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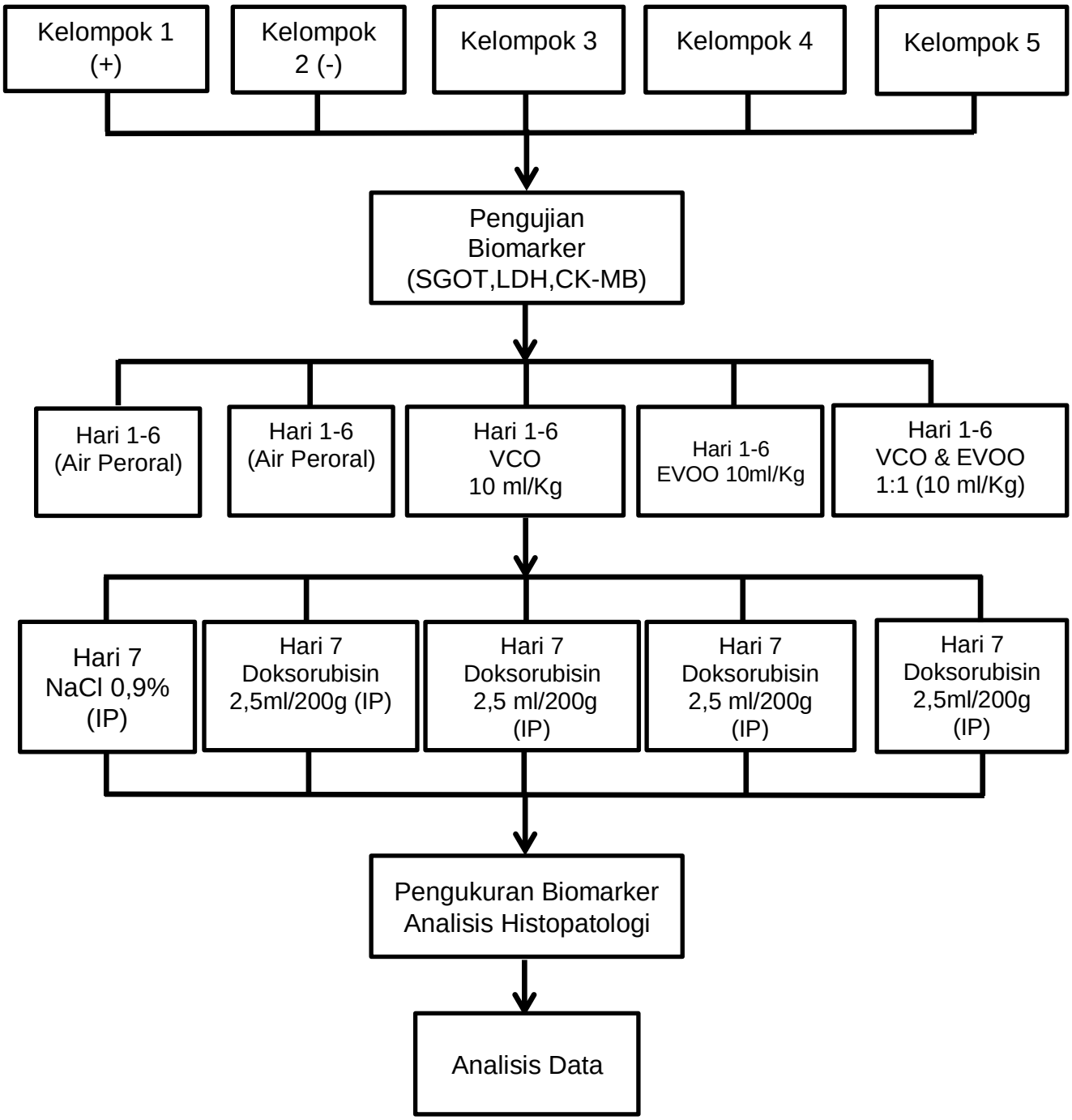
LAMPIRAN

Lampiran 1. Skema Kerja



Lampiran 2. Perhitungan Dosis

a. Doksorubisin

1. Konversi dosis doxorubisin pada manusia ke tikus

Adapun dosis doksorubisin yang digunakan pada manusia, jika dikonversi dan diberikan pada tikus yaitu:

Diketahui : 60 kg = 1,62 m^2

60 kg = 1,62 m^2

X = 1 m^2

$X = \frac{1}{1,62} \times 60$

X = 37 kg

Dosis Doxorubisin pada manusia = $\frac{30\ mg}{1\ m^2} = \frac{30\ mg}{37\ kg}$ = 0,8 mg/Kg

Dosis Doxorubisin pada tikus = Dosis manusia x Faktor Konversi

= 0,8 mg/Kg x 6,17

= 5 mg/KgBB

Untuk menginduksi toksisitas jantung pada tikus dibutuhkan dosis toksik yaitu 5 kali dosis terapi sehingga dosis yang diberikan yaitu 25mg/KgBB untuk menjamin terjadinya kardiotoksisitas pada tikus (Djabir YY : 2017, Djabir YY : 2016).

2. Larutan Doksorubisin

Sediaan yang digunakan adalah sediaan larutan injeksi doksorubisin dengan dosis 50mg/25ml (Kalbe®). Dosis yang diberikan untuk tikus putih adalah 25mg/KgBB. Untuk tikus putih

dengan BB 200 gram dosis yang diberikan diperoleh melalui perhitungan :

50mg/25ml = 2mg/ml

Dosis = 25mg/ml x 0,2 Kg

= 5 mg/200gr

Jadi, volume (v) larutan yang diinjeksikan pada tikus putih dengan berat 200 gram (0,2 Kg) adalah :

$$\text{Volume pemberian} = \frac{\text{Dosis}}{\text{Konsentrasi}}$$

$$= \frac{5\ \text{mg}}{2\ \text{mg/ml}} = 2{,}5\text{ml/200grBB}$$

b. Virgin coconut oil dan Extra virgin olive oil

Dosis VCO dan EVOO yang digunakan dalam penelitian ini 10 ml/kgBB. Serta dosis kombinasi VCO dan EVOO yag digunakan adalam 10 ml/KgBB (1 : 1). Dosis yang diberikan untuk tikus dengan berat badan 200g yaitu:

Dosis Hitung = dosis pemberian x bobot badan hewan uji (kg)

Untuk dosis 10 ml/KgBB = 10 ml x 0,2 kg = 2 ml

Lampiran 3. Hasil Pemeriksaan Biomarker

a. Hasil Pengukuran Biomarker Sebelum Perlakuan

Tabel 5. Data hasil pengukuran biomarker LDH, SGOT, dan CKMB sebelum perlakuan

Kelompok	Perlakuan	Biomarker		
		LDH	SGOT	CKMB
I	Air + NaCl 0,9%			
	A1	222,8	30,35	252,6
	A2	193,9	33,75	201
	A3	113,9	39,14	444,6
	A4	193	76.49	135,9
	A5	290	77,92	158,2
	Rata – rata	202,72	46,863	238,46
II	Doksorubisin 2,5ml/200grBB			
	B1	217,7	59,69	206,6
	B2	102,3	111	141,8
	B3	263	110,5	177,3
	B4	263,1	60,35	104,9
	B5	223,1	74,62	245,1
	Rata – rata	213,84	83,23	175,14
III	VCO 10ml/KgBB + Doksorubisin 2,5ml/200grBB			
	C1	247,2	35,62	174,8
	C2	407,2	51,7	281
	C3	392,2	40,78	163,7
	C4	137,4	60,28	451
	C5	205,9	50,7	124
	Rata – rata	277,98	47,82	238,90
IV	EVOO 10ml/Kg + Doksorubisin BB 2,5ml/200grBB			
	D1	300,9	33,46	176,8
	D2	174,9	43,02	448,1
	D3	327,1	49,64	146,7
	D4	105,8	45,33	171,2
	D5	390	33,31	123
	Rata – rata	259,74	40,95	213,16
V	Kombinasi VCO & EVOO 1:1			

	(10ml/KgBB) + Doksorubisin 2,5ml/200grBB			
	E1	97,23	37,68	117,6
	E2	117,3	46,52	198,1
	E3	231,6	37,28	152,8
	E4	200,8	47,26	207,3
	E5	228,6	39,26	198,1
	Rata – rata	175,11	41,60	174,78

b. Hasil Pengukuran Biomarker Setelah Perlakuan

Tabel 6. Data hasil pengukuran biomarker LDH, SGOT, dan CKMB setelah perlakuan

Kelompok	**Perlakuan**	**Biomarker**		
		LDH	**SGOT**	**CKMB**
I	Air + NaCl 0,9%			
	A1	487,1	90,4	117,3
	A2	280,9	55,26	334,9
	A3	51,27	65,58	312,8
	A4	106,7	44,57	192
	A5	165,7	50,99	249,3
	Rata – rata	218,33	65,56	241,26
II	Doksorubisin 2,5ml/200grBB			
	B1	1316	309,7	661,9
	B2	591,5	336,7	669,4
	B3	750,4	316,1	325,8
	B4	1015	290,4	608,6
	B5	1123	337,9	875
	Rata – rata	959,18	318,16	628,14
III	VCO 10ml/KgBB + Doksorubisin 2,5ml/200grBB			
	C1	1195	289,8	587,9
	C2	444,8	363,6	229,1
	C3	473,1	396,5	266,4
	C4	423,3	331	449,6
	C5	237,5	338,3	320,7
	Rata – rata	554,74	343,84	370,74
IV	EVOO 10ml/KgBB + Doksorubisin			

	2,5ml/200grBB			
	D1	523	236,9	300,2
	D2	433	208,8	232,6
	D3	751,5	232,4	291,7
	D4	316	283,9	421,6
	D5	962,9	287,2	244,2
	Rata – rata	597,28	249,84	298,06
V	Kombinasi VCO & EVOO 1:1 (10ml/KgBB) + Doksorubisin 2,5ml/200grBB			
	E1	314,3	203,9	372,8
	E2	193,9	205,5	180,9
	E3	180,6	325,4	180,2
	E4	500,2	205,9	246
	E5	318	298,4	396,3
	Rata – rata	310	247,82	275,24

Tabel 7. Rata-rata Kadar SGOT sebelum dan sesudah perlakuan

Kelompok	**Perlakuan**	**Nilai SGOT**	
		Pre ± SEM	**Post ± SEM**
I	Air + NaCl 0,9%	46,86±14,85	65,56±8,83
II	Doksorubisin 2,5ml/200grBB	83,23±11,55	318,16±8,89
III	VCO 10ml/KgBB + Doksorubisin 2,5ml/200grBB	47,82±4,34	343,84±17,72
IV	EVOO 10ml/KgBB + Doksorubisin 2,5ml/200grBB	40,95±3,27	249,84±15,35
V	Kombinasi VCO & EVOO 1:1 (10ml/KgBB) + Doksorubisin 2,5ml/200grBB	41,60±2,19	247,82±26,51

Tabel 8. Rata-rata Kadar LDH sebelum dan sesudah perlakuan

Kelompok	**Perlakuan**	**Nilai LDH**	
		Pre ± SEM	**Post ± SEM**
I	Air + NaCl 0,9%	203 ± 23	218 ± 98
II	Doksorubisin 2,5ml/200grBB	214 ± 48	959 ± 205

III	VCO 10ml/KgBB + Doksorubisin 2,5ml/200grBB	278 ± 70	555 ± 169
IV	EVOO 10ml/KgBB + Doksorubisin 2,5ml/200grBB	260 ± 51	597 ± 98
V	Kombinasi VCO & EVOO 1:1 (10ml/KgBB) + Doksorubisin 2,5ml/200grBB	175 ± 33	301 ± 58

Tabel 9. Rata-rata Kadar CK-MB sebelum dan sesudah perlakuan

Kelompok	**Perlakuan**	**Nilai CKMB**	
		Pre ± SEM	**Post ± SEM**
I	Air + NaCl 0,9%	238,46 ± 55,25	214,26 ± 39,83
II	Doksorubisin 2,5ml/200grBB	175,14 ± 24,43	628,14 ± 88,19
III	VCO 10ml/KgBB + Doksorubisin 2,5ml/200grBB	238,90 ± 59,04	370,74 ± 65,89
IV	EVOO 10ml/KgBB + Doksorubisin 2,5ml/200grBB	213,16 ± 59,5	298,06 ± 33,54
V	Kombinasi VCO & EVOO 1:1 (10ml/KgBB) + Doksorubisin 2,5ml/200grBB	174,78 ± 17,17	275,24 ±46,35

Lampiran 4. Data Statistik

1. Hasil Uji One Way Anova

Tabel 10. Hasil Uji Statistik One Way Anova

ANOVA

		Sum of Squares	df	Mean Square	F	Sig.
LDH_awal	Between Groups	35601.279	4	8900.320	1.117	.376
	Within Groups	159331.127	20	7966.556		
	Total	194932.406	24			
LDH_akhir	Between Groups	1693275.457	4	423318.864	6.332	.002
	Within Groups	1337144.003	20	66857.200		
	Total	3030419.461	24			
SGOT_awal	Between Groups	21091034.461	4	5272758.615	2.212	.104
	Within Groups	47676648.367	20	2383832.418		
	Total	68767682.828	24			
SGOT_akhir	Between Groups	244367,954	4	61091,988	43,773	,000
	Within Groups	27912,985	20	1395,649		
	Total	272280,939	24			
CKMB_awal	Between Groups	20462.782	4	5115.696	.466	.760
	Within Groups	219438.924	20	10971.946		
	Total	239901.706	24			
CKMB_akhir	Between Groups	485491.446	4	121372.862	7.148	.001
	Within Groups	339601.220	20	16980.061		
	Total	825092.666	24			

Hasil Uji statistik one way anova pada pemeriksaan biomarker jantung tikus (LDH, SGOT, dan CKMB) sebelum dan setelah perlakuan/treatment.

2. Uji tukey HSD

Tabel 11. Hasil uji tukey HSD

Multiple Comparisons

Dependent Variable		(I) kelompok	(J) kelompok	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval Lower Bound	95% Confidence Interval Upper Bound
LDH_awal	Tukey HSD	kelompok 1	kelompok 2	-11.12000	56.45018	1.000	-180.0401	157.8001
			kelompok 3	-75.26000	56.45018	.675	-244.1801	93.6601
			kelompok 4	-57.02000	56.45018	.848	-225.9401	111.9001
			kelompok 5	27.61400	56.45018	.987	-141.3061	196.5341
		kelompok 2	kelompok 1	11.12000	56.45018	1.000	-157.8001	180.0401
			kelompok 3	-64.14000	56.45018	.786	-233.0601	104.7801
			kelompok 4	-45.90000	56.45018	.924	-214.8201	123.0201
			kelompok 5	38.73400	56.45018	.957	-130.1861	207.6541
		kelompok 3	kelompok 1	75.26000	56.45018	.675	-93.6601	244.1801
			kelompok 2	64.14000	56.45018	.786	-104.7801	233.0601
			kelompok 4	18.24000	56.45018	.997	-150.6801	187.1601
			kelompok 5	102.87400	56.45018	.389	-66.0461	271.7941
		kelompok 4	kelompok 1	57.02000	56.45018	.848	-111.9001	225.9401
			kelompok 2	45.90000	56.45018	.924	-123.0201	214.8201
			kelompok 3	-18.24000	56.45018	.997	-187.1601	150.6801
			kelompok 5	84.63400	56.45018	.575	-84.2861	253.5541
		kelompok 5	kelompok 1	-27.61400	56.45018	.987	-196.5341	141.3061
			kelompok 2	-38.73400	56.45018	.957	-207.6541	130.1861
			kelompok 3	-102.87400	56.45018	.389	-271.7941	66.0461
			kelompok 4	-84.63400	56.45018	.575	-253.5541	84.2861
	LSD	kelompok 1	kelompok 2	-11.12000	56.45018	.846	-128.8730	106.6330
			kelompok 3	-75.26000	56.45018	.197	-193.0130	42.4930
			kelompok 4	-57.02000	56.45018	.325	-174.7730	60.7330
			kelompok 5	27.61400	56.45018	.630	-90.1390	145.3670
		kelompok 2	kelompok 1	11.12000	56.45018	.846	-106.6330	128.8730
			kelompok 3	-64.14000	56.45018	.269	-181.8930	53.6130
			kelompok 4	-45.90000	56.45018	.426	-163.6530	71.8530
			kelompok 5	38.73400	56.45018	.500	-79.0190	156.4870
		kelompok 3	kelompok 1	75.26000	56.45018	.197	-42.4930	193.0130
			kelompok 2	64.14000	56.45018	.269	-53.6130	181.8930
			kelompok 4	18.24000	56.45018	.750	-99.5130	135.9930

			kelompok 5	102.87400	56.45018	.083	-14.8790	220.6270
		kelompok 4	kelompok 1	57.02000	56.45018	.325	-60.7330	174.7730
			kelompok 2	45.90000	56.45018	.426	-71.8530	163.6530
			kelompok 3	-18.24000	56.45018	.750	-135.9930	99.5130
			kelompok 5	84.63400	56.45018	.149	-33.1190	202.3870
		kelompok 5	kelompok 1	-27.61400	56.45018	.630	-145.3670	90.1390
			kelompok 2	-38.73400	56.45018	.500	-156.4870	79.0190
			kelompok 3	-102.87400	56.45018	.083	-220.6270	14.8790
			kelompok 4	-84.63400	56.45018	.149	-202.3870	33.1190
LDH_akhir	Tukey HSD	kelompok 1	kelompok 2	-740.84600*	163.53250	.002	-1230.1965	-251.4955
			kelompok 3	-336.40600	163.53250	.276	-825.7565	152.9445
			kelompok 4	-378.94600	163.53250	.180	-868.2965	110.4045
			kelompok 5	-83.06600	163.53250	.986	-572.4165	406.2845
		kelompok 2	kelompok 1	740.84600*	163.53250	.002	251.4955	1230.1965
			kelompok 3	404.44000	163.53250	.137	-84.9105	893.7905
			kelompok 4	361.90000	163.53250	.215	-127.4505	851.2505
			kelompok 5	657.78000*	163.53250	.005	168.4295	1147.1305
		kelompok 3	kelompok 1	336.40600	163.53250	.276	-152.9445	825.7565
			kelompok 2	-404.44000	163.53250	.137	-893.7905	84.9105
			kelompok 4	-42.54000	163.53250	.999	-531.8905	446.8105
			kelompok 5	253.34000	163.53250	.545	-236.0105	742.6905
		kelompok 4	kelompok 1	378.94600	163.53250	.180	-110.4045	868.2965
			kelompok 2	-361.90000	163.53250	.215	-851.2505	127.4505
			kelompok 3	42.54000	163.53250	.999	-446.8105	531.8905
			kelompok 5	295.88000	163.53250	.396	-193.4705	785.2305
		kelompok 5	kelompok 1	83.06600	163.53250	.986	-406.2845	572.4165
			kelompok 2	-657.78000*	163.53250	.005	-1147.1305	-168.4295
			kelompok 3	-253.34000	163.53250	.545	-742.6905	236.0105
			kelompok 4	-295.88000	163.53250	.396	-785.2305	193.4705
	LSD	kelompok 1	kelompok 2	-740.84600*	163.53250	.000	-1081.9688	-399.7232
			kelompok 3	-336.40600	163.53250	.053	-677.5288	4.7168
			kelompok 4	-378.94600*	163.53250	.031	-720.0688	-37.8232
			kelompok 5	-83.06600	163.53250	.617	-424.1888	258.0568
		kelompok 2	kelompok 1	740.84600*	163.53250	.000	399.7232	1081.9688
			kelompok 3	404.44000*	163.53250	.022	63.3172	745.5628
			kelompok 4	361.90000*	163.53250	.039	20.7772	703.0228
			kelompok 5	657.78000*	163.53250	.001	316.6572	998.9028
		kelompok 3	kelompok 1	336.40600	163.53250	.053	-4.7168	677.5288
			kelompok 2	-404.44000*	163.53250	.022	-745.5628	-63.3172

			kelompok 4	-42.54000	163.53250	.797	-383.6628	298.5828
			kelompok 5	253.34000	163.53250	.137	-87.7828	594.4628
		kelompok 4	kelompok 1	378.94600*	163.53250	.031	37.8232	720.0688
			kelompok 2	-361.90000*	163.53250	.039	-703.0228	-20.7772
			kelompok 3	42.54000	163.53250	.797	-298.5828	383.6628
			kelompok 5	295.88000	163.53250	.085	-45.2428	637.0028
		kelompok 5	kelompok 1	83.06600	163.53250	.617	-258.0568	424.1888
			kelompok 2	-657.78000*	163.53250	.001	-998.9028	-316.6572
			kelompok 3	-253.34000	163.53250	.137	-594.4628	87.7828
			kelompok 4	-295.88000	163.53250	.085	-637.0028	45.2428
SGOT_awal	Tukey HSD	kelompok 1	kelompok 2	2266.08600	976.49013	.179	-655.9383	5188.1103
			kelompok 3	2301.50200	976.49013	.168	-620.5223	5223.5263
			kelompok 4	2308.36600	976.49013	.166	-613.6583	5230.3903
			kelompok 5	2307.71800	976.49013	.167	-614.3063	5229.7423
		kelompok 2	kelompok 1	-2266.08600	976.49013	.179	-5188.1103	655.9383
			kelompok 3	35.41600	976.49013	1.000	-2886.6083	2957.4403
			kelompok 4	42.28000	976.49013	1.000	-2879.7443	2964.3043
			kelompok 5	41.63200	976.49013	1.000	-2880.3923	2963.6563
		kelompok 3	kelompok 1	-2301.50200	976.49013	.168	-5223.5263	620.5223
			kelompok 2	-35.41600	976.49013	1.000	-2957.4403	2886.6083
			kelompok 4	6.86400	976.49013	1.000	-2915.1603	2928.8883
			kelompok 5	6.21600	976.49013	1.000	-2915.8083	2928.2403
		kelompok 4	kelompok 1	-2308.36600	976.49013	.166	-5230.3903	613.6583
			kelompok 2	-42.28000	976.49013	1.000	-2964.3043	2879.7443
			kelompok 3	-6.86400	976.49013	1.000	-2928.8883	2915.1603
			kelompok 5	-.64800	976.49013	1.000	-2922.6723	2921.3763
		kelompok 5	kelompok 1	-2307.71800	976.49013	.167	-5229.7423	614.3063
			kelompok 2	-41.63200	976.49013	1.000	-2963.6563	2880.3923
			kelompok 3	-6.21600	976.49013	1.000	-2928.2403	2915.8083
			kelompok 4	.64800	976.49013	1.000	-2921.3763	2922.6723
	LSD	kelompok 1	kelompok 2	2266.08600*	976.49013	.031	229.1633	4303.0087
			kelompok 3	2301.50200*	976.49013	.029	264.5793	4338.4247
			kelompok 4	2308.36600*	976.49013	.028	271.4433	4345.2887
			kelompok 5	2307.71800*	976.49013	.028	270.7953	4344.6407
		kelompok 2	kelompok 1	-2266.08600*	976.49013	.031	-4303.0087	-229.1633
			kelompok 3	35.41600	976.49013	.971	-2001.5067	2072.3387
			kelompok 4	42.28000	976.49013	.966	-1994.6427	2079.2027
			kelompok 5	41.63200	976.49013	.966	-1995.2907	2078.5547
		kelompok 3	kelompok 1	-2301.50200*	976.49013	.029	-4338.4247	-264.5793

			kelompok 2	-35.41600	976.49013	.971	-2072.3387	2001.5067
			kelompok 4	6.86400	976.49013	.994	-2030.0587	2043.7867
			kelompok 5	6.21600	976.49013	.995	-2030.7067	2043.1387
		kelompok 4	kelompok 1	-2308.36600*	976.49013	.028	-4345.2887	-271.4433
			kelompok 2	-42.28000	976.49013	.966	-2079.2027	1994.6427
			kelompok 3	-6.86400	976.49013	.994	-2043.7867	2030.0587
			kelompok 5	-.64800	976.49013	.999	-2037.5707	2036.2747
		kelompok 5	kelompok 1	-2307.71800*	976.49013	.028	-4344.6407	-270.7953
			kelompok 2	-41.63200	976.49013	.966	-2078.5547	1995.2907
			kelompok 3	-6.21600	976.49013	.995	-2043.1387	2030.7067
			kelompok 4	.64800	976.49013	.999	-2036.2747	2037.5707
SGOT_akhir	Tukey HSD	kelompok 1	kelompok 2	-256,80000*	23,62752	,000	-327,5024	-186,0976
			kelompok 3	-282,48000*	23,62752	,000	-353,1824	-211,7776
			kelompok 4	-188,48000*	23,62752	,000	-259,1824	-117,7776
			kelompok 5	-186,46000	23,62752	,000	-257,1624	-115,7576
		kelompok 2	kelompok 1	256,80000*	23,62752	,000	186,0976	327,5024
			kelompok 3	-25,68000	23,62752	,811	-96,3824	45,0224
			kelompok 4	68,32000	23,62752	,061	-2,3824	139,0224
			kelompok 5	70,34000	23,62752	,052	-,3624	141,0424
		kelompok 3	kelompok 1	282,48000*	23,62752	,000	211,7776	353,1824
			kelompok 2	25,68000	23,62752	,811	-45,0224	96,3824
			kelompok 4	94,00000*	23,62752	,006	23,2976	164,7024
			kelompok 5	96,02000*	23,62752	,005	25,3176	166,7224
		kelompok 4	kelompok 1	188,48000*	23,62752	,000	117,7776	259,1824
			kelompok 2	-68,32000	23,62752	,061	-139,0224	2,3824
			kelompok 3	-94,00000*	23,62752	,006	-164,7024	-23,2976
			kelompok 5	2,02000	23,62752	1,000	-68,6824	72,7224
		kelompok 5	kelompok 1	186,46000*	23,62752	,000	115,7576	257,1624
			kelompok 2	-70,34000	23,62752	,052	-141,0424	,3624
			kelompok 3	-96,02000*	23,62752	,005	-166,7224	-25,3176
			kelompok 4	-2,02000	23,62752	1,000	-72,7224	68,6824
	LSD	kelompok 1	kelompok 2	625.68600	555.97436	.274	-534.0562	1785.4282
			kelompok 3	600.00600	555.97436	.293	-559.7362	1759.7482
			kelompok 4	694.00600	555.97436	.226	-465.7362	1853.7482
			kelompok 5	696.02600	555.97436	.225	-463.7162	1855.7682
		kelompok 2	kelompok 1	-625.68600	555.97436	.274	-1785.4282	534.0562
			kelompok 3	-25.68000	555.97436	.964	-1185.4222	1134.0622
			kelompok 4	68.32000	555.97436	.903	-1091.4222	1228.0622
			kelompok 5	70.34000	555.97436	.901	-1089.4022	1230.0822

		kelompok 3	kelompok 1	-600.00600	555.97436	.293	-1759.7482	559.7362
			kelompok 2	25.68000	555.97436	.964	-1134.0622	1185.4222
			kelompok 4	94.00000	555.97436	.867	-1065.7422	1253.7422
			kelompok 5	96.02000	555.97436	.865	-1063.7222	1255.7622
		kelompok 4	kelompok 1	-694.00600	555.97436	.226	-1853.7482	465.7362
			kelompok 2	-68.32000	555.97436	.903	-1228.0622	1091.4222
			kelompok 3	-94.00000	555.97436	.867	-1253.7422	1065.7422
			kelompok 5	2.02000	555.97436	.997	-1157.7222	1161.7622
		kelompok 5	kelompok 1	-696.02600	555.97436	.225	-1855.7682	463.7162
			kelompok 2	-70.34000	555.97436	.901	-1230.0822	1089.4022
			kelompok 3	-96.02000	555.97436	.865	-1255.7622	1063.7222
			kelompok 4	-2.02000	555.97436	.997	-1161.7622	1157.7222
CKMB_awal	Tukey HSD	kelompok 1	kelompok 2	63.32000	66.24786	.871	-134.9184	261.5584
			kelompok 3	-.44000	66.24786	1.000	-198.6784	197.7984
			kelompok 4	25.30000	66.24786	.995	-172.9384	223.5384
			kelompok 5	63.68000	66.24786	.869	-134.5584	261.9184
		kelompok 2	kelompok 1	-63.32000	66.24786	.871	-261.5584	134.9184
			kelompok 3	-63.76000	66.24786	.869	-261.9984	134.4784
			kelompok 4	-38.02000	66.24786	.977	-236.2584	160.2184
			kelompok 5	.36000	66.24786	1.000	-197.8784	198.5984
		kelompok 3	kelompok 1	.44000	66.24786	1.000	-197.7984	198.6784
			kelompok 2	63.76000	66.24786	.869	-134.4784	261.9984
			kelompok 4	25.74000	66.24786	.995	-172.4984	223.9784
			kelompok 5	64.12000	66.24786	.866	-134.1184	262.3584
		kelompok 4	kelompok 1	-25.30000	66.24786	.995	-223.5384	172.9384
			kelompok 2	38.02000	66.24786	.977	-160.2184	236.2584
			kelompok 3	-25.74000	66.24786	.995	-223.9784	172.4984
			kelompok 5	38.38000	66.24786	.977	-159.8584	236.6184
		kelompok 5	kelompok 1	-63.68000	66.24786	.869	-261.9184	134.5584
			kelompok 2	-.36000	66.24786	1.000	-198.5984	197.8784
			kelompok 3	-64.12000	66.24786	.866	-262.3584	134.1184
			kelompok 4	-38.38000	66.24786	.977	-236.6184	159.8584
	LSD	kelompok 1	kelompok 2	63.32000	66.24786	.351	-74.8706	201.5106
			kelompok 3	-.44000	66.24786	.995	-138.6306	137.7506
			kelompok 4	25.30000	66.24786	.707	-112.8906	163.4906
			kelompok 5	63.68000	66.24786	.348	-74.5106	201.8706
		kelompok 2	kelompok 1	-63.32000	66.24786	.351	-201.5106	74.8706
			kelompok 3	-63.76000	66.24786	.347	-201.9506	74.4306
			kelompok 4	-38.02000	66.24786	.572	-176.2106	100.1706

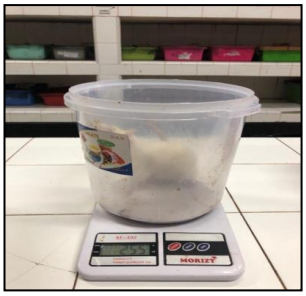
			kelompok 5	.36000	66.24786	.996	-137.8306	138.5506
		kelompok 3	kelompok 1	.44000	66.24786	.995	-137.7506	138.6306
			kelompok 2	63.76000	66.24786	.347	-74.4306	201.9506
			kelompok 4	25.74000	66.24786	.702	-112.4506	163.9306
			kelompok 5	64.12000	66.24786	.345	-74.0706	202.3106
		kelompok 4	kelompok 1	-25.30000	66.24786	.707	-163.4906	112.8906
			kelompok 2	38.02000	66.24786	.572	-100.1706	176.2106
			kelompok 3	-25.74000	66.24786	.702	-163.9306	112.4506
			kelompok 5	38.38000	66.24786	.569	-99.8106	176.5706
		kelompok 5	kelompok 1	-63.68000	66.24786	.348	-201.8706	74.5106
			kelompok 2	-.36000	66.24786	.996	-138.5506	137.8306
			kelompok 3	-64.12000	66.24786	.345	-202.3106	74.0706
			kelompok 4	-38.38000	66.24786	.569	-176.5706	99.8106
CKMB_akhir	Tukey HSD	kelompok 1	kelompok 2	-386.88000*	82.41374	.001	-633.4928	-140.2672
			kelompok 3	-129.48000	82.41374	.531	-376.0928	117.1328
			kelompok 4	-56.80000	82.41374	.957	-303.4128	189.8128
			kelompok 5	-33.98000	82.41374	.993	-280.5928	212.6328
		kelompok 2	kelompok 1	386.88000*	82.41374	.001	140.2672	633.4928
			kelompok 3	257.40000*	82.41374	.038	10.7872	504.0128
			kelompok 4	330.08000*	82.41374	.006	83.4672	576.6928
			kelompok 5	352.90000*	82.41374	.003	106.2872	599.5128
		kelompok 3	kelompok 1	129.48000	82.41374	.531	-117.1328	376.0928
			kelompok 2	-257.40000*	82.41374	.038	-504.0128	-10.7872
			kelompok 4	72.68000	82.41374	.900	-173.9328	319.2928
			kelompok 5	95.50000	82.41374	.774	-151.1128	342.1128
		kelompok 4	kelompok 1	56.80000	82.41374	.957	-189.8128	303.4128
			kelompok 2	-330.08000*	82.41374	.006	-576.6928	-83.4672
			kelompok 3	-72.68000	82.41374	.900	-319.2928	173.9328
			kelompok 5	22.82000	82.41374	.999	-223.7928	269.4328
		kelompok 5	kelompok 1	33.98000	82.41374	.993	-212.6328	280.5928
			kelompok 2	-352.90000*	82.41374	.003	-599.5128	-106.2872
			kelompok 3	-95.50000	82.41374	.774	-342.1128	151.1128
			kelompok 4	-22.82000	82.41374	.999	-269.4328	223.7928
	LSD	kelompok 1	kelompok 2	-386.88000*	82.41374	.000	-558.7920	-214.9680
			kelompok 3	-129.48000	82.41374	.132	-301.3920	42.4320
			kelompok 4	-56.80000	82.41374	.499	-228.7120	115.1120
			kelompok 5	-33.98000	82.41374	.684	-205.8920	137.9320
		kelompok 2	kelompok 1	386.88000*	82.41374	.000	214.9680	558.7920
			lompok 3	257.40000*	82.41374	.005	85.4880	429.3120

			kelompok 4	330.08000*	82.41374	.001	158.1680	501.9920
			kelompok 5	352.90000*	82.41374	.000	180.9880	524.8120
		kelompok 3	kelompok 1	129.48000	82.41374	.132	-42.4320	301.3920
			kelompok 2	-257.40000*	82.41374	.005	-429.3120	-85.4880
			kelompok 4	72.68000	82.41374	.388	-99.2320	244.5920
			kelompok 5	95.50000	82.41374	.260	-76.4120	267.4120
		kelompok 4	kelompok 1	56.80000	82.41374	.499	-115.1120	228.7120
			kelompok 2	-330.08000*	82.41374	.001	-501.9920	-158.1680
			kelompok 3	-72.68000	82.41374	.388	-244.5920	99.2320
			kelompok 5	22.82000	82.41374	.785	-149.0920	194.7320
		kelompok 5	kelompok 1	33.98000	82.41374	.684	-137.9320	205.8920
			kelompok 2	-352.90000*	82.41374	.000	-524.8120	-180.9880
			kelompok 3	-95.50000	82.41374	.260	-267.4120	76.4120
			kelompok 4	-22.82000	82.41374	.785	-194.7320	149.0920

*. Perbedaan rata-rata signifikan pada tingkat 0,05.

Lampiran 5. Dokumentasi penelitian

Gambar 14. Adaptasi hewan uji

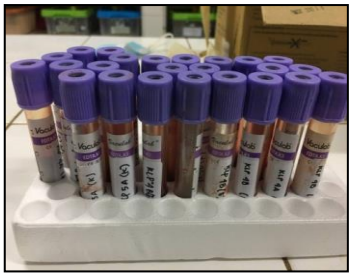


Gambar 15. Penimbangan hewan uji

Gambar 16. Pemberian VCO & EVOO peroral

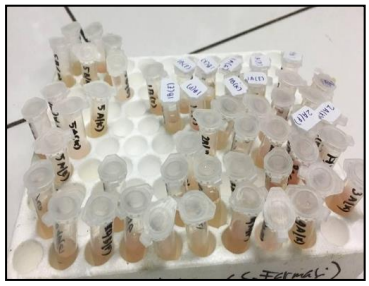
Gambar 17. Pemberian doksorubisin intraperitonial

Gambar 18. Pengambilan darah tikus melalui vena ekor



Gambar 19. Sampel darah dalam vakutainer EDTA

Gambar 20. Alat sentrifugasi

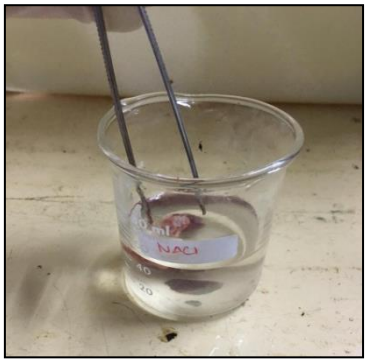


Gambar 21. Sampel serum hasil sentrifugasi dalam eppendorf

Gambar 22. Pengukuran biomarker kerusakan jantung (LDH, SGOT, dan CKMB dengan humalyzer 3500)

Gambar 23. Proses pembiusan dan eutanasia hewan uji

Gambar 24. Proses pembedahan hewan uji



Gambar 25. Larutan NaCl 0,9 % untuk proses pembilasan organ bedah

Gambar 26. Organ dalam rendaman formalin 10%

Lampiran 6. Persetujuan Etik

KEMENTERIAN PENDIDIKAN DAN KEBUDAYAAN
UNIVERSITAS HASANUDDIN FAKULTAS KEDOKTERAN
KOMITE ETIK PENELITIAN KESEHATAN
RSPTN UNIVERSITAS HASANUDDIN
RSUP Dr. WAHIDIN SUDIROHUSODO MAKASSAR
Sekretariat : Lantai 2 Gedung Laboratorium Terpadu
JL.PERINTIS KEMERDEKAAN KAMPUS TAMALANREA KM.10 MAKASSAR 90245.
Contact Person: dr. Agussalim Bukhari.,MMed.PhD, SpGK TELP. 081241850858, 0411 5780103, Fax : 0411-581431

REKOMENDASI PERSETUJUAN ETIK
Nomor : 81/UN4.6.4.5.31/ PP36/ 2021

Tanggal: 11 Februari 2021

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

No Protokol	UH21020059	No Sponsor Protokol	
Peneliti Utama	**Apt. Andi Ulfiana Utari, S.Farm**	Sponsor	
Judul Peneliti	UJI EFEK PROTEKTIF VIRGIN COCONUT OIL DAN EXTRA VIRGIN OLIVE OIL SERTA KOMBINASINYA DALAM MENGURANGI KARDIOTOKSISITAS AKIBAT DOKSORUBISIN PADA TIKUS		
No Versi Protokol	**1**	Tanggal Versi	1 Februari 2021
No Versi PSP		Tanggal Versi	
Tempat Penelitian	**Laboratorium Fakultas Farmasi Universitas Hasanuddin Makassar dan Balai Besar Veteriner Maros**		
Jenis Review	☐ Exempted ☒ Expedited ☐ Fullboard Tanggal	Masa Berlaku **11 Februari 2021** sampai **11 Februari 2022**	Frekuensi review lanjutan
Ketua Komisi Etik Penelitian Kesehatan FKUH	Nama **Prof.Dr.dr. Suryani As'ad, M.Sc.,Sp.GK (K)**	Tanda tangan	
Sekretaris Komisi Etik Penelitian Kesehatan FKUH	Nama **dr. Agussalim Bukhari, M.Med.,Ph.D.,Sp.GK (K)**	Tanda tangan	

Kewajiban Peneliti Utama:

- Menyerahkan Amandemen Protokol untuk persetujuan sebelum di implementasikan
- 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
- Menyerahkan Laporan Kemajuan (progress report) setiap 6 bulan untuk penelitian resiko tinggi dan setiap setahun untuk penelitian resiko rendah
- Menyerahkan laporan akhir setelah Penelitian berakhir
- Melaporkan penyimpangan dari prokol yang disetujui (protocol deviation / violation)
- Mematuhi semua peraturan yang ditentukan

Lampiran 7. Hasil analisis antioksidan VCO dan EVOO

Tabel 12. hasil analisis antioksidan VCO dan EVOO

Name	Type	Concentration (mg/L)	AU (515,00 nm)	Date
VCO-Cell1	Standard	0,00	0,9683	Mar 3 2021 15:26:17 (GMT +7:00)
VCO-2-Cell2	Standard	10,00	0,5584	Mar 3 2021 15:01:25 (GMT +7:00)
VCO-3-Cell3	Standard	20,00	0,5513	Mar 3 2021 15:01:45 (GMT +7:00)
VCO-4-Cell4	Standard	30,00	0,5358	Mar 3 2021 15:02:15 (GMT +7:00)
VCO-5-Cell5	Standard	40,00	0,5233	Mar 3 2021 15:03:59 (GMT +7:00)
VCO-6-Cell6	Standard	50,00	0,5223	Mar 3 2021 15:05:48 (GMT +7:00)

Name	Type	Concentration (mg/L)	AU (515,00 nm)	Date
EVOO-Cell1	Standard	0,00	0,9615	Mar 3 2021 15:44:41 (GMT +7:00)
EVOO-2-Cell2	Standard	10,00	0,5501	Mar 3 2021 15:43:15 (GMT +7:00)
EVOO-3-Cell3	Standard	20,00	0,5152	Mar 3 2021 15:43:34 (GMT +7:00)
EVOO-4-Cell4	Standard	30,00	0,5105	Mar 3 2021 15:45:22 (GMT +7:00)
EVOO-5-Cell5	Standard	40,00	0,503	Mar 3 2021 15:45:46 (GMT +7:00)
EVOO-6-Cell6	Standard	50,00	0,5022	Mar 3 2021 15:40:46 (GMT +7:00)

1. Persen Inhibisi VCO

$$\text{Persen (\%) Inhibisi} = \frac{\text{Abs kontrol-Abs Sampel}}{\text{Abs Kontrol}} \times 100\ \%$$

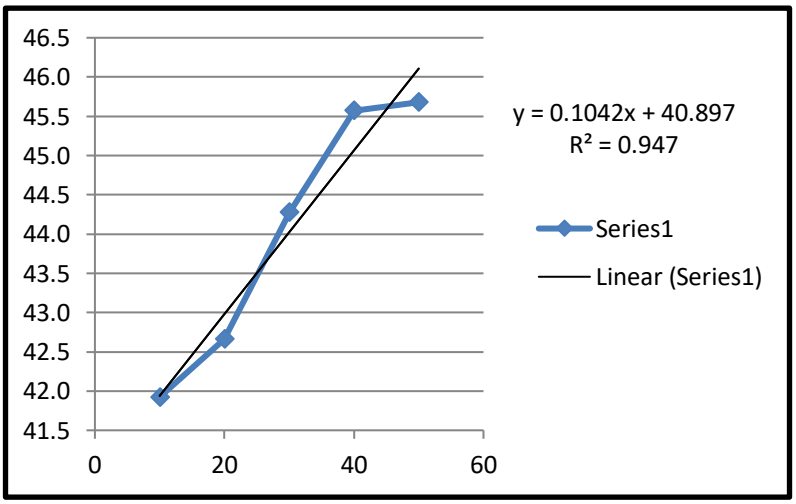
$$\text{VCO 10 ppm} = \frac{0{,}9615 - 0{,}5584}{0{,}9615} \times 100\% = 41{,}9$$

$$\text{VCO 20 ppm} = \frac{0{,}9615 - 0{,}5513}{0{,}9615} \times 100\% = 42{,}7$$

$$\text{VCO 20 ppm} = \frac{0{,}9615 - 0{,}5358}{0{,}9615} \times 100\% = 44{,}3$$

$$\text{VCO 20 ppm} = \frac{0{,}9615 - 0{,}5233}{0{,}9615} \times 100\% = 45{,}6$$

$$\text{VCO 20 ppm} = \frac{0{,}9615 - 0{,}5223}{0{,}9615} \times 100\% = 45{,}7$$



Gambar 27. Grafik kadar Antioksidan VCO

$y = 0{,}1042x + 40{,}897$

$50 = 0{,}1042x + 40{,}897$

$$x = \frac{50\text{-}40{,}89}{0{,}1042} = 87{,}36 \text{ ppm (Kuat)}$$

2. Persen Inhibisi EVOO

$$\text{Persen (\%) Inhibisi} = \frac{\text{Abs kontrol-Abs Sampel}}{\text{Abs Kontrol}} \times 100\ \%$$

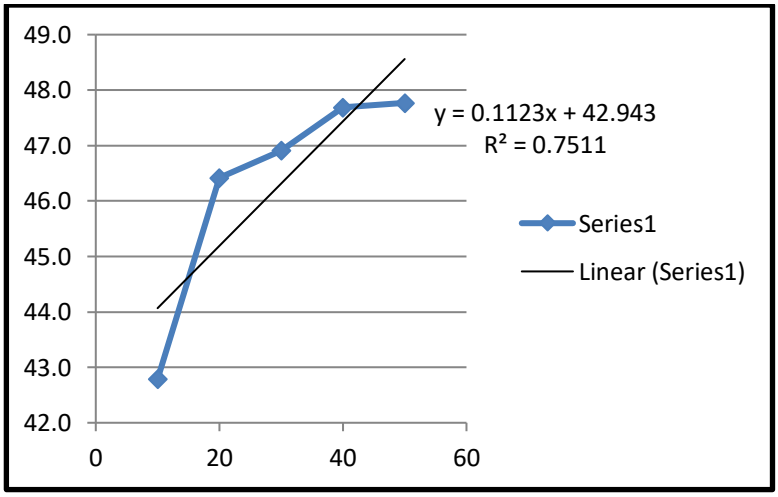
$$\text{EVOO 10 ppm} = \frac{0{,}9615 - 0{,}5501}{0{,}9615} \times 100\% = 42{,}8$$

$$\text{EVOO 20 ppm} = \frac{0{,}9615 - 0{,}5152}{0{,}9615} \times 100\% = 46{,}4$$

$$\text{EVOO 30 ppm} = \frac{0{,}9615 - 0{,}5105}{0{,}9615} \times 100\% = 46{,}9$$

$$\text{EVOO 40 ppm} = \frac{0{,}9615 - 0{,}503}{0{,}9615} \times 100\% = 47{,}7$$

$$\text{EVOO 50 ppm} = \frac{0{,}9615 - 0{,}5022}{0{,}9615} \times 100\% = 47{,}8$$



Gambar 28. Grafik kadar Antioksidan EVOO

$y = 0{,}1123x + 42{,}943$

$50 = 0{,}1123x + 42{,}943$

$x = \frac{50 - 42{,}943}{0{,}1123} = 63{,}03$ ppm (Kuat)