

Lampiran 1 – Lembar Persetujuan Etik untuk Hewan



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PERSETUJUAN ETIK
Ethical Clearance
Nomor: 145/KER/FK/I/2019

Komisi Etik Riset Fakultas Kedokteran Universitas Trisakti setelah mempelajari dengan seksama dan mendengarkan penjelasan dari peneliti utama tentang kemungkinan adanya dampak etis terhadap subyek riset, masyarakat dan lingkungan, menetapkan penelitian dengan judul:

**"PENGARUH INDUKSI HIPOKSIA KRONIK SISTEMIK
TERHADAP KADAR MALONDIALDEHIDA (MDA) HATI DAN
DARAH TIKUS *SPRAGUE DAWLEY* YANG DIBERI EKSTRAK
DAUN RASBERI (*RUBUS IDAEUS L*)**

Peneliti Utama : Ria Nata Sia

Lembaga/Tempat penelitian : FK Universitas Tarumanagara

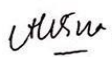
Dinyatakan memenuhi persyaratan etik untuk dilaksanakan.

Jakarta, 17 Januari 2019

Ketua

DR. DR. Adi Hidayat, MS


Sekretaris


dr. Alvina SpPK

Lampiran 2 – Tanaman *Raspberry*



Pohon Raspberry



Daun Raspberry

Lampiran 3 – Identifikasi Tanaman



LEMBAGA ILMU PENGETAHUAN INDONESIA
(INDONESIAN INSTITUTE OF SCIENCES)
PUSAT PENELITIAN BIOLOGI
(RESEARCH CENTER FOR BIOLOGY)

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Telp. (+62 21) 87907636 - 87907604, Fax. 87907612
Website : www.biologi.lipi.go.id



Cibinong, 6 April 2018

Nomor : 865/IPH.1.01/If.07/IV/2018
Lampiran : -
Perihal : Hasil identifikasi/determinasi Tumbuhan

Kepada Yth.
Bpk./Ibu/Sdr(i). **Chindy Tjandra**
Mhs. Univ. Tarumanagara
Jl. Letjend S. Parman No.1
Jakarta - 11440

Dengan hormat,

Bersama ini kami sampaikan hasil identifikasi/determinasi tumbuhan yang Saudara kirimkan ke "Herbarium Bogoriense", Bidang Botani Pusat Penelitian Biologi-LIPI Bogor, adalah sebagai berikut :

No.	No. Kol.	Jenis	Suku
1	Strawberry	<i>Fragaria vesca</i> L.	Rosaceae
2	Raspberry	<i>Rubus idaeus</i> L.	Rosaceae
3	Blackberry	<i>Rubus</i> sp.	Rosaceae

Demikian, semoga berguna bagi Saudara.

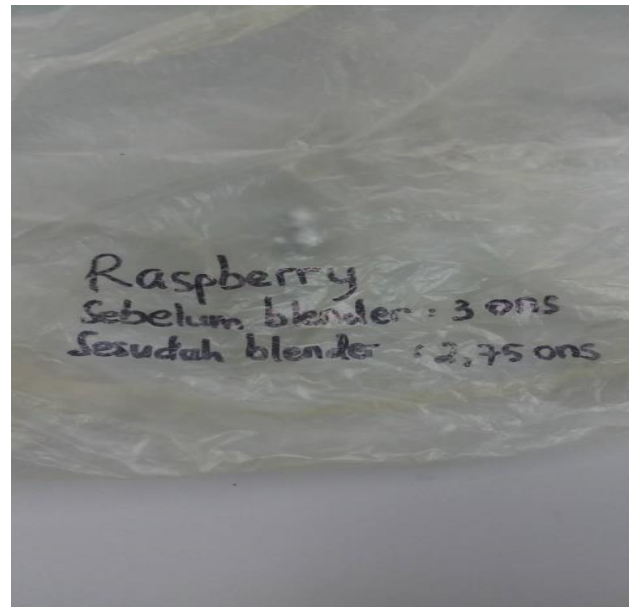
Kepala Bidang Botani
Pusat Penelitian Biologi-LIPI,
Dr. Joeni Setijo Rahajoe
NIP. 196706241993032004

Lampiran – 4 : Dokumentasi Alat dan Bahan Penelitian



Gambar 1. Evaporasi Daun *Raspberry* → gambar ditempatkan dibawah gambarnya

y



Gambar 2. Maserasi Daun *Raspberry*

Gambar 3. Pengukuran Berat Daun Raspberr



Gambar 4. Uji DPPH

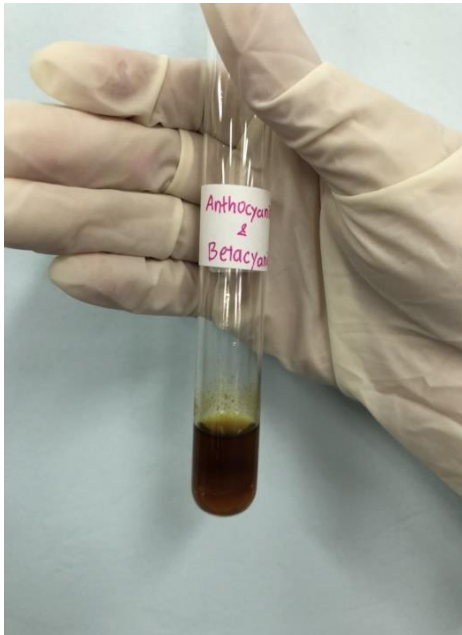


Gambar 6. Uji Fitokimia



Gambar 7. Uji Kadar Alkaloid

Lampiran – 5: Hasil Uji Fitokimia



Gambar 1. Uji Antosianin dan Betasianin



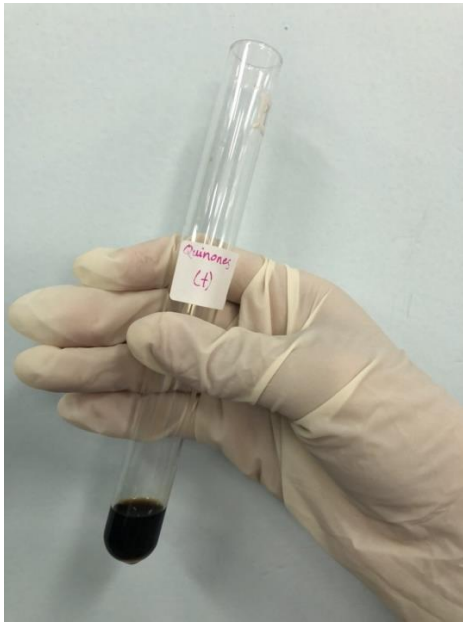
Gambar 2. Uji Kardioglikosida



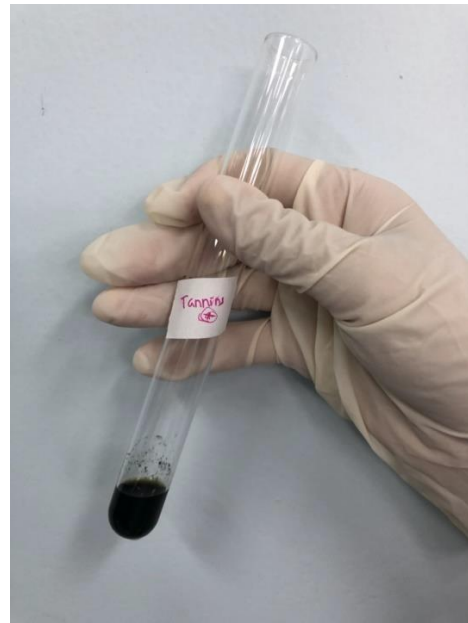
Gambar 3. Uji Kumarin



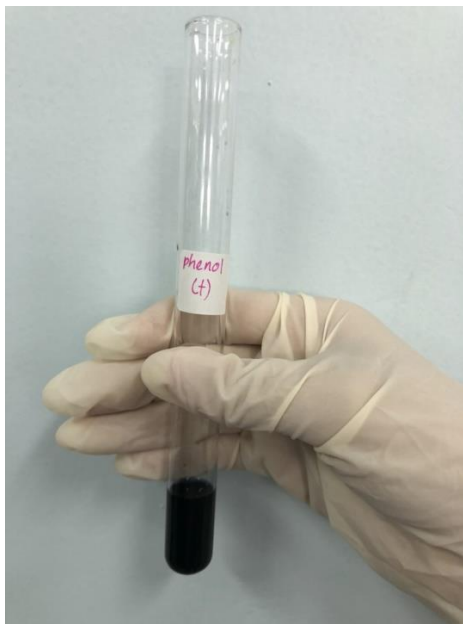
Gambar 4. Uji Glikosida



Gambar 5. Uji Kuinon



Gambar 6. Uji Tanin



Gambar 7. Uji Fenolik



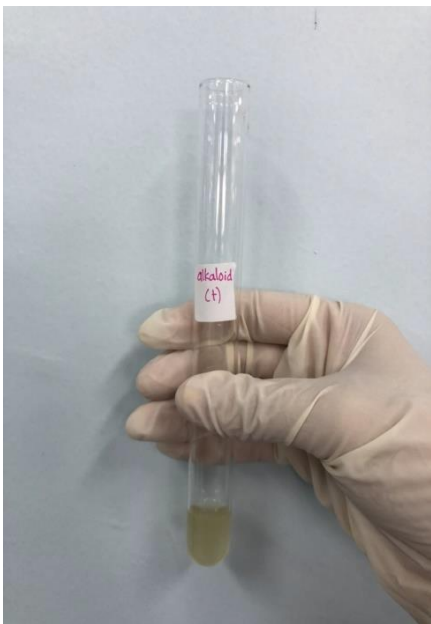
Gambar 8. Uji Flavonoid



Gambar 9. Uji Steroid



Gambar 10. Uji Terpenoid



Gambar 11. Uji Alkaloid

Lampiran 6 – Hasil Uji Kapasitas Total Antioksidan Ekstrak Daun Raspberry

Hasil Uji Kapasitas Antioksidan Ekstrak Daun *Raspberry* dan Nilai Absorbansi

Konsentrasi ($\mu\text{g/ml}$)	Rata-rata Absorbansi	% Inhibisi	IC ₅₀ ($\mu\text{g/ml}$)
10	0,445	13,42	
30	0,417	18,87	
50	0,362	29,57	96,28
70	0,330	35,80	
90	0,260	49,42	

Regresi Linier Kapasitas Antioksidan Ekstrak Daun *Raspberry*

Best-fit values \pm SE

Slope 0.4447 \pm 0.03783

Y-intercept 7.184 \pm 2.173

X-intercept -16.16

1/slope 2.249

95% Confidence Intervals

Slope 0.3243 to 0.565

Y-intercept 0.2672 to 14.1

X-intercept -42.29 to -0.4862

Goodness of Fit

R square 0.9787

Sy.x 2.393

Is slope significantly non-zero?

F 138.1

DFn, DFd 1, 3

P value 0.0013

Deviation from zero? Significant

Equation $Y = 0.4447 * X + 7.184$

Data

Number of X values 5

Maximum number of Y replicates	1
Total number of values	5
Number of missing values	0

Lampiran 7– Hasil Uji Kapasitas Total Antioksidan Asam Askorbat (Vitamin C)

Hasil Uji Kapasitas Antioksidan Vitamin C (Asam Askorbat) dan Nilai Absorbansi

Konsentrasi ($\mu\text{g/ml}$)	Rata-rata absorbansi	% Inhibisi	IC ₅₀ ($\mu\text{g/ml}$)
2	0,346	32,68	
4	0,288	43,97	
6	0,213	58,56	4,718
8	0,152	70,43	
10	0,086	83,27	

Regresi Linier dari Asam Askorbat Pengujian DPPH

Best-fit values \pm SE	
Slope	6.382 \pm 0.1258
Y-intercept	19.49 \pm 0.8347
X-intercept	-3.054
1/slope	0.1567
95% Confidence Intervals	
Slope	5.982 to 6.782
Y-intercept	16.83 to 22.15
X-intercept	-3.687 to -2.492
Goodness of Fit	
R square	0.9988
Sy.x	0.7958
Is slope significantly non-zero?	
F	2572
DFn, DFd	1, 3
P value	<0.0001

Deviation from zero?	Significant
Equation	$Y = 6.382 * X + 19.49$
Data	
Number of X values	5
Maximum number of Y replicates	1
Total number of values	5
Number of missing values	0

Lampiran 8 – Hasil Uji Fenolik

Regresi Linier Standar Tanin Pengujian Fenolik

Best-fit values \pm SE	
Slope	$0.00073 \pm 7.332e-005$
Y-intercept	0.1188 ± 0.0381
X-intercept	-162.7
1/slope	1370
95% Confidence Intervals	
Slope	0.0004967 to 0.0009633
Y-intercept	-0.002447 to 0.24
X-intercept	-478.9 to 2.564
Goodness of Fit	
R square	0.9706
Sy.x	0.02319
Is slope significantly non-zero?	
F	99.13
DFn, DFd	1, 3
P value	0.0022
Deviation from zero?	Significant
Equation	$Y = 0.00073 * X + 0.1188$
Data	
Number of X values	5
Maximum number of Y replicates	1

Total number of values	5
Number of missing values	0

Lampiran 9 – Hasil Uji Alkaloid

Regresi Linier *Berberine Chloride* Pengujian Alkaloid

Best-fit values \pm SE	
Slope	0.001715 \pm 0.0002174
Y-intercept	0.0481 \pm 0.01442
X-intercept	-28.05
1/slope	583.1
95% Confidence Intervals	
Slope	0.001023 to 0.002407
Y-intercept	0.002209 to 0.09399
X-intercept	-89.38 to -0.9434
Goodness of Fit	
R square	0.954
Sy.x	0.01375
Is slope significantly non-zero?	
F	62.24
DFn, DFd	1, 3
P value	0.0042
Deviation from zero?	Significant
Equation	$Y = 0.001715 * X + 0.0481$
Data	
Number of X values	5
Maximum number of Y replicates	1
Total number of values	5
Number of missing values	0

Lampiran 10 – Hasil Uji Toksisitas BSLT**Regresi Linier Pengujian BSLT**

Best-fit values \pm SE	
Slope	45.73 \pm 9.258
Y-intercept	-49.1 \pm 21.35
X-intercept	1.074
1/slope	0.02187
95% Confidence Intervals	
Slope	5.899 to 85.56
Y-intercept	-141 to 42.78
X-intercept	-6.588 to 1.814
Goodness of Fit	
R square	0.9242
Sy.x	14.24
Is slope significantly non-zero?	
F	24.4
DFn, DFd	1, 2
P value	0.0386
Deviation from zero?	Significant
Equation	$Y = 45.73 * X - 49.1$
Data	
Number of X values	4
Maximum number of Y replicates	1
Total number of values	4
Number of missing values	0

Lampiran 11 – Hasil Absorbansi dan Kadar *Malondyaldehyde* (MDA) Ginjal**Tabel Ginjal Normoksia Cekok**

	Duplo (Absorbansi)		Rerata Absorbansi	Kadar MDA (nmol/ml)
	I	II		
Tikus 1	0,098	0,095	0,096	0,761
Tikus 2	0,102	0,104	0,103	0,820
Tikus 3	0,109	0,109	0,109	0,870

Tikus 4	0,108	0,112	0,110	0,879
	Rata-rata		0,104	0,832

Tabel Ginjal Hipoksia 1 Hari Cekok

	Duplo (Absorbansi)		Rerata Absorbansi	Kadar MDA (nmol/ml)
	I	II		
Tikus 1	0,133	0,137	0,153	1,240
Tikus 2	0,142	0,142	0,114	0,912
Tikus 3	0,129	0,130	0,148	1,198
Tikus 4	0,137	0,144	0,154	1,248
	Rata-rata		0,142	1,150

Tabel Ginjal Hipoksia 7 Hari Cekok

	Duplo (Absorbansi)		Rerata Absorbansi	Kadar MDA (nmol/ml)
	I	II		
Tikus 1	0,175	0,173	0,162	1,315
Tikus 2	0,181	0,188	0,172	1,399
Tikus 3	0,172	0,170	0,159	1,290
Tikus 4	0,190	0,186	0,164	1,332
	Rata-rata		0,16425	1,334

Tabel Ginjal Hipoksia 14 Hari Cekok

	Duplo (Absorbansi)		Rerata Absorbansi	Kadar MDA (nmol/ml)
	I	II		
Tikus 1	0,222	0,219	0,220	1,601
Tikus 2	0,226	0,225	0,225	1,643
Tikus 3	0,237	0,231	0,234	1,592
Tikus 4	0,229	0,234	0,231	1,548
	Rata-rata		0,227	1,596

Tabel Ginjal Normoksia Tidak Cekok

	Duplo (Absorbansi)		Rerata Absorbansi	Kadar MDA (nmol/ml)
	I	II		
Tikus 1	0,174	0,180	0,187	1,542
Tikus 2	0,164	0,168	0,179	1,458
Tikus 3	0,136	0,139	0,150	1,215
Tikus 4	0,151	0,156	0,166	1,349

Rata-rata 0,171 1,391

Tabel Ginjal Hipoksia 1 Hari Tidak Cekok

	Duplo (Absorbansi)		Rerata Absorbansi	Kadar MDA (nmol/ml)
	I	II		
	Tikus 1	0,195		
Tikus 2	0,252	0,267	0,231	1,895
Tikus 3	0,181	0,183	0,194	1,584
Tikus 4	0,182	0,191	0,199	1,626
	Rata-rata		0,205	1,681

Tabel Ginjal Hipoksia 7 Hari Tidak Cekok

	Duplo (Absorbansi)		Rerata Absorbansi	Kadar MDA (nmol/ml)
	I	II		
	Tikus 1	0,214		
Tikus 2	0,261	0,267	0,264	2,171
Tikus 3	0,202	0,207	0,204	1,667
Tikus 4	0,196	0,189	0,192	1,567
	Rata-rata		0,219	1,793

Tabel Ginjal Hipoksia 14 Hari Tidak Cekok

	Duplo (Absorbansi)		Rerata Absorbansi	Kadar MDA (nmol/ml)
	I	II		
	Tikus 1	0,233		
Tikus 2	0,284	0,290	0,287	2,364
Tikus 3	0,203	0,209	0,206	1,684
Tikus 4	0,204	0,212	0,208	1,701
	Rata-rata		0,234	1,921

Lampiran 12 – Hasil Absorbansi dan Kadar *Malondyaldehide* (MDA) Darah
Tabel Darah Normoksia Cekok

	Duplo (Absorbansi)		Rerata Absorbansi	Kadar MDA (nmol/ml)
	I	II		
	Tikus 1	0,059		
Tikus 2	0,062	0,066	0,064	0,493
Tikus 3	0,057	0,058	0,058	0,442
Tikus 4	0,054	0,059	0,057	0,434
	Rata-rata		0,060	0,459

Tabel Darah Hipoksia 1 Hari Cekok

	Duplo (Absorbansi)		Rerata Absorbansi	Kadar MDA (nmol/ml)
	I	II		
	Tikus 1	0,092		
Tikus 2	0,083	0,089	0,086	0,677
Tikus 3	0,095	0,093	0,094	0,744
Tikus 4	0,091	0,087	0,089	0,702
	Rata-rata		0,090	0,711

Tabel Darah Hipoksia 7 Hari Cekok

	Duplo (Absorbansi)		Rerata Absorbansi	Kadar MDA (nmol/ml)
	I	II		
	Tikus 1	0,110		
Tikus 2	0,125	0,121	0,123	0,988
Tikus 3	0,115	0,111	0,113	0,904
Tikus 4	0,113	0,117	0,115	0,921
	Rata-rata		0,11575	0,927

Tabel Darah Hipoksia 14 Hari Cekok

	Duplo (Absorbansi)		Rerata Absorbansi	Kadar MDA (nmol/ml)
	I	II		
	Tikus 1	0,163		
Tikus 2	0,169	0,173	0,171	1,391
Tikus 3	0,155	0,157	0,156	1,265
Tikus 4	0,161	0,159	0,160	1,299
	Rata-rata		0,16275	1,322

Tabel Darah Normoksia Tidak Cekok

	Duplo (Absorbansi)		Rerata Absorbansi	Kadar MDA (nmol/ml)
	I	II		
	Tikus 1	0,089		
Tikus 2	0,069	0,073	0,071	0,551
Tikus 3	0,068	0,070	0,069	0,534
Tikus 4	0,085	0,080	0,083	0,652
	Rata-rata		0,0775	0,606

Tabel Darah Hipoksia 1 Hari Tidak Cekok

	Duplo (Absorbansi)		Rerata Absorbansi	Kadar MDA (nmol/ml)
	I	II		
Tikus 1	0,106	0,104	0,105	0,837
Tikus 2	0,112	0,109	0,111	0,887
Tikus 3	0,107	0,105	0,106	0,845
Tikus 4	0,112	0,113	0,113	0,900
	Rata-rata		0,10875	0,868

Tabel Darah Hipoksia 7 Hari Tidak Cekok

	Duplo (Absorbansi)		Rerata Absorbansi	Kadar MDA (nmol/ml)
	I	II		
Tikus 1	0,135	0,139	0,137	1,105
Tikus 2	0,151	0,147	0,149	1,206
Tikus 3	0,129	0,134	0,132	1,063
Tikus 4	0,144	0,143	0,144	1,164
	Rata-rata		0,141	1,139

Tabel Darah Hipoksia 14 Hari Tidak Cekok

	Duplo (Absorbansi)		Rerata Absorbansi	Kadar MDA (nmol/ml)
	I	II		
Tikus 1	0,176	0,178	0,177	1,441
Tikus 2	0,192	0,193	0,193	1,576
Tikus 3	0,189	0,185	0,187	1,525
Tikus 4	0,181	0,177	0,179	1,458
	Rata-rata		0,184	1,500

Tabel MDA darah yang dicekok ekstrak daun *raspberry*

	Normoksia	1 Hari	7 Hari	14 Hari
Test for normal distribution				
Anderson-Darling test				
A2*	N too small	N too small	N too small	N too small
P value				
Passed normality test (alpha=0.05)?				
P value summary				
D'Agostino & Pearson test				
K2	N too small	N too small	N too small	N too small

P value				
Passed normality test (alpha=0.05)?				
P value summary				
Shapiro-Wilk test				
W	0,9366	0,9999	0,8316	0,9816
P value	0,6337	0,9997	0,1721	0,9112
Passed normality test (alpha=0.05)?	Yes	Yes	Yes	Yes
P value summary	ns	ns	ns	ns
Kolmogorov-Smirnov test				
KS distance	N too small	N too small	N too small	N too small
P value				
Passed normality test (alpha=0.05)?				
P value summary				
Number of values	4	4	4	4

Tabel *Mann-Whitney* Hipoksia 1 Hari vs Normoksia yang dicekok ekstrak daun *raspberry*

	MDA Darah
Table Analyzed	(+)
Column B	1 Hari
vs.	vs,
Column A	Normoksia
Mann Whitney test	
P value	0,0286
Exact or approximate P value?	Exact
P value summary	*
Significantly different (P < 0.05)?	Yes
One- or two-tailed P value?	Two-tailed
Sum of ranks in column A,B	10 , 26
Mann-Whitney U	0
Difference between medians	
Median of column A	0,4545, n=4
Median of column B	0,7105, n=4

Difference: Actual	0,256
Difference: Hodges-Lehmann	0,2515

Tabel *Mann-Whitney* Hipoksia 7 Hari vs Normoksia yang dicekok ekstrak daun *raspberry*

	MDA Darah
Table Analyzed	(+)
Column C	7 Hari
vs.	vs,
Column A	Normoksia
Mann Whitney test	
P value	0,0286
Exact or approximate P value?	Exact
P value summary	*
Significantly different (P < 0.05)?	Yes
One- or two-tailed P value?	Two-tailed
Sum of ranks in column A,C	10 , 26
Mann-Whitney U	0
Difference between medians	
Median of column A	0,4545, n=4
Median of column C	0,9125, n=4
Difference: Actual	0,458
Difference: Hodges-Lehmann	0,462

Tabel *Mann-Whitney* Hipoksia 14 Hari vs Normoksia yang dicekok ekstrak daun *raspberry*

	MDA Darah
Table Analyzed	(+)
Column D	14 Hari
vs.	vs,
Column A	Normoksia

Mann Whitney test	
P value	0,0286
Exact or approximate P value?	Exact
P value summary	*
Significantly different (P < 0.05)?	Yes
One- or two-tailed P value?	Two-tailed
Sum of ranks in column A,D	10 , 26
Mann-Whitney U	0
Difference between medians	
Median of column A	0,4545, n=4
Median of column D	1,316, n=4
Difference: Actual	0,861
Difference: Hodges-Lehmann	0,861

Tabel MDA darah yang tidak dicekok ekstrak daun *raspberry*

	Normoksia	1 Hari	7 Hari	14 Hari
Test for normal distribution				
Anderson-Darling test				
A2*	N too small	N too small	N too small	N too small
P value				
Passed normality test (alpha=0.05)?				
P value summary				
D'Agostino & Pearson test				
K2	N too small	N too small	N too small	N too small
P value				
Passed normality test (alpha=0.05)?				
P value summary				
Shapiro-Wilk test				
W	0,8792	0,8802	0,9765	0,9274
P value	0,3354	0,3393	0,8813	0,5792
Passed normality test (alpha=0.05)?	Yes	Yes	Yes	Yes
P value summary	ns	ns	ns	ns
Kolmogorov-Smirnov test				
KS distance	N too small	N too small	N too small	N too small
P value				
Passed normality test (alpha=0.05)?				

P value summary

Number of values 4 4 4 4

Tabel *Mann-Whitney* Hipoksia 1 Hari vs Normoksia yang tidak dicekok ekstrak daun *raspberry*

	MDA Darah
Table Analyzed	(-)
Column B	1 Hari
vs.	vs,
Column A	Normoksia
Mann Whitney test	
P value	0,0286
Exact or approximate P value?	Exact
P value summary	*
Significantly different (P < 0.05)?	Yes
One- or two-tailed P value?	Two-tailed
Sum of ranks in column A,B	10 , 26
Mann-Whitney U	0
Difference between medians	
Median of column A	0,6015, n=4
Median of column B	0,866, n=4
Difference: Actual	0,2645
Difference: Hodges-Lehmann	0,267

Tabel *Mann-Whitney* Hipoksia 7 Hari vs Normoksia yang tidak dicekok ekstrak daun *raspberry*

	MDA Darah
Table Analyzed	(-)
Column C	7 Hari
vs.	vs,
Column A	Normoksia
Mann Whitney test	
P value	0,0286
Exact or approximate P value?	Exact
P value summary	*
Significantly different (P < 0.05)?	Yes
One- or two-tailed P value?	Two-tailed
Sum of ranks in column A,C	10 , 26
Mann-Whitney U	0
Difference between medians	

Median of column A	0,6015, n=4
Median of column C	1,135, n=4
Difference: Actual	0,533
Difference: Hodges-Lehmann	0,5245

Tabel *Mann-Whitney* Hipoksia 14 Hari vs Normoksia yang tidak dicekok ekstrak daun *raspberry*

	MDA Darah
Table Analyzed	(-)
Column D	14 Hari
vs.	vs,
Column A	Normoksia
Mann Whitney test	
P value	0,0286
Exact or approximate P value?	Exact
P value summary	*
Significantly different (P < 0.05)?	Yes
One- or two-tailed P value?	Two-tailed
Sum of ranks in column A,D	10 , 26
Mann-Whitney U	0
Difference between medians	
Median of column A	0,6015, n=4
Median of column D	1,492, n=4
Difference: Actual	0,89
Difference: Hodges-Lehmann	0,8985

Tabel MDA ginjal yang dicekok ekstrak daun *raspberry*

	Normoksia	1 Hari	7 Hari	14 Hari
Test for normal distribution				
Anderson-Darling test				
A2*	N too small	N too small	N too small	N too small
P value				
Passed normality test (alpha=0.05)?				
P value summary				
D'Agostino & Pearson test				
K2	N too small	N too small	N too small	N too small
P value				
Passed normality test (alpha=0.05)?				
P value summary				
Shapiro-Wilk test				
W	0,9047	0,7390	0,9261	0,9795
P value	0,4548	0,0303	0,5714	0,8989
Passed normality test (alpha=0.05)?	Yes	No	Yes	Yes
P value summary	ns	*	ns	ns
Kolmogorov-Smirnov test				

KS distance	N too small	N too small	N too small	N too small
P value				
Passed normality test (alpha=0.05)?				
P value summary				
Number of values	4	4	4	4

Tabel *Mann-Whitney* Hipoksia 1 Hari vs Normoksia yang dicekok ekstrak daun *raspberry*

	MDA ginjal
Table Analyzed	(+)
Column B	1 Hari
vs.	vs,
Column A	Normoksia
Mann Whitney test	
P value	0,0286
Exact or approximate P value?	Exact
P value summary	*
Significantly different (P < 0.05)?	Yes
One- or two-tailed P value?	Two-tailed
Sum of ranks in column A,B	10 , 26
Mann-Whitney U	0
Difference between medians	
Median of column A	0,845, n=4
Median of column B	1,219, n=4
Difference: Actual	0,374
Difference: Hodges-Lehmann	0,3695

Tabel *Mann-Whitney* Hipoksia 7 Hari vs Normoksia yang dicekok ekstrak daun *raspberry*

	MDA ginjal
Table Analyzed	(+)
Column C	7 Hari
vs.	vs,
Column A	Normoksia
Mann Whitney test	
P value	0,0286
Exact or approximate P value?	Exact
P value summary	*
Significantly different (P < 0.05)?	Yes
One- or two-tailed P value?	Two-tailed

Sum of ranks in column A,C	10 , 26
Mann-Whitney U	0
Difference between medians	
Median of column A	0,845, n=4
Median of column C	1,324, n=4
Difference: Actual	0,4785
Difference: Hodges-Lehmann	0,5035

Tabel *Mann-Whitney* Hipoksia 14 Hari vs Normoksia yang dicekok ekstrak daun *raspberry*

	MDA ginjal
Table Analyzed	(+)
Column D	14 Hari
vs.	vs,
Column A	Normoksia
Mann Whitney test	
P value	0,0286
Exact or approximate P value?	Exact
P value summary	*
Significantly different (P < 0.05)?	Yes
One- or two-tailed P value?	Two-tailed
Sum of ranks in column A,D	10 , 26
Mann-Whitney U	0
Difference between medians	
Median of column A	0,845, n=4
Median of column D	1,597, n=4
Difference: Actual	0,7515
Difference: Hodges-Lehmann	0,768

Tabel MDA ginjal yang tidak dicekok ekstrak daun *raspberry*

	Normoksia	1 Hari	7 Hari	14 Hari
Test for normal distribution				
Anderson-Darling test				
A2*	N too small	N too small	N too small	N too small
P value				
Passed normality test (alpha=0.05)?				
P value summary				
D'Agostino & Pearson test				
K2	N too small	N too small	N too small	N too small
P value				
Passed normality test (alpha=0.05)?				
P value summary				
Shapiro-Wilk test				
W	0,9875	0,7947	0,8864	0,8519
P value	0,9446	0,0931	0,3665	0,2325
Passed normality test (alpha=0.05)?	Yes	Yes	Yes	Yes
P value summary	ns	ns	ns	ns
Kolmogorov-Smirnov test				
KS distance	N too small	N too small	N too small	N too small
P value				
Passed normality test (alpha=0.05)?				
P value summary				
Number of values	4	4	4	4

Tabel *Mann-Whitney* Hipoksia 1 Hari vs Normoksia yang tidak dicekok ekstrak daun *raspberry*

	MDA ginjal
Table Analyzed	(-)
Column B	1 Hari
vs.	vs,
Column A	Normoksia
Mann Whitney test	
P value	0,0286
Exact or approximate P value?	Exact
P value summary	*
Significantly different (P < 0.05)?	Yes
One- or two-tailed P value?	Two-tailed
Sum of ranks in column A,B	10 , 26
Mann-Whitney U	0

Difference between medians	
Median of column A	1,404, n=4
Median of column B	1,622, n=4
Difference: Actual	0,2185
Difference: Hodges-Lehmann	0,273

Tabel *Mann-Whitney* Hipoksia 7 Hari vs Normoksia yang tidak dicekok ekstrak daun *raspberry*

	MDA ginjal
Table Analyzed	(-)
Column C	7 Hari
vs.	vs,
Column A	Normoksia
Mann Whitney test	
P value	0,0286
Exact or approximate P value?	Exact
P value summary	*
Significantly different (P < 0.05)?	Yes
One- or two-tailed P value?	Two-tailed
Sum of ranks in column A,C	10 , 26
Mann-Whitney U	0
Difference between medians	
Median of column A	1,404, n=4
Median of column C	1,718, n=4
Difference: Actual	0,314
Difference: Hodges-Lehmann	0,335

Tabel *Mann-Whitney* Hipoksia 14 Hari vs Normoksia yang tidak dicekok ekstrak daun *raspberry*

	MDA ginjal
Table Analyzed	(-)
Column D	14 Hari
vs.	vs,
Column A	Normoksia
Mann Whitney test	
P value	0,0286
Exact or approximate P value?	Exact
P value summary	*
Significantly different (P < 0.05)?	Yes
One- or two-tailed P value?	Two-tailed

Sum of ranks in column A,D	10 , 26
Mann-Whitney U	0
Difference between medians	
Median of column A	1,404, n=4
Median of column D	1,819, n=4
Difference: Actual	0,415
Difference: Hodges-Lehmann	0,4735

Tabel perbandingan normoksia darah yang dicekok dan yang tidak dicekok ekstrak daun *raspberry*

	Darah (-)/(+) 1 Per 1 Mann-Whitney
Table Analyzed	Whitney
Column E	Normoksia (+)
vs.	vs,
Column A	Normoksia (-)
Mann Whitney test	
P value	0,0286
Exact or approximate P value?	Exact
P value summary	*
Significantly different (P < 0.05)?	Yes
One- or two-tailed P value?	Two-tailed
Sum of ranks in column A,E	26 , 10
Mann-Whitney U	0
Difference between medians	
Median of column A	0,6015, n=4
Median of column E	0,4545, n=4
Difference: Actual	-0,147
Difference: Hodges-Lehmann	-0,138

Tabel perbandingan hipoksia 1 hari darah yang dicekok dan yang tidak dicekok ekstrak daun *raspberry*

	Darah (-)/(+) 1 Per 1 Mann-Whitney
Table Analyzed	Whitney
Column F	H1+
vs.	vs,
Column B	H1-
Mann Whitney test	
P value	0,0286
Exact or approximate P value?	Exact
P value summary	*

Significantly different (P < 0.05)?	Yes
One- or two-tailed P value?	Two-tailed
Sum of ranks in column B,F	26 , 10
Mann-Whitney U	0
Difference between medians	
Median of column B	0,866, n=4
Median of column F	0,7105, n=4
Difference: Actual	-0,1555
Difference: Hodges-Lehmann	-0,158

Tabel perbandingan hipoksia 7 hari darah yang dicekok dan yang tidak dicekok ekstrak daun *raspberry*

	Darah (-)/(+) 1 Per 1 Mann-
Table Analyzed	Whitney
Column G	H7+
vs.	vs,
Column C	H7-
Mann Whitney test	
P value	0,0286
Exact or approximate P value?	Exact
P value summary	*
Significantly different (P < 0.05)?	Yes
One- or two-tailed P value?	Two-tailed
Sum of ranks in column C,G	26 , 10
Mann-Whitney U	0
Difference between medians	
Median of column C	1,135, n=4
Median of column G	0,9125, n=4
Difference: Actual	-0,222
Difference: Hodges-Lehmann	-0,205

Tabel perbandingan hipoksia 14 hari darah yang dicekok dan yang tidak dicekok ekstrak daun *raspberry*

	Darah (-)/(+) 1 Per 1 Mann-
Table Analyzed	Whitney
Column H	H14+
vs.	vs,
Column D	H14-
Mann Whitney test	
P value	0,0286

Exact or approximate P value?	Exact
P value summary	*
Significantly different (P < 0.05)?	Yes
One- or two-tailed P value?	Two-tailed
Sum of ranks in column D,H	26 , 10
Mann-Whitney U	0
Difference between medians	
Median of column D	1,492, n=4
Median of column H	1,316, n=4
Difference: Actual	-0,176
Difference: Hodges-Lehmann	-0,1805

Tabel perbandingan normoksia ginjal yang dicekok dan yang tidak dicekok ekstrak daun *raspberry*

Table Analyzed	ginjal (-)/(+) 1 Per 1 Mann-Whitney
Column E	Normoksia (+)
vs.	vs,
Column A	Normoksia (-)
Mann Whitney test	
P value	0,0286
Exact or approximate P value?	Exact
P value summary	*
Significantly different (P < 0.05)?	Yes
One- or two-tailed P value?	Two-tailed
Sum of ranks in column A,E	26 , 10
Mann-Whitney U	0
Difference between medians	
Median of column A	1,404, n=4
Median of column E	0,845, n=4
Difference: Actual	-0,5585
Difference: Hodges-Lehmann	-0,5835

Tabel perbandingan hipoksia 1 hari ginjal yang dicekok dan yang tidak dicekok ekstrak daun *raspberry*

Table Analyzed	ginjal (-)/(+) 1 Per 1 Mann-Whitney
Column F	H1+
vs.	vs,
Column B	H1-
Mann Whitney test	
P value	0,0286

Exact or approximate P value?	Exact
P value summary	*
Significantly different (P < 0.05)?	Yes
One- or two-tailed P value?	Two-tailed
Sum of ranks in column B,F	26 , 10
Mann-Whitney U	0
Difference between medians	
Median of column B	1,622, n=4
Median of column F	1,219, n=4
Difference: Actual	-0,403
Difference: Hodges-Lehmann	-0,424

Tabel perbandingan hipoksia 7 hari ginjal yang dicekok dan yang tidak dicekok ekstrak daun *raspberry*

Table Analyzed	ginjal (-)/(+) 1 Per 1 Mann-Whitney
Column G	H7+
vs.	vs,
Column C	H7-
Mann Whitney test	
P value	0,0286
Exact or approximate P value?	Exact
P value summary	*
Significantly different (P < 0.05)?	Yes
One- or two-tailed P value?	Two-tailed
Sum of ranks in column C,G	26 , 10
Mann-Whitney U	0
Difference between medians	
Median of column C	1,718, n=4
Median of column G	1,324, n=4
Difference: Actual	-0,394
Difference: Hodges-Lehmann	-0,373

Tabel perbandingan hipoksia 14 hari ginjal yang dicekok dan yang tidak dicekok ekstrak daun *raspberry*

Table Analyzed	ginjal (-)/(+) 1 Per 1 Mann-Whitney
Column H	H14+
vs.	vs,
Column D	H14-
Mann Whitney test	
P value	0,0286

Exact or approximate P value?	Exact
P value summary	*
Significantly different (P < 0.05)?	Yes
One- or two-tailed P value?	Two-tailed
Sum of ranks in column D,H	26 , 10
Mann-Whitney U	0
Difference between medians	
Median of column D	1,819, n=4
Median of column H	1,597, n=4
Difference: Actual	-0,222
Difference: Hodges-Lehmann	-0,223

Tabel uji korelasi *Pearson* MDA darah dan ginjal yang dicekok ekstrak daun *raspberry*

	Kadar MDA Darah + (nmol/mL)	vs. Kadar MDA Ginjal + (nmol/mL)
Pearson r		
R		0,9866
95% confidence interval		0,4932 to 0,9997
R squared		0,9734
P value		
P (two-tailed)		0,0134
P value summary		*
Significant? (alpha = 0.05)		Yes
Number of XY Pairs		4

Tabel linier regresi MDA darah dan ginjal yang dicekok ekstrak daun *raspberry*

Best-fit values ± SE	
Slope	0,8671 ± 0,1013
Y-intercept	0,4869 ± 0,09234
X-intercept	-0,5615
1/slope	1,153
95% Confidence Intervals	
Slope	0,4311 to 1,303
Y-intercept	0,08956 to 0,8842
X-intercept	-2,011 to -0,0701
Goodness of Fit	

R square	0,9734
Sy.x	0,06414
Is slope significantly non-zero?	
F	73,24
DFn, DFd	1, 2
P value	0,0134
Deviation from zero?	Significant
Equation	$Y = 0,8671 * X + 0,4869$
Data	
Number of X values	4
Maximum number of Y replicates	1
Total number of values	4
Number of missing values	0

Tabel uji korelasi *Pearson* MDA darah dan ginjal yang tidak dicekok ekstrak daun *raspberry*

	Kadar MDA Darah - (nmol/mL)
	vs.
	Kadar MDA Ginjal - (nmol/mL)
Pearson r	
R	0,9566
95% confidence interval	-0,05616 to 0,9991
R squared	0,915
P value	
P (two-tailed)	0,0434
P value summary	*
Significant? (alpha = 0.05)	Yes
Number of XY Pairs	4

Tabel linier regresi MDA darah dan ginjal yang tidak dicekok ekstrak daun *raspberry*

Best-fit values \pm SE	
Slope	$0,5654 \pm 0,1218$
Y-intercept	$1,115 \pm 0,1316$
X-intercept	-1,972
1/slope	1,769
95% Confidence Intervals	
Slope	0,04111 to 1,09

Y-intercept	0,5488 to 1,682
X-intercept	-40,26 to -0,5118
Goodness of Fit	
R square	0,915
Sy.x	0,08071
Is slope significantly non-zero?	
F	21,53
DFn, DFd	1, 2
P value	0,0434
Deviation from zero?	Significant
Equation	$Y = 0,5654 * X + 1,115$
Data	
Number of X values	4
Maximum number of Y replicates	1
Total number of values	4
Number of missing values	0

Tabel Absorbansi Larutan Standar Tanin

Konsentrasi ($\mu\text{g/ml}$)	Rata-rata Absorbansi
300	0,344
400	0,421
500	0,469
600	0,531
700	0,654

Tabel Pengukuran Kadar Alkaloid Konten dan Nilai Absorbansi Larutan Standar
Berberine Chloride

Konsentrasi ($\mu\text{g/ml}$)	Rata-rata Absorbansi
20	0,088
40	0,123
60	0,134
80	0,178
100	0,232

Tabel Absorbansi Standar MDA

Standar MDA	Kadar MDA	Absorbansi
S1	0,078	0,012

S2	0,156	0,021
S3	0,312	0,043
S4	0,625	0,085
S5	1,25	0,156
S6	2,5	0,301

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