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LAMPIRAN 1. ***Ethical clearance***

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

RSUP Dr. KARIADI

ETHICAL CLEARANCE

No.326 /EC/FK/RSDK/2013

Komisi Etik Penelitian Kesehatan Fakultas Kedokteran Universitas Diponegoro/ RSUP. Dr. Kariadi Semarang, setelah membaca dan menelaah USULAN Penelitian dengan judul :

PENGARUH PEMBERIAN UBI UNGU (*IPOMOEA BATATAS L*) TERHADAP KADAR KOLESTEROL TOTAL PLASMA TIKUS WISTAR YANG DIBERI MINYAK GORENG PEMANASAN BERULANG

Peneliti Utama	:	Anggita Dewati Putri
Pembimbing	:	1. dr. Dwi Ngestiningsih, M.Kes, Sp.PD 2. dr. Santoso, M.Si.Med
Penelitian	:	Dilaksanakan dr Laboratorium Parasitologi FK Undip Semarang untuk pengandangan hewan coba dan pembuatan pakan. Analisis kadar kolesterol total plasma dilakukan di Laboratorium Biokimia FK Undip

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

Pada laporan akhir peneliti harus melampirkan cara pemeliharaan & dekapitasi hewan coba

Semarang, 5 Juli 2013

Komisi Etik Penelitian Kesehatan
Fakultas Kedokteran Undip/RSUP Dr. Kariadi
Ketua,

KOMISI ETIK PENELITIAN KESEHATAN KEPK FK UNDIP RS. Dr. KARIADI SEMARANG

Prof.Dr.dr.Suprihati, M.Sc, Sp.THT-KL(K)
NIP. 19500621197703 2 001

LAMPIRAN 2. Surat izin penelitian

KEMENTERIAN PENDIDIKAN DAN KEBUDAYAAN
UNIVERSITAS NEGERI SEMARANG
FAKULTAS MATEMATIKA DAN ILMU PENGETAHUAN ALAM
LABORATORIUM JURUSAN BIOLOGI
Alamat: Gedung D11 FMIPA UNNES Kampus Sekaran Gunungpati Semarang 50229

SURAT KETERANGAN
No. 261 /UN.37.1.4.5/PP/2013

Yang bertanda tangan di bawah ini, Ketua Jurusan Biologi FMIPA Universitas Negeri Semarang menerangkan bahwa hewan coba dari mahasiswa :

Nama : Anggita Dewati Putri
Instansi : UNDIP Semarang
Jenis hewan : *Rattus norvegicus* strain Wistar

diperoleh dari Laboratorium Biologi. Hewan tersebut adalah hasil pengembangbiakan bibit hewan coba yang didapat dari LPPT Universitas Gadjah Mada (F2) dengan kondisi :

1. Sehat
2. Tidak cacat
3. Aktif
4. Berat badan sesuai dengan umur

Demikian surat keterangan ini kami buat untuk dapat digunakan seperlunya. Terimakasih

Semarang, Mei 2013

Mengetahui
Ketua Jurusan Biologi FMIPA UNNES

Andin Irsadi, S.Pd, M.Si
NIP 1974.031020.0003.1001

Kepala Laboratorium

Dra. Lina Herlina, M.Si
NIP. 19670207.199203.2001

KEMENTERIAN PENDIDIKAN DAN KEBUDAYAAN
UNIVERSITAS DIPONEGORO
FAKULTAS KEDOKTERAN
BAGIAN PARASITOLOGI
Jl. Prof. H. Soedarto, SH – Tembalang – Semarang Telepon 024-76928010 Fax 024-76928011
email : parasitologi@undip.ac.id

Nomor : 12 /UN7.3.4/Lab. Par/PG/2013
Lamp :
Perihal : Ijin Penelitian

Yth.
Pembantu Dekan I
FK UNDIP
Di Semarang

Sehubungan surat dari Pembantu Dekan I nomor 1360/UN7.3.4/D1/PP/2013 tanggal 27 Maret 2013 tentang Permohonan Ijin Penelitian :

Nama : 1. Anggita Dewati Putri / G2A009083
2. Ivana Yulia Puspowardojo / G2A009078
3. Sherlyta Dewi / G2A009094

Judul :
1. Pengaruh Pemberian Ubi Ungu (*Ipomoea batatas L*) terhadap Kadar Kolesterol Total Plasma Tikus Wistar yang Diberi Minyak Goreng Pemanasan Berulang.
2. Pengaruh Pemberian Ubi Ungu (*Ipomoea batatas L*) terhadap Kadar Trigliserida dan HDL Plasma Tikus Wistar Yang Diberi Minyak Goreng Pemanasan Berulang.
3. Pengaruh Pemberian Ubi Ungu (*Ipomoea batatas L*) terhadap Kadar Malondialdehida Plasma Tikus Wistar yang Diberi Minyak Goreng Pemanasan Berulang.

Kami selaku kepala Laboratorium Pasrasitologi FK UNDIP memberikan Ijin untuk melakukan penelitian tersebut diatas dan melakukan penelitian di laboratorium parasitologi FK UNDIP.

Atas perhatian dan kerjasamanya diucapkan terima kasih.

Semarang, 8 April 2013
Sekretaris Bagian

dr. Sudaryanto, MPd.Ked
NIP. 19700041619970210 01

Tembusan :
1. Ketua Tim Karya Tulis Ilmiah
2. Pembimbing

LABORATORIUM KLINIK

Certified Company
Cert No. : 16 100 0882

SURAT KETERANGAN

Nomor : 363/KDC.002.12/MKT/V/2013

Yang bertanda tangan di bawah ini, Kepala Cabang Laboratorium Klinik Cito Cabang Utama Semarang menerangkan bahwa:

Nama : Anggita Dewati Putri

NIM : G2A009083

Semester : VIII (Delapan)

Telah melakukan pemeriksaan Kolesterol total serum di Laboratorium Klinik Cito Cabang Utama Semarang pada tanggal 14 Mei 2013, dalam rangka penyusunan Karya Tulis Ilmiah mahasiswa :

Judul/Topik : Pengaruh Pemberian Ubi Ungu (*Ipomoea batatas* L) terhadap Kadar Kolesterol Total Serum pada Tikus Wistar yang Diberi Minyak Goreng Pemanasan Berulang

Pembimbing : dr. Dwi Ngestiningsih, M.Kes, Sp.PD / dr. Santoso, MSi.Med

Demikian surat keterangan ini dibuat untuk diketahui dan dipergunakan sebagaimana mestinya.

Semarang, 16 Mei 2013

Laboratorium Klinik Cito

Cabang Utama Semarang

Hesti Retno W, SH

Kepala Cabang

LAMPIRAN 3. Cara pemeliharaan, pemberian minyak, pemberian ubi ungu, dekapitasi, dan pengambilan sampel darah

a. Cara pemeliharaan

Tikus wistar yang dipilih berumur 12 minggu dengan berat badan 150-220 gram, dipelihara pada kandang individual selama 35 hari. Seluruh tikus diberi pakan P-594 dan air matang *ad* libitum selama penelitian. Alas kandang terbuat dari serutan kayu yang diganti secara teratur.

b. Cara memegang tikus dan pemberian minyak goreng pemanasan berulang

Pengambilan tikus dari kandang dilakukan dengan mengambil ekornya, kemudian tikus diletakkan di atas kawat kasa, selanjutnya bagian punggung tikus dipegang dengan telapak tangan dengan jari-jari memegang bagian leher sehingga kepala tikus dalam posisi terangkat ke atas untuk pemberian minyak melalui sonde sebanyak 3ml.

c. Cara pemberian ubi ungu kukus

Ubi ungu yang telah dikukus dipotong dadu, kemudian ditimbang. Masing-masing tikus pada kelompok K3 dan P1 mendapatkan 30 gram ubi ungu yang diletakkan pada tempat makanan tikus.

d. Cara dekapitasi dan pengambilan sampel darah

1) Teknik anestesi yang digunakan adalah dengan menggunakan eter. Tikus wistar dimasukkan ke dalam wadah yang berisi kapas yang sudah dibasahi dengan eter, kemudian ditutup rapat.
2) Setelah dianestesi, tikus wistar diterminasi dengan dekapitasi leher, dengan cara meletakkan tikus di atas permukaan rata. Sebuah pinset diletakkan di atas

kuduk tikus. Sambil menekan pinset, ekor tikus ditarik kuat dan pinset di arahkan ke atas kepala tikus.

3) Tikus kemudian diletakkan pada posisi terlentang dan seluruh permukaan abdomen disemprot dengan alkohol 70%. Kemudian dilakukan insisi vertikal pada regio abdomen menggunakan *scalpel*. Setelah itu tulang iga dipotong sehingga dapat terlihat jantung wistar. Darah langsung diambil dari ventrikel jantung dan aorta abdominalis dengan spuit dan ditampung di dalam tabung reaksi.

LAMPIRAN 4. Komposisi diet standar P-594

Kadar air	Maksimal	13.0 %
Protein		17.5 – 19.5 %
Lemak	Minimal	3.0 %
Serat	Maksimal	8.0 %
Abu	Maksimal	7.0 %
Kalsium	Minimal	0.90 %
Fosfor	Minimal	0.60 %

Bahan-bahan yang dipakai, antara lain:

1) Jagung
2) Dedak
3) Tepung ikan
4) Bungkil
5) Tepung daging

LAMPIRAN 5. Hasil uji laboratorium

No.	Kelompok	Kode Tikus	Kadar Kolesterol (mg/dL)
1	K1	A	52
2	K1	B	45
3	K1	C	54
4	K1	D	55
5	K1	E	80
6	K2	A	72
7	K2	B	56
8	K2	C	66
9	K2	D	52
10	K2	E	52
11	K3	A	52
12	K3	B	61
13	K3	C	49
14	K3	D	71
15	K3	E	45
16	P1	A	56
17	P1	B	50
18	P1	C	51
19	P1	D	47
20	P1	E	70

LAMPIRAN 6. Uji kolesterol total serum metode CHOD-PAP menggunakan COBAS Integra 400

COBAS
INTEGRA 400/800

Roche

Cholesterol Gen.2

Order information

COBAS INTEGRA Cholesterol Gen.2	400 Tests	Cat. No. 03039773 190 System-ID 07 6726 3
Calibrator f.a.s.	12 × 3 mL	Cat. No. 10759350 190
Calibrator f.a.s. (for USA)	12 × 3 mL	Cat. No. 10759350 360 System-ID 07 3718 6
Precinorm U	20 × 5 mL	Cat. No. 10171743 122 System-ID 07 7997 0
Precipath U	20 × 5 mL	Cat. No. 10171778 122 System-ID 07 7998 9
Precinorm U plus	10 × 3 mL	Cat. No. 12149435 122
Precinorm U plus (for USA)	10 × 3 mL	Cat. No. 12149435 160 System-ID 07 7999 7
Precipath U plus	10 × 3 mL	Cat. No. 12149443 122
Precipath U plus (for USA)	10 × 3 mL	Cat. No. 12149443 160 System-ID 07 8000 6
Precinorm L	4 × 3 mL	Cat. No. 10781827 122 System-ID 07 9026 5
Precipath L	4 × 3 mL	Cat. No. 11285874 122 System-ID 07 9500 3

● Indicates analyzer(s) on which cobas c pack can be used

COBAS INTEGRA 400/400 plus	COBAS INTEGRA 800
●	●

System information
COBAS INTEGRA Cholesterol Gen.2 (CHOL2)
Test CHOL2, test ID 0-586

Intended use
In vitro test for the quantitative determination of total cholesterol in serum and plasma on COBAS INTEGRA systems.

Summary[1,2,3,4,5,6,7,8,9,10,11,12]
Cholesterol is a steroid with a secondary hydroxyl group in the C3 position. It is synthesized in many types of tissue, but particularly in the liver and intestinal wall. Approximately three quarters of cholesterol are newly synthesized and a quarter originates from dietary intake. Cholesterol assays are used for screening for atherosclerotic risk and in the diagnosis and treatment of disorders involving elevated cholesterol levels as well as lipid and lipoprotein metabolic disorders.

Cholesterol analysis was first reported by Liebermann in 1885 followed by Burchard in 1889. In the Liebermann-Burchard reaction, cholesterol forms a blue-green dye from polymeric unsaturated carbohydrates in an acetic acid/acetic anhydride/concentrated sulfuric acid medium. The Abell and Kendall method is specific for cholesterol, but is technically complex and requires the use of corrosive reagents. In 1974, Roeschlau and Allain described the first fully enzymatic method. This method is based on the determination of Δ4-cholestenone after enzymatic cleavage of the cholesterol ester by cholesterol esterase, conversion of cholesterol by cholesterol oxidase, and subsequent measurement by the Trinder reaction of the hydrogen peroxide formed. Optimization of ester cleavage (> 99.5 %) allows standardization using primary and secondary standards and a direct comparison with the CDC and NIST reference methods. Nonfasting sample results may be slightly lower than fasting results.

The Roche cholesterol assay meets the 1992 National Institutes of Health (NIH) goal of less than or equal to 3 % for both precision and bias.

Test principle
Enzymatic, colorimetric method
Cholesterol esters are cleaved by the action of cholesterol esterase to yield free cholesterol and fatty acids. Cholesterol oxidase then catalyzes the oxidation of cholesterol to cholest-4-en-3-one and hydrogen peroxide. In the presence of peroxidase, the hydrogen peroxide formed effects the oxidative coupling of phenol and 4-aminoantipyrine to form a red quinone-imine dye.

$$\text{Cholesterol esters} + H_2O \xrightarrow{CE} \text{cholesterol} + \text{RCOOH}$$

$$\text{Cholesterol} + O_2 \xrightarrow{CHOD} \text{cholest-4-en-3-one} + H_2O_2$$

$$2\,H_2O_2 + \text{4-AAP} + \text{phenol} \xrightarrow{POD} \text{quinone-imine dye} + 4\,H_2O$$

The color intensity of the dye formed is directly proportional to the cholesterol concentration. It is determined by measuring the increase in absorbance at 512 nm.

Reagents - working solutions

Components	Concentrations R	Test	
PIPES[a] buffer	225	75	mmol/L
Mg^{2+}	10	3.3	mmol/L
Sodium cholate	0.6	0.2	mmol/L
4-Aminoantipyrine	≥ 0.45	≥ 0.15	mmol/L
Phenol	≥ 12.6	≥ 4.2	mmol/L
Fatty alcohol polyglycol ether	3	1	%
CE (Pseudomonas spec.)	≥ 1.5	≥ 0.5	kU/L
		(≥ 8.3	µkat/L)
CHOD (E. coli)	≥ 0.45	≥ 0.15	kU/L
		(≥ 2.5	µkat/L)
POD (horseradish)	≥ 0.75	≥ 0.25	kU/L
		(≥ 4.1	µkat/L)
pH	6.8	6.8	

a) PIPES = Piperazine-1,4-bis(2-ethanesulfonic acid)

The reagent contains nonreactive preservative and stabilizer.

Precautions and warnings

Pay attention to all precautions and warnings listed in this Method Manual, Chapter 1, Introduction.

Reagent handling

Ready for use.

Storage and stability

Shelf life at 2 to 8 °C	See expiration date on cobas c pack label.
COBAS INTEGRA 400/400 plus systems	
On-board in use at 10 to 15 °C	8 weeks
COBAS INTEGRA 800 systems	
On-board in use at 8 °C	8 weeks

Specimen collection and preparation

For specimen collection and preparation, only use suitable tubes or collection containers.
Only the specimens listed below were tested and found acceptable.
Serum.
Plasma: Li-heparin or K_3-EDTA plasma.
(Use of EDTA-plasma leads to slightly lower values.)
Do not use citrate, oxalate, or fluoride.[13]
Fasting and nonfasting samples can be used.[11]

The sample types listed were tested with a selection of sample collection tubes that were commercially available at the time of testing, i.e. not all available tubes of all manufacturers were tested. Sample collection systems from various manufacturers may contain differing materials which could affect the test results in some cases. When processing samples in primary tubes (sample collection systems), follow the instructions of the tube manufacturer.

Stability:[14,15] 7 days at 15-25 °C
7 days at 2-8 °C
3 months at (-15)-(-25) °C

Centrifuge samples containing precipitates before performing the assay.

Materials provided

See "Reagents - working solutions" section for reagents.

Assay

For optimum performance of the assay follow the directions given in this document for the analyzer concerned. Refer to the appropriate operator's manual for analyzer-specific assay instructions.

Application for serum and plasma

COBAS INTEGRA 400/400 plus test definition

Measuring mode	Absorbance
Abs. calculation mode	Endpoint
Reaction mode	R-S
Reaction direction	Increase
Wavelength A/B	512/659 nm
Calc. first/last	17/69
Unit	mmol/L

Pipetting parameters

		Diluent (H_2O)
R	47 µL	70 µL
Sample	2 µL	23 µL
Total volume	142 µL	

COBAS INTEGRA 800 test definition

Measuring mode	Absorbance
Abs. calculation mode	Endpoint
Reaction mode	R-S
Reaction direction	Increase
Wavelength A/B	512/659 nm
Calc. first/last	17/98
Unit	mmol/L

Pipetting parameters

		Diluent (H_2O)
R	47 µL	73 µL
Sample	2 µL	20 µL
Total volume	142 µL	

Calibration

Calibrator	Calibrator f.a.s. Use deionized water as zero calibrator.
Calibration mode	Linear regression
Calibration replicate	Duplicate recommended
Calibration interval	Each lot and as required following quality control procedures

Traceability: This method has been standardized by ID-MS[b] and also according to Abell-Kendall.
This complies with the requirements of the National Institute of Standards and Technology (NIST).
b) Isotope dilution - mass spectrometry

Quality control

Reference range	Precinorm U, Precinorm U plus or Precinorm L
Pathological range	Precipath U, Precipath U plus or Precipath L
Control interval	24 hours recommended
Control sequence	User defined
Control after calibration	Recommended

For quality control, use control materials as listed in the Order information section. Other suitable control material can be used in addition.
The control intervals and limits should be adapted to each laboratory's individual requirements. Values obtained should fall within the defined limits.
Each laboratory should establish corrective measures to be taken if values fall outside the limits.
Follow the applicable government regulations and local guidelines for quality control.

Calculation

COBAS INTEGRA analyzers automatically calculate the analyte concentration of each sample. For more details, please refer to Data Analysis in the Online Help (COBAS INTEGRA 400/400 plus/800 analyzers).

Conversion factor: mmol/L × 38.66 = mg/dL

Limitations - interference[16]

Criterion: Recovery within ± 10 % of initial value.

Serum, plasma

Icterus	No significant interference up to an I index of 16 for conjugated bilirubin and 11 for unconjugated bilirubin (approximate conjugated bilirubin concentration: 274 µmol/L or 16 mg/dL, and approximate unconjugated bilirubin concentration: 188 µmol/L or 11 mg/dL).[c]
Hemolysis	No significant interference up to an H index of 810 (approximate hemoglobin concentration: 503 µmol/L or 810 mg/dL).[c]
Lipemia	No significant interference.[c]
Drugs	No interference was found at therapeutic concentrations using common drug panels.[17,18]
Other	In very rare cases gammopathy, in particular type IgM (Waldenström's macroglobulinemia), may cause unreliable results.

c) measured at cholesterol levels up to 5.28 mmol/L

For diagnostic purposes, the results should always be assessed in conjunction with the patient's medical history, clinical examination and other findings.

ACTION REQUIRED

Special wash programming: The use of special wash steps is mandatory when certain test combinations are run together on COBAS INTEGRA analyzers. Refer to the Method Manual, Introduction, Extra Wash Cycles for further instructions. **Where required, special wash/carry-over evasion programming must be implemented prior to reporting results with this test.**

Limits and ranges

Measuring range

0.1-20.7 mmol/L (3.87-800 mg/dL)

Determine samples having higher concentrations via the rerun function. Dilution of samples via the rerun function is a 1:10 dilution. Results from samples diluted by the rerun function are automatically multiplied by a factor of 10.

Lower limits of measurement

Lower detection limit of the test:
0.1 mmol/L (3.87 mg/dL)

The detection limit represents the lowest measurable analyte level that can be distinguished from zero. It is calculated as the value lying three standard deviations above that of a zero sample (zero sample + 3 SD, within-run precision, n = 21).

Expected values

Clinical interpretation according to the recommendations of the European Atherosclerosis Society:[19]

	mmol/L	*mg/dL*	*Lipid metabolic disorder*
Cholesterol	< 5.2	< 200	No
Triglycerides	< 2.3	< 200	
Cholesterol	5.2-7.8	200-300	Yes, if HDL-cholesterol < 0.9 mmol/L (< 35 mg/dL)
Cholesterol	> 7.8	> 300	Yes
Triglycerides	> 2.3	> 200	

Recommendations of the NCEP Adult Treatment Panel for the following risk-cutoff thresholds for the US American population:[20]

Desirable cholesterol level	< 5.2 mmol/L	(< 201 mg/dL)
Borderline high cholesterol	5.2-6.2 mmol/L	(200-240 mg/dL)
High cholesterol	≥ 6.2 mmol/L	(≥ 240 mg/dL)

Each laboratory should investigate the transferability of the expected values to its own patient population and if necessary determine its own reference ranges.

Specific performance data

Representative performance data on COBAS INTEGRA analyzers are given below. Results obtained in individual laboratories may differ.

Precision

Precision was determined using human samples and controls in an internal protocol. Repeatability[d] (n = 21), intermediate precision[e] (1 aliquots per run, 1 run per day, 21 days). The following results were obtained:

	Level 1	Level 2
Mean	2.74 mmol/L (106 mg/dL)	6.20 mmol/L (240 mg/dL)
CV repeatability[d]	0.51 %	0.81 %
Mean	2.61 mmol/L (101 mg/dL)	5.96 mmol/L (230 mg/dL)
CV intermediate precision[e]	1.9 %	1.4 %

d) repeatability = within-run precision
e) intermediate precision = total precision/between-run precision/between-day precision

Method comparison

Cholesterol values for human serum and plasma samples obtained on a COBAS INTEGRA 700 analyzer with the COBAS INTEGRA Cholesterol Gen.2 reagent (CHOL2) were compared to those determined by ID-MS.

ID-MS	Sample size (n) = 50
Passing/Bablok[21]	Linear regression
$y = 0.99x + 0.04$ mmol/L	$y = 0.98x + 0.09$ mmol/L
$\tau = 0.971$	$r = 0.999$
SD (md 95) = 0.115	Sy.x = 0.058

The sample concentrations were between 1.51 and 10.94 mmol/L (58.4 and 423 mg/dL).

References

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LAMPIRAN 7. Hasil uji statistik

1. Jumlah sampel tiap kelompok

Case Processing Summary

		Cases					
		Valid		Missing		Total	
	Kelompok	N	Percent	N	Percent	N	Percent
Kadar Kolesterol	Kontrol	5	100.0%	0	.0%	5	100.0%
	Minyak	5	100.0%	0	.0%	5	100.0%
	Ubi	5	100.0%	0	.0%	5	100.0%
	Minyak + Ubi	5	100.0%	0	.0%	5	100.0%

2. Analisis deskriptif pengaruh pemberian ubi ungu terhadap kadar kolesterol total serum

Descriptives

	Kelompok			Statistic	Std. Error
Kadar Kolesterol	Kontrol	Mean		57.20	5.962
		95% Confidence Interval for Mean	Lower Bound	40.65	
			Upper Bound	73.75	
		5% Trimmed Mean		56.61	
		Median		54.00	
		Variance		177.700	
		Std. Deviation		13.330	
		Minimum		45	
		Maximum		80	
		Range		35	
		Interquartile Range		19	

	Skewness		1.733	.913
	Kurtosis		3.608	2.000
Minyak	Mean		59.60	4.020
	95% Confidence Interval for Mean	Lower Bound	48.44	
		Upper Bound	70.76	
	5% Trimmed Mean		59.33	
	Median		56.00	
	Variance		80.800	
	Std. Deviation		8.989	
	Minimum		52	
	Maximum		72	
	Range		20	
	Interquartile Range		17	
	Skewness		.714	.913
	Kurtosis		-1.842	2.000
Ubi	Mean		55.60	4.665
	95% Confidence Interval for Mean	Lower Bound	42.65	
		Upper Bound	68.55	
	5% Trimmed Mean		55.33	
	Median		52.00	
	Variance		108.800	
	Std. Deviation		10.431	
	Minimum		45	
	Maximum		71	
	Range		26	
	Interquartile Range		19	
	Skewness		.839	.913
	Kurtosis		-.420	2.000

Minyak + Ubi	Mean		54.80	4.067
	95% Confidence Interval for Mean	Lower Bound	43.51	
		Upper Bound	66.09	
	5% Trimmed Mean		54.39	
	Median		51.00	
	Variance		82.700	
	Std. Deviation		9.094	
	Minimum		47	
	Maximum		70	
	Range		23	
	Interquartile Range		15	
	Skewness		1.592	.913
	Kurtosis		2.568	2.000

3. Hasil uji normalitas data pengaruh pemberian ubi ungu terhadap kadar kolesterol total serum

Tests of Normality

		Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Kelompok	Statistic	df	Sig.	Statistic	df	Sig.
Kadar Kolesterol	Kontrol	.366	5	.028	.809	5	.097
	Minyak	.256	5	.200*	.860	5	.228
	Ubi	.235	5	.200*	.935	5	.634
	Minyak + Ubi	.262	5	.200*	.847	5	.184

a. Lilliefors Significance Correction

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

4. Hasil uji homogenitas varians

Test of Homogeneity of Variance

		Levene Statistic	df1	df2	Sig.
Kadar Kolesterol	Based on Mean	.178	3	16	.910
	Based on Median	.054	3	16	.983
	Based on Median and with adjusted df	.054	3	13.299	.983
	Based on trimmed mean	.136	3	16	.937

5. Hasil uji parametrik *One Way Anova*

ANOVA

Kadar Kolesterol

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	67.200	3	22.400	.199	.895
Within Groups	1800.000	16	112.500		
Total	1867.200	19			

LAMPIRAN 8. Dokumentasi penelitian

1. Ubi ungu


Ubi ungu didapatkan dari Pasar Bandungan, Kabupaten Semarang


Proses pengukusan ubi ungu

2. Minyak goreng pemanasan berulang

Proses pemanasan minyak kelapa sawit

3. Perlakuan terhadap hewan coba

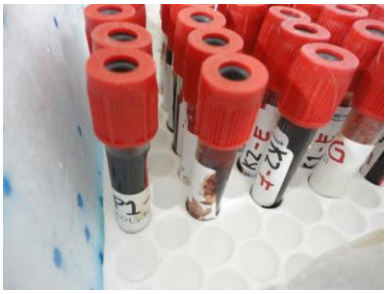
Sistem pengandangan hewan coba

Pemberian minyak dengan cara sonde

Pemberian ubi ungu kukus *ad libitum*

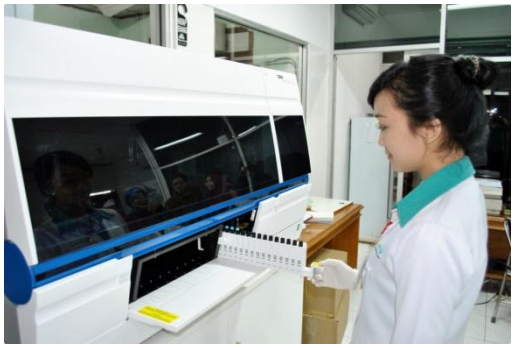
Pengukuran berat badan akhir

Proses terminasi dan pengambilan sampel darah hewan coba



Pengepakan sampel darah untuk dikirim ke Lab CITO

4. Uji laboratorium kadar kolesterol total serum



Uji kadar kolesterol total serum sampel dengan metode CHOD-PAP menggunakan COBAS *analyzer* di Laboratorium CITO, Semarang

LAMPIRAN 9. Biodata mahasiswa

Identitas

Nama	:	Anggita Dewati Putri
NIM	:	G2A009083
Tempat/tanggal lahir	:	Bogor, 5 Maret 1991
Jenis kelamin	:	Perempuan
Alamat	:	Baranangsiang Indah P5 No.13 Bogor 16710
Nomor telepon	:	02518334347
Nomor HP	:	08568177863
e-mail	:	anggita.putri@live.com

Riwayat Pendidikan Formal

1. SD	:	SD Negeri Polisi 4 Bogor	Lulus tahun: 2003
2. SMP	:	SMP Negeri 1 Bogor	Lulus tahun: 2006
3. SMA	:	SMA Negeri 3 Bogor	Lulus tahun: 2009
4. FK UNDIP	:	Masuk tahun: 2009	

Keanggotaan Organisasi

1. Anggota Badan Eksekutif Mahasiswa FK UNDIP Departemen Seni dan Olahraga masa jabatan 2009-2010
2. Anggota Tim MALADICA (Mahasiswa Pencinta Alam Medica) FK UNDIP
3. Asisten Dosen Biokimia FK UNDIP masa jabatan 2010-2011
4. Asisten Dosen Biokimia FK UNDIP masa jabatan 2010-2012
5. Pengawas Try Out Akbar tingkat SD Se-Kota Bogor yang diselenggarakan oleh Nurul Fikri tahun 2009
6. Pengawas Try Out Akbar tingkat SMP Se-Kota Bogor yang diselenggarakan oleh Nurul Fikri tahun 2009

7. Staf Ahli Badan Eksekutif Mahasiswa FK UNDIP Departemen Seni dan Olahraga masa jabatan 2010-2011
8. Sie Acara "Marsmellow *Without Smoke*" Pentas Seni dan Peresmian Kampus FK UNDIP Bebas Asap Rokok (2010)
9. Sie Dekorasi Pekan Olahraga dan Seni FK UNDIP (2010)
10. Sie Dekorasi *Cultural Night* FK UNDIP (2010)
11. *Steering Committee Cultural Night* FK UNDIP (2011)
12. Sie Acara Pentas Seni "Lollaby" FK UNDIP (2011)
13. Sie Acara dan Sie Dekorasi Pekan Olahraga dan Seni FK UNDIP (2011)
14. Kakak Pembimbing Bakti Sosial dan Kemah Bakti FK UNDIP di Magelang (2012)
15. Sie Acara Pengabdian Masyarakat "Bandarharjo Sehat" (2013)