\lambda = 442 \text{ nm}$)
2	0.008
4	0.017
8	0.038
16	0.081
32	0.166



$r = 0.9999$

Nama Sampel	Kode Sampel	A ($\lambda = 442 \text{ nm}$)	Flavonoid terukur (ppm)	Massa Sampel (mg)	Volume larutan sampel (L)	mg ekuivalen quersetin/mg sampel	Kadar Flavonoid (%)
A Jahe Gajah	Simplo	0.083	15.2157	50.50	0.01	0.00301	0.3013
	Duplo	0.081	14.8235	50.50	0.01	0.00294	0.2935
	Simplo	0.087	16.0000	50.30	0.01	0.00318	0.3181
	Duplo	0.087	16.0000	50.30	0.01	0.00318	0.3181
	Simplo	0.058	10.3137	50.40	0.01	0.00205	0.2046
	Duplo	0.058	10.3137	50.40	0.01	0.00205	0.2046



Kode Sampel	Uji Fenolik	Uji Saponin	Uji Alkaloid	Uji Steroid	Uji Triterpenoid	Uji Flavanoid
A Jahe Gajah	positif	negatif	positif	Negatif	negatif	Positif
B Jahe Merah	positif	negatif	positif	Negatif	Negatif	positif
C Jahe Emprit	positif	negatif	positif	Negatif	Negatif	positif

Makassar, 26 Mei 2023
PLP Lab. Biokimia

Mahdalia, S.Si., M.Si.
NIP. 19750826 199601 2 001



Lampiran 2. Data Anova

- Hasil Anova uji daya hambat

Descriptives

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum	
					Lower Bound	Upper Bound			
Diameter zona hambat jahe merah	50 ppm	3	7.67	.577	.333	6.23	9.10	7	8
	100 ppm	3	8.67	.577	.333	7.23	10.10	8	9
	150 ppm	3	12.33	.577	.333	10.90	13.77	12	13
	200 ppm	3	11.67	.577	.333	10.23	13.10	11	12
	250 ppm	3	12.67	2.082	1.202	7.50	17.84	11	15
	Total	15	10.60	2.293	.592	9.33	11.87	7	15
Diameter zona hambat jahe gajah	50 ppm	3	6.67	.577	.333	5.23	8.10	6	7
	100 ppm	3	6.33	.577	.333	4.90	7.77	6	7
	150 ppm	3	11.67	1.155	.667	8.80	14.54	11	13
	200 ppm	3	11.33	1.528	.882	7.54	15.13	10	13
	250 ppm	3	11.67	.577	.333	10.23	13.10	11	12
	Total	15	9.53	2.696	.696	8.04	11.03	6	13
Diameter zona hambat jahe emprit	50 ppm	3	6.67	1.528	.882	2.87	10.46	5	8
	100 ppm	3	7.67	1.528	.882	3.87	11.46	6	9
	150 ppm	3	9.00	1.000	.577	6.52	11.48	8	10
	200 ppm	3	10.33	1.528	.882	6.54	14.13	9	12
	250 ppm	3	10.00	1.000	.577	7.52	12.48	9	11
	Total	15	8.73	1.831	.473	7.72	9.75	5	12

ANOVA

		Sum of Squares	df	Mean Square	F	Sig.
Diameter zona hambat jahe merah	Between Groups	62.267	4	15.567	13.735	.000
	Within Groups	11.333	10	1.133		
	Total	73.600	14			
Diameter zona hambat jahe gajah	Between Groups	92.400	4	23.100	24.750	.000
	Within Groups	9.333	10	.933		
	Total	101.733	14			
Diameter zona hambat jahe emprit	Between Groups	28.933	4	7.233	4.019	.034
	Within Groups	18.000	10	1.800		
	Total	46.933	14			

Diameter zona hambat jahe merah

Tukey HSD^a

Perlakuan	N	Subset for alpha = 0.05	
		1	2
50 ppm	3	7.67	
100 ppm	3	8.67	
200 ppm	3		11.67
150 ppm	3		12.33
250 ppm	3		12.67
Sig.		.778	.778

Means for groups in homogeneous subsets are displayed.

a. Uses Harmonic Mean Sample Size = 3.000.

Diameter zona hambat jahe gajah

Tukey HSD^a

Perlakuan	N	Subset for alpha = 0.05	
		1	2
100 ppm	3	6.33	
50 ppm	3	6.67	
200 ppm	3		11.33
150 ppm	3		11.67
250 ppm	3		11.67
Sig.		.992	.992

Means for groups in homogeneous subsets are displayed.

a. Uses Harmonic Mean Sample Size = 3.000.

Diameter zona hambat jahe emprit

Tukey HSD^a

Perlakuan	N	Subset for alpha = 0.05	
		1	2
50 ppm	3	6.67	
100 ppm	3	7.67	7.67
150 ppm	3	9.00	9.00
250 ppm	3	10.00	10.00
			10.33
			10.33
		.073	.183

Means for groups in homogeneous subsets are displayed.

a. Uses Harmonic Mean Sample Size = 3.000.



- Hasil Anova Jumlah eritrosit

Descriptives

Eritrosit

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
50 ppm	3	1.0967	.05132	.02963	.9692	1.2241	1.04	1.14
100 ppm	3	1.2267	.34530	.19936	.3689	2.0844	.89	1.58
150 ppm	3	3.1933	.96769	.55870	.7894	5.5972	2.60	4.31
200 ppm	3	2.9800	1.77643	1.02562	-1.4329	7.3929	.95	4.25
kontrol (0 ppm)	3	.8700	.09165	.05292	.6423	1.0977	.77	.95
Total	15	1.8733	1.29368	.33403	1.1569	2.5897	.77	4.31

ANOVA

Eritrosit

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	14.986	4	3.746	4.436	.026
Within Groups	8.445	10	.844		
Total	23.430	14			

Eritrosit

Tukey HSD^a

Perakuan	N	Subset for alpha = 0.05	
			1
kontrol (0 ppm)	3		.8700
50 ppm	3		1.0967
100 ppm	3		1.2267
200 ppm	3		2.9800
150 ppm	3		3.1933
Sig.			.068

Means for groups in homogeneous subsets are displayed.

a. Uses Harmonic Mean Sample Size = 3.000.



- Hasil Anova Jumlah Leukosit

Descriptives

Leukosit

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
50 ppm	3	343.00	94.319	54.455	108.70	577.30	239	423
100 ppm	3	358.67	122.132	70.513	55.27	662.06	221	454
150 ppm	3	376.67	81.132	46.841	175.12	578.21	302	463
200 ppm	3	428.00	46.893	27.074	311.51	544.49	385	478
kontrol (0 ppm)	3	337.00	104.288	60.211	77.93	596.07	221	423
Total	15	368.67	85.764	22.144	321.17	416.16	221	478

ANOVA

Leukosit

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	16038.000	4	4009.500	.461	.763
Within Groups	86939.333	10	8693.933		
Total	102977.333	14			

Leukosit

Tukey HSD^a

Perakuan	N	Subset for alpha =	
		0.05	
		1	
kontrol (0 ppm)	3	337.00	
50 ppm	3	343.00	
100 ppm	3	358.67	
150 ppm	3	376.67	
200 ppm	3	428.00	
Sig.		.754	

Means for groups in homogeneous subsets are displayed.

a. Uses Harmonic Mean Sample Size = 3.000.



- Hasil Anova diferensial leukosit
- ✓ Total Limfosit

Descriptives

Limfosit

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum
					Lower Bound	Upper Bound	
1.0	3	71.3333	9.71253	5.60753	47.2061	95.4606	63.00
2.0	3	75.6667	10.59874	6.11919	49.3379	101.9954	66.00
3.0	3	81.3333	4.04145	2.33333	71.2938	91.3729	77.00
4.0	3	77.3333	11.06044	6.38575	49.8577	104.8090	67.00
5.0	3	70.3333	6.35085	3.66667	54.5569	86.1097	63.00
Total	15	75.2000	8.51218	2.19783	70.4861	79.9139	63.00

ANOVA

Limfosit

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	243.067	4	60.767	.788	.559
Within Groups	771.333	10	77.133		
Total	1014.400	14			

Limfosit

Tukey HSD^a

Ulangan	N	Subset for alpha
		= 0.05
		1
5.0	3	70.3333
1.0	3	71.3333
2.0	3	75.6667
4.0	3	77.3333
3.0	3	81.3333
Sig.		.566

Means for groups in homogeneous subsets are displayed.

a. Uses Harmonic Mean Sample Size = 3.000.



✓ Total Monosit

Descriptives

Monosit

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum
					Lower Bound	Upper Bound	
1.0	3	20.667	3.7859	2.1858	11.262	30.071	18.0
2.0	3	17.000	7.2111	4.1633	-.913	34.913	11.0
3.0	3	12.333	5.1316	2.9627	-.414	25.081	8.0
4.0	3	13.667	2.5166	1.4530	7.415	19.918	11.0
5.0	3	21.333	2.5166	1.4530	15.082	27.585	19.0
Total	15	17.000	5.3852	1.3904	14.018	19.982	8.0

ANOVA

Monosit

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	195.333	4	48.833	2.318	.128
Within Groups	210.667	10	21.067		
Total	406.000	14			

Monosit

Tukey HSD^a

Ulangan	N	Subset for alpha = 0.05	
		1	
3.0	3	12.333	
4.0	3	13.667	
2.0	3	17.000	
1.0	3	20.667	
5.0	3	21.333	
Sig.		.192	

Means for groups in homogeneous subsets are displayed.

a. Uses Harmonic Mean Sample Size = 3.000.



✓ Total Neutrofil

ANOVA

Neutrofil

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	12.400	4	3.100	.816	.543
Within Groups	38.000	10	3.800		
Total	50.400	14			

Neutrofil

Tukey HSD^a

Ulangan	N	Subset for alpha = 0.05	
		1	
3.0	3	6.333	
2.0	3	7.333	
1.0	3	8.000	
5.0	3	8.333	
4.0	3	9.000	
Sig.		.488	

Means for groups in homogeneous subsets are displayed.

a. Uses Harmonic Mean Sample Size = 3.000.

- Aktifitas fagositosis

Descriptives

Fagositosis

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
50 ppm	3	15.967	5.0332	2.9059	3.463	28.470	11.3	21.3
100 ppm	3	19.100	2.7622	1.5948	12.238	25.962	16.0	21.3
150 ppm	3	20.900	5.4148	3.1262	7.449	34.351	14.7	24.7
200 ppm	3	22.233	5.6536	3.2641	8.189	36.278	16.7	28.0
kontrol (0 ppm)	3	20.200	3.0050	1.7349	12.735	27.665	17.3	23.3
Total	15	19.680	4.4221	1.1418	17.231	22.129	11.3	28.0

ANOVA

Fagositosis

	Sum of Squares	df	Mean Square	F	Sig.
	67.211	4	16.803	.813	.545
	206.553	10	20.655		
	273.764	14			



Optimization Software:
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Fagositosis

Tukey HSD^a

Perlakuan	N	Subset for alpha = 0.05	
		1	
50 ppm	3	15.967	
100 ppm	3	19.100	
kontrol (0 ppm)	3	20.200	
150 ppm	3	20.900	
200 ppm	3	22.233	
Sig.		.481	

Means for groups in homogeneous subsets are displayed.

a. Uses Harmonic Mean Sample Size = 3.000.

- Aktivitas Lisozim

Descriptives

Lizosim

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
50 ppm	3	8.700	2.8688	1.6563	1.574	15.826	6.8	12.0
100 ppm	3	9.800	1.1358	.6557	6.979	12.621	9.0	11.1
150 ppm	3	11.800	.7211	.4163	10.009	13.591	11.0	12.4
200 ppm	3	11.100	1.7776	1.0263	6.684	15.516	9.1	12.5
kontrol (0 ppm)	3	7.067	1.0504	.6064	4.457	9.676	6.0	8.1
Total	15	9.693	2.2607	.5837	8.441	10.945	6.0	12.5



ANOVA

Lizosim

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	42.943	4	10.736	3.753	.041
Within Groups	28.607	10	2.861		
Total	71.549	14			

Lizosim

Tukey HSD^a

Perlakuan	N	Subset for alpha = 0.05	
		1	2
kontrol (0 ppm)	3	7.067	
50 ppm	3	8.700	8.700
100 ppm	3	9.800	9.800
200 ppm	3	11.100	11.100
150 ppm	3		11.800
Sig.		.089	.239

Means for groups in homogeneous subsets are displayed.

a. Uses Harmonic Mean Sample Size = 3.000.



Optimization Software:
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Lampiran 3. Dokumentasi penelitian

