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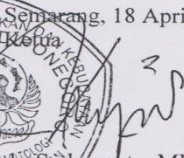
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LAMPIRAN 1. *ETHICAL CLEARANCE*

	<p align="center">KOMISI ETIK PENELITIAN KESEHATAN (KEPK) FAKULTAS KEDOKTERAN UNIVERSITAS DIPONEGORO DAN RSUP dr KARIADI SEMARANG Sekretariat : Kantor Dekanat FK Undip Lt.3 Jl. Dr. Soetomo 18, Semarang Telp.024-8311523/Fax. 024-8446905</p>	
<p align="center">ETHICAL CLEARANCE No.259 /EC/FK/RSDK/2013</p>		
<p>Komisi Etik Penelitian Kesehatan Fakultas Kedokteran Universitas Diponegoro/ RSUP. Dr. Kariadi Semarang, setelah membaca dan menelaah USULAN Penelitian dengan judul :</p>		
<p align="center">PENGARUH KOMBINASI PEMBERIAN EXERCISE TRAINING DAN CURCUMIN TERHADAP APOPTOSIS MIOSIT PADA MENCIT DENGAN DIABETES MELLITUS YANG DIINDUKSIKAN DENGAN STREPTOZOTOCIN</p>		
Peneliti Utama :	Muhammad Avicenna Abdul Syukur	
Anggota Peneliti :	dr. M. Ali Sobirin, Ph.D	
Penelitian :	Dilaksanakan di Laboratorium Farmakologi Fakultas Kedokteran Undip Semarang	
<p>Setuju untuk dilaksanakan, dengan memperhatikan prinsip-prinsip yang dinyatakan dalam Deklarasi Helsinki 1975, yang diamended di Seoul 2008 dan Pedoman Nasional Etik Penelitian Kesehatan (PNEPK) Departemen Kesehatan RI 2011</p>		
<p>Pada laporan akhir peneliti harus melampirkan cara pemeliharaan & dekapitasi hewan coba</p>		
<p align="right">Semarang, 4 Juni 2013</p>		
<p align="right">Komisi Etik Penelitian Kesehatan Fakultas Kedokteran Undip/RSUP Dr. Kariadi Ketua,</p>		
<p align="right">   Prof. Dr. dr. Suprihati, M.Sc, Sp.THT-KL(K) NIP. 19500621197703 2 001 </p>		

LAMPIRAN 2. SURAT PERSETUJUAN PENGGUNAAN LABORATORIUM

	<p>KEMENTERIAN PENDIDIKAN DAN KEBUDAYAAN UNIVERSITAS DIPONEGORO FAKULTAS KEDOKTERAN BAGIAN PARASITOLOGI</p> <p>Jl. Prof. H. Soedarto, SH – Tembalang – Semarang Telepon 024-76928010 Fax 024-76928011 email : parasitologi@undip.ac.id</p>
<p>Nomor : 15 /UN7.3.4/Lab. Par/PG/2013 Lamp : Perihal : Ijin Penelitian</p>	
<p>Yth. Pembantu Dekan I FK UNDIP Di Semarang</p>	
<p>Sehubungan surat dari Pembantu Dekan I nomor 1549/UN7.3.4/D1/PP/2013 tanggal 8 April 2013 tentang Permohonan Ijin Penelitian :</p>	
<p>Nama</p>	<p>: 1. Muhammad Avicenna Abdul Syukur / G2A009036 2. Rigar David S / G2A009051 3. Edward Sutanto / G2A009089</p>
<p>Judul</p>	<p>: 1. Pengaruh Kombinasi Exercise Training dan Curcumin terhadap Apoptosis Miosit Mencit dengan Diabetes Mellitus yang Diinduksi Streptozotocin. 2. Perkembangan Fibrosis pada Mencit dengan Diabetes Mellitus yang Diinduksi Streptozotocin. 3. Pengaruh Pemberian Curcumin dan Exercise Training Terhadap Fibrosis Miosit pada Mencit Dengan Diabetes Mellitus yang Diinduksi dengan Streptozotocin.</p>
<p>Kami selaku kepala Laboratorium Pasrasitologi FK UNDIP memberikan Ijin untuk melakukan penelitian tersebut diatas dan melakukan penelitian di laboratorium parasitologi FK UNDIP.</p>	
<p>Atas perhatian dan kerjasamanya diucapkan terima kasih.</p>	
<p>Semarang, 18 April 2013</p> <p> dr. Sudaryanto, MPd.Ked NIP. 1970004161997021001</p>	
<p>Tembusan :</p> <ol style="list-style-type: none"> 1. Ketua Tim Karya Tulis Ilmiah 2. Pembimbing 	

LAMPIRAN 3. DOKUMENTASI PENELITIAN

Persiapan injeksi STZ.



Perlakuan ExT.

Terminasi Mencit

LAMPIRAN 4. HASIL UJI LABORATORIUM

Data sebelum injeksi <i>streptozotocin</i>		
Kode Sampel	Berat Badan (g)	Glukosa Darah (mg/dl)
K1 - 1	28.3	98
K1 - 2	32.4	112
K1 - 3	30.9	137
K1 - 4	31.7	145
K1 - 5	30.3	100
K1 - 6	34.3	108
K1 - 7	27.7	121
K2 - 1	29.4	97
K2 - 2	31.3	120
K2 - 3	29.8	110
K2 - 4	32.8	105
K2 - 5	31.4	128
K2 - 6	34.4	95
K2 - 7	28.7	143
P1 - 1	30.4	113
P1 - 2	30.3	120
P1 - 3	28.8	93
P1 - 4	31.5	124
P1 - 5	26.9	136
P1 - 6	32.8	127
P1 - 7	29.6	96
P2 - 1	31.3	137
P2 - 2	30.3	99
P2 - 3	28.8	87
P2 - 4	33.8	121
P2 - 5	30.4	94
P2 - 6	32.8	130
P2 - 7	29.6	128
P3 - 1	34.2	79
P3 - 2	28.9	123
P3 - 3	27.8	131
P3 - 4	34.5	98
P3 - 5	30.2	119
P3 - 6	31.6	134
P3 - 7	32.2	126

Data Saat Terminasi			
Kode Sampel	Berat Badan (g)	Glukosa Darah (mg/dl)	Luas Penampang Sel (μm^2)
K1 1	38	120	217.05
K1 2	37.6	85	163.6045
K1 3	40.4	143	173.78
K1 4	43.5	155	152.0044
K1 5	41.9	143	181.6515
K2 - 1	32.7	507	178.6983
K2 - 2	33.1	463	149.6182
K2 - 3	30.6	507	215.3854
K2 - 4	36.4	540	231.4534
K2 - 5	33.9	434	166.7281
P1 - 1	37.4	427	203.806
P1 - 2	36.4	505	225.4005
P1 - 3	39.1	347	151.1196
P1 - 4	36.2	361	237.0641
P1 - 5	40.8	352	121.6672
P2 - 1	35.4	392	282.6368
P2 - 2	34.3	592	204.5078
P2 - 3	32.7	339	203.877
P2 - 4	44.7	323	204.7616
P2 - 5	41.3	396	232.2478
P3 - 1	35.4	390	181.2264
P3 - 2	37.6	361	168.4738
P3 - 3	35	416	163.2012
P3 - 4	43.4	428	194.7827
P3 - 5	37.2	403	195.866

LAMPIRAN 5. HASIL ANALISIS (OUTPUT PROGRAM STATISTIK)

1. Ujिनormalitas data sebelum injeksi *streptozotocin*

Tests of Normality

	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Berat badan K1	.147	7	.200*	.971	7	.908
Berat badan K2	.172	7	.200*	.953	7	.759
Berat badan P1	.140	7	.200*	.986	7	.982
Berat badan P2	.204	7	.200*	.949	7	.721
Berat badan P3	.155	7	.200*	.948	7	.716
Glukosa darah K1	.187	7	.200*	.916	7	.442
Glukosa darah K2	.162	7	.200*	.943	7	.663
Glukosa darah P1	.180	7	.200*	.926	7	.519
Glukosa darah P2	.214	7	.200*	.894	7	.295
Glukosa darah P3	.280	7	.105	.854	7	.133

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

a. Lilliefors Significance Correction

2. Uji *One Way ANOVA* untuk berat badan sebelum injeksi streptozotocin**ANOVA**

Berat Badan

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	6.921	4	1.730	.384	.818
Within Groups	135.103	30	4.503		
Total	142.024	34			

Multiple Comparisons

Dependent Variable: Berat Badan

LSD

(I) Perlakuan	(J) Perlakuan	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
Kelompok K1	Kelompok K2	-.314286	1.134325	.784	-2.63089	2.00232
	Kelompok P1	.757143	1.134325	.510	-1.55946	3.07374
	Kelompok P2	-.200000	1.134325	.861	-2.51660	2.11660
	Kelompok P3	-.542857	1.134325	.636	-2.85946	1.77374
Kelompok K2	Kelompok K1	.314286	1.134325	.784	-2.00232	2.63089
	Kelompok P1	1.071429	1.134325	.352	-1.24517	3.38803
	Kelompok P2	.114286	1.134325	.920	-2.20232	2.43089
	Kelompok P3	-.228571	1.134325	.842	-2.54517	2.08803
Kelompok P1	Kelompok K1	-.757143	1.134325	.510	-3.07374	1.55946
	Kelompok K2	-1.071429	1.134325	.352	-3.38803	1.24517
	Kelompok P2	-.957143	1.134325	.405	-3.27374	1.35946
	Kelompok P3	-1.300000	1.134325	.261	-3.61660	1.01660
Kelompok P2	Kelompok K1	.200000	1.134325	.861	-2.11660	2.51660

3. Uji *One Way ANOVA* untuk glukosa darah sebelum injeksi *streptozotocin*

ANOVA

Glukosa Darah

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	58.686	4	14.671	.044	.996
Within Groups	10096.000	30	336.533		
Total	10154.686	34			

Multiple Comparisons

Dependent Variable: Glukosa Darah

LSD

(I) Perlakuan	(J) Perlakuan	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
Kelompok K1	Kelompok K2	3.285714	9.805732	.740	-16.74026	23.31169
	Kelompok P1	1.714286	9.805732	.862	-18.31169	21.74026
	Kelompok P2	3.571429	9.805732	.718	-16.45455	23.59741
	Kelompok P3	1.571429	9.805732	.874	-18.45455	21.59741
Kelompok K2	Kelompok K1	-3.285714	9.805732	.740	-23.31169	16.74026
	Kelompok P1	-1.571429	9.805732	.874	-21.59741	18.45455

4. Uji normalitas data saat terminasi

Tests of Normality

	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Berat badan K1	.217	5	.200*	.931	5	.606
Berat badan K2	.195	5	.200*	.973	5	.895
Berat badan P1	.217	5	.200*	.905	5	.436
Berat badan P2	.273	5	.200*	.900	5	.409
Berat badan P3	.314	5	.120	.825	5	.127
Glukosa darah K1	.290	5	.195	.879	5	.305
Glukosa darah K2	.257	5	.200*	.947	5	.713
Glukosa darah P1	.309	5	.133	.825	5	.127
Glukosa darah P2	.346	5	.050	.802	5	.084
Glukosa darah P3	.155	5	.200*	.967	5	.856
Fibrosis K1	.216	5	.200*	.934	5	.623
Fibrosis K2	.113	5	.200*	.999	5	1.000
Fibrosis P1	.262	5	.200*	.934	5	.621
Fibrosis P2	.184	5	.200*	.955	5	.774
Fibrosis P3	.233	5	.200*	.894	5	.378

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

a. Lilliefors Significance Correction

5. Uji *One Way ANOVA* untuk berat badan saat terminasi**ANOVA**

Berat badan

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	126.476	4	31.619	3.049	.041
Within Groups	207.384	20	10.369		
Total	333.860	24			

Multiple Comparisons

Dependent Variable: Berat badan

LSD

(I) Perlakuan	(J) Perlakuan	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
Kelompok K1	Kelompok K2	6.94000*	2.036585	.003	2.69176	11.18824
	Kelompok P1	2.300000	2.036585	.272	-1.94824	6.54824
	Kelompok P2	2.600000	2.036585	.216	-1.64824	6.84824
	Kelompok P3	2.560000	2.036585	.223	-1.68824	6.80824
Kelompok K2	Kelompok K1	-6.94000*	2.036585	.003	-11.18824	-2.69176
	Kelompok P1	-4.64000*	2.036585	.034	-8.88824	-.39176
	Kelompok P2	-4.34000*	2.036585	.046	-8.58824	-.09176
	Kelompok P3	-4.38000*	2.036585	.044	-8.62824	-.13176
Kelompok P1	Kelompok K1	-2.300000	2.036585	.272	-6.54824	1.94824
	Kelompok K2	4.64000*	2.036585	.034	.39176	8.88824
	Kelompok P2	.300000	2.036585	.884	-3.94824	4.54824
	Kelompok P3	.260000	2.036585	.900	-3.98824	4.50824
Kelompok P2	Kelompok K1	-2.600000	2.036585	.216	-6.84824	1.64824
	Kelompok K2	4.34000*	2.036585	.046	.09176	8.58824
	Kelompok P1	-.300000	2.036585	.884	-4.54824	3.94824
	Kelompok P3	-.040000	2.036585	.985	-4.28824	4.20824
Kelompok P3	Kelompok K1	-2.560000	2.036585	.223	-6.80824	1.68824
	Kelompok K2	4.38000*	2.036585	.044	.13176	8.62824
	Kelompok P1	-.260000	2.036585	.900	-4.50824	3.98824

6. Uji *One Way ANOVA* untuk glukosa darah saat terminasi**ANOVA**

Glukosa darah

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	377364.2	4	94341.040	24.405	.000
Within Groups	77313.200	20	3865.660		
Total	454677.4	24			

Multiple Comparisons

Dependent Variable: Glukosa darah

LSD

(I) Perlakuan	(J) Perlakuan	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
Kelompok K1	Kelompok K2	-361.00000*	39.322563	.000	-443.02543	-278.97457
	Kelompok P1	-269.20000*	39.322563	.000	-351.22543	-187.17457
	Kelompok P2	-279.20000*	39.322563	.000	-361.22543	-197.17457
	Kelompok P3	-270.40000*	39.322563	.000	-352.42543	-188.37457
Kelompok K2	Kelompok K1	361.000000*	39.322563	.000	278.97457	443.02543
	Kelompok P1	91.800000*	39.322563	.030	9.77457	173.82543
	Kelompok P2	81.800000	39.322563	.051	-.22543	163.82543
	Kelompok P3	90.600000*	39.322563	.032	8.57457	172.62543
Kelompok P1	Kelompok K1	269.200000*	39.322563	.000	187.17457	351.22543
	Kelompok K2	-91.800000*	39.322563	.030	-173.82543	-9.77457
	Kelompok P2	-10.000000	39.322563	.802	-92.02543	72.02543
	Kelompok P3	-1.200000	39.322563	.976	-83.22543	80.82543
Kelompok P2	Kelompok K1	279.200000*	39.322563	.000	197.17457	361.22543
	Kelompok K2	-81.800000	39.322563	.051	-163.82543	.22543
	Kelompok P1	10.000000	39.322563	.802	-72.02543	92.02543

7. 4. Uji *One Way ANOVA* untuk luas penampang sel/hipertrofi

ANOVA

Hipertrofi (Luas Penampang)

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	7471.755	4	1867.939	2.073	.122
Within Groups	18021.214	20	901.061		
Total	25492.969	24			

Multiple Comparisons

Dependent Variable: Hipertrofi (Luas Penampang)

LSD

(I) Kelompok Perlakuan	(J) Kelompok Perlakuan	Mean Difference	Std. Error	Sig.	95% Confidence Interval
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		(I-J)			Lower Bound	Upper Bound
K1	K 2	-10.758589	18.984843	.577	-50.36028	28.84310
	P 1	-10.193361	18.984843	.597	-49.79505	29.40833
	P 2	-47.988136*	18.984843	.020	-87.58983	-8.38645
	P 3	-3.091924	18.984843	.872	-42.69361	36.50977
K2	K 1	10.758589	18.984843	.577	-28.84310	50.36028
	P 1	.565228	18.984843	.977	-39.03646	40.16692
	P 2	-37.229548	18.984843	.064	-76.83124	2.37214
	P 3	7.666665	18.984843	.691	-31.93502	47.26835
P 1	K 1	10.193361	18.984843	.597	-29.40833	49.79505
	K 2	-.565228	18.984843	.977	-40.16692	39.03646
	P 2	-37.794776	18.984843	.060	-77.39647	1.80691
	P 3	7.101437	18.984843	.712	-32.50025	46.70313
P 2	K 1	47.988136*	18.984843	.020	8.38645	87.58983
	K 2	37.229548	18.984843	.064	-2.37214	76.83124
	P 1	37.794776	18.984843	.060	-1.80691	77.39647
	P 3	44.896212*	18.984843	.028	5.29452	84.49790
P 3	K 1	3.091924	18.984843	.872	-36.50977	42.69361
	K 2	-7.666665	18.984843	.691	-47.26835	31.93502
	P 1	-7.101437	18.984843	.712	-46.70313	32.50025
	P 2	-44.896212*	18.984843	.028	-84.49790	-5.29452

*. The mean difference is significant at the 0.05 level.

LAMPIRAN 6. LEMBAR PERUBAHAN KTI**LEMBAR PERUBAHAN KTI**

Yang bertanda tangan di bawah ini:

Nama : dr. Mochamad Ali Sobirin
NIP : 197806132008121002
Bagian : Farmako

telah menyetujui perubahan KTI untuk mahasiswa

Nama : Muhammad Avicenna Abdul Syukur
NIM : G2A 009 036

Dari semula judul

PENGARUH KOMBINASI PEMBERIAN *EXERCISE TRAINING* DAN *CURCUMIN* TERHADAP APOPTOSIS MIOSIT PADA MENCIT DENGAN *DIABETES MELLITUS* YANG DIINDUKSIKAN DENGAN *STREPTOZOTOCIN*

Berganti variabel apoptosis menjadi hipertrofi dan *curcumin* menjadi ekstrak kunyit, dengan desain penelitian yang serupa, sehingga judul menjadi

PENGARUH KOMBINASI *EXERCISE TRAINING* DAN EKSTRAK KUNYIT (*Curcuma domestica*) TERHADAP HIPERTROFI MIOSIT MENCIT DENGAN *DIABETES MELLITUS* YANG DIINDUKSIKAN DENGAN *STREPTOZOTOCIN*

Semarang, Agustus 2013
Pembimbing

dr. Mochamad Ali Sobirin
NIP. 197806132008121002

LAMPIRAN 7. DAFTAR RIWAYAT HIDUP

Identitas

Nama : Muhammad Avicenna Abdul Syukur
NIM : G2A 009 036
Tempat/tanggal lahir : Jakarta, 7 Agustus 1990
Jenis kelamin : Laki - laki
Alamat : Jalan Lemponsari Gang II No. 507A
Nomor Telepon/HP : +62857 2586 8439
Alamat email : dr.avicenna.official@gmail.com

Riwayat Pendidikan Formal

1. SD : SDN 02 Salatiga, lulus tahun : 2003
2. SMP : SMPN 1 Salatiga, lulus tahun : 2006
3. SMA : SMA Taruna Nusantara, lulus tahun : 2009
4. FK UNDIP : Masuk tahun : 2009

Keanggotaan organisasi

1. Komandan Tingkat Angkatan 2009 (2009-Sekarang)
2. Rohis KU Undip (2009-2011)
3. Staf Ahli Bagian Keuangan BEM FKKM (2012)
4. KRESNA FK Undip (2011-Sekarang)
5. Ketua Ikatan Alumni SMA TN Cabang Semarang (2011)

Pengalaman mengikuti lomba karya ilmiah

1. Finalis Lomba Poster Ilmiah Scientific Fair FK Undip (2011)