

## Lampiran 1. Hasil Identifikasi/ Determinasi Tumbuhan



**LEMBAGA ILMU PENGETAHUAN INDONESIA  
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PUSAT PENELITIAN BIOLOGI  
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Cibinong, 21 Juni 2016

Nomor : 1423/IPH.1.01/If.07/VI/2016  
Lampiran : -  
Perihal : Hasil identifikasi/determinasi Tumbuhan

Kepada Yth.  
Bpk./Ibu/Sdr(i). **Nikolaus Ronald Karmadi**  
NIM : 405.14.083  
Mhs. UNTAR  
Fak. Kedokteran  
Jl. Letjen S. Parman No.1  
Jakarta Barat - 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	Jamur Hitam Putih	<i>Auricularia nigricans</i> (Sw.) Birkebak, Looney & Sanchez-Garcia. Syn. <i>Auricularia polytricha</i>	Auriculariaceae

Demikian, semoga berguna bagi Saudara.

Pll. Kepala Bidang Botani  
Pusat Penelitian Biologi-LIPI,  
  
Dr. Atik Retnowati  
NIP. 197111152000032005

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## Lampiran 2. Surat Persetujuan Etik



KOMISI ETIK RISET  
FAKULTAS KEDOKTERAN  
UNIVERSITAS TRISAKTI  
Jalan Kyai Tapa, Grogol, (Kampus B) Jakarta 11440  
Telp: (021) 5672731, 5655786  
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### PERSETUJUAN ETIK *Ethical Clearance* Nomor: 112/KER/FK/I/2017

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 PEMBERIAN INFUSA *Auricularia polytricha* TERHADAP KADAR ANTIOKSIDAN KATALASE PADA ORGAN OTAK DAN DARAH SISTEMIK TIKUS *Sprague dawley* DALAM KEADAAN HIPOKSIA SISTEMIK KRONIK"**

Peneliti Utama : Nikolaus Ronald Karnadi  
Lembaga/Tempat penelitian : FK Universitas Tarumanagara

Dinyatakan memenuhi persyaratan etik untuk dilaksanakan.

Jakarta, 30 Januari 2017

  
Prof. DR. dr. Adi Hidayat, MS

Sekretaris

  
dr. Alvina SpPK

**Lampiran 3. Data Absorban Standar GSH**

Standar GSH	Kadar GSH ( $\mu\text{g/ml}$ )	Absorban		Rerata
		A	B	
S1	0	0.021	0.017	0.019
S2	1	0.039	0.044	0.042
S3	2	0.099	0.097	0.098
S4	3	0.135	0.137	0.136
S5	4	0.173	0.169	0.171
S6	5	0.208	0.212	0.210

Uji Regresi *linear* Absorban dan Kadar GSH Standar

Best-fit values  $\pm$  SE

Slope  $0.03943 \pm 0.00168$

Y-intercept  $0.0141 \pm 0.005087$

X-intercept  $-0.3575$

1/slope  $25.36$

95% Confidence Intervals

Slope  $0.03476$  to  $0.04409$

Y-intercept  $-2.884\text{e-}005$  to  $0.02822$

X-intercept  $-0.7968$  to  $0.0006664$

Goodness of Fit

R square  $0.9928$

Sy.x  $0.007029$

Is slope significantly non-zero?

F  $550.7$

DFn, DFd  $1, 4$

P value  $<0.0001$

Deviation from zero? **Significant**

Equation  $Y = 0.03943 * X + 0.0141$

**Lampiran 4.** Data Absorban dan Kadar GSH pada Hati Tikus *Sprague Dawley*

	Tikus	Absorbansi (Å)	Kadar (µg/mL)	Rata-rata Absorbansi	Rata- rata Kadar	
Kontrol	Kental	1	0,036	0,789	0,038	0,770
		2	0,049	0,774		
		3	0,035	0,758		
		4	0,034	0,762		
	Encer	1	0,025	0,621	0,023	0,647
		2	0,024	0,654		
		3	0,021	0,636		
		4	0,022	0,677		
Hipoksia 1 Hari	Kental	1	0,034	0,587	0,033	0,575
		2	0,029	0,549		
		3	0,032	0,572		
		4	0,037	0,593		
	Encer	1	0,023	0,487	0,022	0,481
		2	0,022	0,475		
		3	0,024	0,493		
		4	0,022	0,469		
Hipoksia 3 Hari	Kental	1	0,022	0,427	0,030	0,450
		2	0,029	0,471		
		3	0,031	0,464		
		4	0,033	0,441		
	Encer	1	0,023	0,343	0,020	0,347
		2	0,019	0,357		
		3	0,021	0,329		
		4	0,020	0,362		

**Lampiran 5.** Data Absorban dan Kadar GSH pada Darah Tikus *Sprague Dawley*

Perlakuan	Tikus	Absorban		Rerata Absorban	Kadar
		A	B		
P1	1	0.038	0.04	0.039	0.631
	2	0.041	0.045	0.043	0.733
	3	0.036	0.039	0.038	0.606
	4	0.039	0.042	0.041	0.682
Rata – Rata				0.04	0.663
P2	1	0.209	0.207	0.208	4.918
	2	0.209	0.209	0.209	4.943
	3	0.202	0.203	0.203	4.791
	4	0.206	0.0202	0.204	4.816
Rata – Rata				0.206	4.867
P3	1	0.178	0.177	0.178	4.157
	2	0.174	0.174	0.174	4.055
	3	0.179	0.181	0.18	4.207
	4	0.18	0.182	0.181	4.233
Rata – Rata				0.178	4.163
P4	1	0.177	0.182	0.18	4.207
	2	0.175	0.175	0.175	4.081
	3	0.173	0.17	0.172	4.005
	4	0.168	0.17	0.169	3.928
Rata – Rata				0.174	4.055
P5	1	0.139	0.141	0.14	3.193
	2	0.145	0.145	0.145	3.32
	3	0.14	0.14	0.14	3.193
	4	0.142	0.139	0.141	3.218
Rata – Rata				0.142	3.231
P6	1	0.16	0.16	0.16	3.7
	2	0.161	0.163	0.162	3.751
	3	0.167	0.163	0.165	3.827
	4	0.158	0.158	0.158	3.65
Rata – Rata				0.161	3.732
P7	1	0.133	0.137	0.135	3.066
	2	0.129	0.13	0.13	2.939
	3	0.131	0.131	0.131	2.965
	4	0.128	0.127	0.128	2.889
Rata – Rata				0.131	2.965

**Lampiran 6.** Kadar GSH Darah Pemberian Dosis Kental dan Encer Tikus  
*Sprague Dawley*

**6.1 Darah dosis kental**

Table Analyzed	One-way ANOVA data
Data sets analyzed	
ANOVA summary	
F	1894
P value	<0.0001
P value summary	****
Significant diff. among means (P < 0.05)?	Yes
R square	0.9979

Tukey's multiple comparisons test	Mean Diff.	95.00% CI of diff.	Significant?	Summary	P Value	
P1 vs. P2	-4.204	-4.357 to -4.051	<b>Yes</b>	****	<0.0001	A-B
P1 vs. P4	-3.392	-3.725 to -3.059	<b>Yes</b>	****	<0.0001	A-C
P1 vs. P6	-3.069	-3.333 to -2.804	<b>Yes</b>	****	<0.0001	A-D
P2 vs. P4	0.8116	0.6181 to 1.005	<b>Yes</b>	***	0.0009	B-C
P2 vs. P6	1.135	0.8551 to 1.415	<b>Yes</b>	***	0.001	B-D
P4 vs. P6	0.3234	-0.009473 to 0.6562	<b>No</b>	Ns	0.054	C-D

Test details	Mean 1	Mean 2	Mean Diff.	SE of diff.	n1	n2	Q	DF
P1 vs. P2	0.6632	4.867	-4.204	0.0317	4	4	188	3
P1 vs. P4	0.6632	4.055	-3.392	0.06897	4	4	69.6	3
P1 vs. P6	0.6632	3.732	-3.069	0.05479	4	4	79.2	3
P2 vs. P4	4.867	4.055	0.8116	0.0401	4	4	28.6	3
P2 vs. P6	4.867	3.732	1.135	0.05799	4	4	27.7	3
P4 vs. P6	4.055	3.732	0.3234	0.06897	4	4	6.63	3

## 6.2 Darah Dosis Encer

### Uji *Kruskal-Wallis* pada Darah Dosis Encer

Kruskal-Wallis test	
P value	<0.0001
Exact or approximate P value?	Exact
P value summary	****
Do the medians vary signif. ( $P < 0.05$ )?	Yes
Number of groups	4
Kruskal-Wallis statistic	14.14

### Uji *Mann-Whitney* Darah Encer

#### 1. Perbandingan Kelompok P1 dan P3

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

#### 2. Perbandingan Kelompok P1 dan P5

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

#### 3. Perbandingan Kelompok P1 dan P7

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

### 6.3 Uji Holm-Sidak's multiple comparisons test pada Darah Dosis Kental dan Encer

Holm-Sidak's multiple comparisons test	Mean Diff.	Significant?	Summary	Adjusted P Value
kontrol (-) vs. kontrol (+)	-3.852	Yes	**	0.0046
kontrol (-) vs. hipoksia 1 hari	-2.98	Yes	**	0.0082
kontrol (-) vs. hipoksia 3 hari	-2.686	Yes	**	0.0089
kontrol (+) vs. hipoksia 1 hari	0.872	No	ns	0.0964
kontrol (+) vs. hipoksia 3 hari	1.167	No	ns	0.0687
hipoksia 1 hari vs. hipoksia 3 hari	0.2945	No	ns	0.3592

### Lampiran 7. Uji Normalitas pada Darah Dosis Kental dan Encer

#### 7.1 Dosis Kental

Number of values	4	4	4	4
Minimum	0.606	4.791	3.928	3.65
25% Percentile	0.6123	4.797	3.947	3.663
Median	0.6565	4.867	4.043	3.726
75% Percentile	0.7203	4.937	4.176	3.808
Maximum	0.733	4.943	4.207	3.827
Mean	0.663	4.867	4.055	3.732
Std. Deviation	0.05637	0.07473	0.1189	0.07557
Std. Error of Mean	0.02819	0.03737	0.05945	0.03779
Lower 95% CI of mean	0.5733	4.748	3.866	3.612
Upper 95% CI of mean	0.7527	4.986	4.244	3.852
Sum	2.652	19.47	16.22	14.93
Shapiro-Wilk normality test				
W	0.9619	0.8801	0.985	0.9883
P value	0.7911	0.3391	0.9309	0.9486
Passed normality test (alpha=0.05)?	Yes	Yes	Yes	Yes
P value summary	ns	ns	ns	ns



## 7.2 Dosis Encer

Number of values	4	4	4	4
Minimum	0.606	4.055	3.193	2.889
25% Percentile	0.6123	4.081	3.193	2.902
Median	0.6565	4.182	3.206	2.952
75% Percentile	0.7203	4.227	3.295	3.041
Maximum	0.733	4.233	3.32	3.066
Mean	0.663	4.163	3.231	2.965
Std. Deviation	0.05637	0.0786	0.06049	0.0745
Std. Error of Mean	0.02819	0.0393	0.03025	0.03725
Lower 95% CI of mean	0.5733	4.038	3.135	2.846
Upper 95% CI of mean	0.7527	4.288	3.327	3.083
Sum	2.652	16.65	12.92	11.86
Shapiro-Wilk normality test				
W	0.9619	0.9209	0.7617	0.9529
P value	0.7911	0.5419	0.0494	0.7343
Passed normality test (alpha=0.05)?	Yes	Yes	No	Yes
P value summary	Ns	ns	*	ns

## Lampiran 8. Kadar GSH Organ Pemberian Dosis Kental dan Encer Tikus *Sprague Dawley*

### 8.1 Dosis Kental 8.1.1. Uji Statistik Anova

Table Analyzed	Organ kental
Data sets analyzed	
ANOVA summary	
F	783.1
P value	<0.0001
P value summary	****
Significant diff. among means (P < 0.05)?	Yes
R square	0.9949

### 8.1.2. Uji Tukey's multiple comparisons test

Tukey's multiple comparisons test	Mean Diff.	95.00% CI of diff.	Significant ?	Summary	Adjusted P Value	
P1 vs. P2	-0.6268	-0.6662 to -0.5873	Yes	****	<0.0001	A-B
P1 vs. P4	-0.4313	-0.4707 to -0.3918	Yes	****	<0.0001	A-C
P1 vs. P6	-0.3068	-0.3462 to -0.2673	Yes	****	<0.0001	A-D
P2 vs. P4	-0.1955	0.1561 to 0.2349	Yes	****	<0.0001	B-C
P2 vs. P6	0.32	0.2806 to 0.3594	Yes	****	<0.0001	B-D
P4 vs. P6	0.1245	0.08507 to 0.1639	Yes	****	<0.0001	C-D

### 8.1.3. Uji Normalitas Shapiro-Wilk

Number of values	4	4	4	4
Minimum	0.119	0.758	0.549	0.427
25% Percentile	0.1238	0.759	0.5548	0.4305
Median	0.145	0.768	0.5795	0.4525
75% Percentile	0.1633	0.7853	0.5915	0.4693
Maximum	0.167	0.789	0.593	0.471
Mean	0.144	0.7708	0.5753	0.4508
Std. Deviation	0.02045	0.01394	0.0196	0.02037
Std. Error of Mean	0.01022	0.006969	0.009801	0.01018
Lower 95% CI of mean	0.1115	0.7486	0.5441	0.4183
Upper 95% CI of mean	0.1765	0.7929	0.6064	0.4832
Sum	0.576	3.083	2.301	1.803
Shapiro-Wilk normality test				
W	0.9947	0.9317	0.9296	0.9323
P value	0.9800	0.6044	0.5919	0.6078
Passed normality test (alpha=0.05)?	Yes	Yes	Yes	Yes
P value summary	ns	ns	ns	ns

## 8.2 Dosis Encer

### 8.2.1. Uji Statistik Anova

Table Analyzed	Organ encer				
Data sets analyzed	A : P1	B : P3	C : P5	D : P7	
ANOVA summary					
F	539.9				
P value	<0.000				
P value summary	1				
Significant diff. among means (P < 0.05)?	****				
R square	Yes				
	0.9926				

### 8.2.2. Uji Tukey's multiple comparisons test

Tukey's multiple comparisons test	Mean Diff.	95.00% CI of diff.	Significant?	Summary	Adjusted P Value	
P1 vs. P3	-0.503	-0.5414 to - 0.4646	Yes	****	<0.0001	A-B
P1 vs. P5	-0.337	-0.3754 to - 0.2986	Yes	****	<0.0001	A-C
P1 vs. P7	-0.2038	-0.2422 to - 0.1653	Yes	****	<0.0001	A-D
P3 vs. P5	0.166	0.1276 to 0.2044	Yes	****	<0.0001	B-C
P3 vs. P7	0.2993	0.2608 to 0.3377	Yes	****	<0.0001	B-D
P5 vs. P7	0.1333	0.09481 to 0.1717	Yes	****	<0.0001	C-D

### 8.2.3 Uji Normalitas *Shapiro-Wilk*

Number of values	4	4	4	4
Minimum	0.119	0.621	0.469	0.329
25% Percentile	0.1238	0.6248	0.4705	0.3325
Median	0.145	0.645	0.481	0.35
75% Percentile	0.1633	0.6713	0.4915	0.3608
Maximum	0.167	0.677	0.493	0.362
Mean	0.144	0.647	0.481	0.3478
Std. Deviation	0.02045	0.02412	0.01095	0.01486
Std. Error of Mean	0.01022	0.01206	0.005477	0.007432
Lower 95% CI of mean	0.1115	0.6086	0.4636	0.3241
Upper 95% CI of mean	0.1765	0.6854	0.4984	0.3714
Sum	0.576	2.588	1.924	1.391
Shapiro-Wilk normality test				
W	0.9947	0.9855	0.9497	0.9437
P value	0.9800	0.9334	0.7143	0.6769
Passed normality test (alpha=0.05)?	Yes	Yes	Yes	Yes
P value summary	ns	ns	ns	ns

### Lampiran 9. Uji Korelasi *Pearson* antara Darah dan Organ Hati pada Tikus *Sprague Dawley*

#### 9.1 Dosis Kental

	Darah vs. Organ hati
Pearson r	
R	0.9745
95% confidence interval	0.2109 to 0.9995
R squared	0.9496
P value	
P (two-tailed)	0.0255
P value summary	*
Significant? (alpha = 0.05)	Yes
Number of XY Pairs	4

## 9.2 Dosis Encer

Pearson r	
R	0.9367
95% confidence interval	-0.2446 to 0.9987
R squared	0.8774
P value	
P (two-tailed)	0.0633
P value summary	Ns
Significant? (alpha = 0.05)	No
Number of XY Pairs	4

**Lampiran 10. Dokumentasi Laboratorium**



Pembedahan pada Tikus



Perendaman Jamur *Auricularia polytricha*



Proses Perebusan Jamur *Auricularia polytricha*



Obat Anestesi



*Tissue Grinder (Homogenizer) Wheaton Science, Millville, NJ-USA.*



Alat sentrifugasi berkecepatan tinggi, model 20PR-5, Hitachi – Jepang



*Micropipette*





Perlakuan Hipoksia 1 hari dan 3 hari di dalam *Hypoxia Chamber*



Spektrofotometer UV

## DAFTAR RIWAYAT HIDUP

### A. Data Pribadi

1. Nama : Melani Nugraha
2. NIM : 405140036
3. Jenis Kelamin : Perempuan
4. Tempat, Tanggal Lahir : Jakarta, 22 Mei 1996
5. Agama : Katolik
6. Status : Belum Menikah
7. Pendidikan Terakhir : SMA
8. Alamat : Jl. Aria Putra No. 54
9. No. Telpn : 085780739567
10. Email : Melaninugraha@gmail.com

### B. Data Pendidikan

1. 2002 – 2008 : SD Taruna Bangsa
2. 2008 – 2011 : SMP Bintang Kejora
3. 2011 – 2014 : SMAK Mater Dei Pamulang
4. 2014- Sekarang : Fakultas Kedokteran Universitas Tarumanagara