

## DAFTAR PUSTAKA

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Fakultas Kedokteran Universitas Diponegoro; 2014

### **Lampiran 1. Komposisi Pakan Standard Tikus**

Tabel 13. Komposisi Pakan Standar Tikus<sup>29</sup>

| No | Bahan         | Komposisi (%) |
|----|---------------|---------------|
| 1  | Air           | Maksimal 12%  |
| 2  | Protein Kasar | Minimal 15%   |
| 3  | Lemak Kasar   | 3-7%          |
| 4  | Serat Kasar   | Maksimal 6%   |
| 5  | Abu           | Maksimal 7%   |
| 6  | Kalsium       | 0,9-1,1%      |
| 7  | Phospor       | 0,6-0,9%      |

## Lampiran 2. Perhitungan Dosis Madu

Berdasarkan Tabel Konversi Dosis Pages & Barnes pada tahun 1964. Rumus konversi perhitungan dosis dari manusia dewasa dengan berat badan 70 kg pada tikus dengan berat badan 200 g adalah 0,018. Dosis yang diberikan ditentukan dari hasil konversi manusia ke tikus yang setara dengan pemberian 105 gram.

Tabel 14. Konversi Dosis Pages and Barnes<sup>30</sup>

| Hewan dan BB rata-rata | Mencit 20 g | Tikus 200 g | Marmut 400 g | Kelinci 1,5 kg | Kucing 2 kg | Kera 4 kg | Anjing 12 kg | Manusia 70 kg |
|------------------------|-------------|-------------|--------------|----------------|-------------|-----------|--------------|---------------|
| Mencit 20 g            | 1,0         | 7,0         | 12,29        | 27,8           | 28,7        | 64,1      | 124,2        | 387,9         |
| Tikus 200 g            | 0,14        | 1,0         | 1,74         | 3,9            | 4,2         | 9,2       | 17,6         | 60,5          |
| Marmut 400 g           | 0,08        | 0,57        | 1,0          | 2,25           | 2,4         | 5,2       | 10,2         | 31,5          |
| Kelinci 1,5 kg         | 0,04        | 0,25        | 0,44         | 1,0            | 1,06        | 2,4       | 4,5          | 14,2          |
| Kucing 2 kg            | 0,03        | 0,23        | 0,41         | 0,92           | 1,0         | 2,2       | 4,1          | 13,0          |
| Kera 4 kg              | 0,014       | 0,11        | 0,19         | 0,42           | 0,45        | 1,0       | 1,9          | 6,1           |
| Anjing 12 kg           | 0,008       | 0,06        | 0,10         | 0,22           | 0,24        | 0,52      | 1,0          | 3,1           |
| Manusia 70 kg          | 0,0026      | 0,018       | 0,031        | 0,07           | 0,76        | 0,16      | 0,32         | 1,0           |

Pada manusia, penggunaan madu yang optimal sebagai antioksidan dan fungsinya sebagai hepatoprotektif berdasarkan jurnal *Honey as Nutrient and Functional Food* untuk manusia adalah 1,5 g/kgBB atau 105 g perorang.

### 1. Dosis Perlakuan 1

Dosis madu yang diberikan pada tikus wistar dengan berat badan 200 g adalah dosis konversi yang diberikan pada manusia dengan berat badan 70 kg, yaitu 105 g.

$$\text{Dosis madu} = 0,018 \times 105 \text{ g}$$

$$\approx 2 \text{ g}$$

### 2. Dosis Perlakuan 2

Dosis madu yang diberikan pada perlakuan 2 adalah 2 kali dosis madu yang diberikan pada perlakuan 1 yaitu 4 g.

### **Lampiran 3. Prosedur Pengambilan Darah Vena Pleksus Retroorbitalis Tikus**

Cara kerja dan prosedur dalam melakukan sampling retroorbital pada tikus<sup>32</sup>:

1. Baringkan tikus yang telah dianestesi pada meja secara menyamping, fiksasi menggunakan tangan dengan kepala menghadap ke bawah, ibu jari dan jari telunjuk menarik kulit di sekeliling mata ke atas dan ke bawah dengan sedikit tekanan sehingga bola mata akan mengalami protusi ke arah luar semaksimal mungkin.
2. Perhatikan agar jari tidak menekan trakea terlalu dalam. Masukkan ujung pipet Pasteur atau pipet hematocrit pada sudut bawah cavum orbita. Arahkan ujung pipet dengan sudut 45° ke arah medio superior cavum orbita (bagian tengah dari cavum orbita).
3. Putar pipet di antara jari selama menusuk. Jangan memindahkannya ke sisi lain ataupun mendorongnya ke belakang. Lakukan sedikit tekanan ke bawah dan longgarkan sehingga vena akan rusak dan darah akan terlihat memasuki pipet.
4. Setelah sedikit darah memasuki pipet, mundurkan sedikit agar darah mengisi pipet dengan mudah karena jika tidak dilakukan mungkin ujung pipet menekan vena sehingga darah tidak dapat mengalir bebas.
5. Tutup bagian pipet yang terbuka dengan jari sebelum mencabut ujung pipet agar darah tidak keluar dari dalam pipet.
6. Perdarahan biasanya berhenti dengan sempurna segera setelah pipet dicabut.

7. Direkomendasikan untuk tidak mengambil sampel darah dari bola mata yang sama dalam jangka waktu 2 minggu setelah pengambilan.

#### Lampiran 4. Data Monosodium Glutamate

|  | MONOSODIUM L-GLUTAMATE                  |                                                                 |
|-----------------------------------------------------------------------------------|-----------------------------------------|-----------------------------------------------------------------|
|                                                                                   | (food Grade)                            |                                                                 |
|                                                                                   | No. Doc. IFO-BRS-01-01                  |                                                                 |
|                                                                                   |                                         |                                                                 |
| COMMODITY                                                                         | Chemical Composition                    | Monosodium L-Glutamate                                          |
|                                                                                   | CAS Registry Number                     | 6106-04-3                                                       |
| APPEARANCE                                                                        |                                         | White, free flowing crystals or crystalline powder              |
| DESCRIPTION                                                                       | Molecular Formula                       | $C_5H_9O_4NNa \cdot H_2O$                                       |
|                                                                                   | Molecular Weight                        | 187.13                                                          |
| SPECIFICATIONS                                                                    | Assay (Dry Basis)                       | Not less than 99.0 %                                            |
|                                                                                   | pH (1.0g, water 20 ml)                  | 6.7 ~ 7.2                                                       |
|                                                                                   | Specific rotation                       | $(\alpha)_D^{20} + 24.5^\circ \sim + 25.5^\circ$                |
|                                                                                   | Loss of drying                          | Not more than 0.5 %                                             |
|                                                                                   | Chloride (Cl <sup>-</sup> )             | Not more than 0.05 %                                            |
|                                                                                   | Heavy metals                            | Not more than 10 ppm                                            |
|                                                                                   | Arsenic                                 | Not more than 2.5 ppm                                           |
|                                                                                   | Total edible count                      | Not more than 1000/g                                            |
|                                                                                   | Yeast moulds                            | Not more than 50/g                                              |
|                                                                                   | Coliform bacteria                       | Negative in 1 g                                                 |
|                                                                                   | Salmonella Sp                           | Negative in 25 g                                                |
| MESH RANGE                                                                        | Shelflife                               | 3 years                                                         |
|                                                                                   | Large Crystal                           | -10 ~ +32 Mesh range (90 % min)                                 |
|                                                                                   | Regular Crystal                         | -24 ~ +60 Mesh range (70 % min)                                 |
|                                                                                   | Small Crystal                           | -42 ~ +100 Mesh range (70 % min)                                |
| PACKAGING                                                                         | Fine Crystal                            | -60 ~ +120 Mesh range (90 % min)                                |
|                                                                                   | Small                                   | 1 lb (16 oz), 1 kg (OPP : PE tube bag packed in carton box)     |
|                                                                                   | Regular                                 | 50lb, 20kg, 25kg (3ply kraft paper bag with 2ply PE inner tube) |
|                                                                                   | Big bag                                 | 850 kg, 900 kg (PP woven bag with 1ply PE inner tube)           |
| MANUFACTURER                                                                      | PT. Cheil Jedang Indonesia              |                                                                 |
|                                                                                   | Menara Jamsostek 21 <sup>st</sup> Floor |                                                                 |
|                                                                                   | Jl. Jend. Gatot Subroto                 |                                                                 |
|                                                                                   | Jakarta 12710 – Indonesia               |                                                                 |
|                                                                                   | Telp : +62 21 5299 5000                 |                                                                 |
|                                                                                   | Fax : +62 21 5299 5190                  |                                                                 |

## Lampiran 5. Langnese Black Forest Honey

Langnese Honey (Black Forest, 125 g)

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GORIES

Beauty

Chocolate

Chips

Dip

and

Categories

IDS

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Brook

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brands

**Langnese Honey (Black Forest, 125 g)**

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Availability: **Out of stock**

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**Quick Overview**

Langnese Black Forest Honey




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**Details**

**Ingredients**

100% Pure Honey.

**Nutrition Facts**

|                 |       |               |        |
|-----------------|-------|---------------|--------|
| Calories        | 535   | Sodium        | 978 mg |
| Total Fat       | 29 g  | Potassium     | 536 mg |
| Saturated       | 9 g   | Total Carbs   | 59 g   |
| Polyunsaturated | 4 g   | Dietary Fiber | 14 g   |
| Monounsaturated | 3 g   | Sugars        | 16 g   |
| Trans           | 1 g   | Protein       | 18 g   |
| Cholesterol     | 30 mg |               |        |
| Vitamin A       | 169%  | Calcium       | 24%    |
| Vitamin C       | 100%  | Iron          | 21%    |

\*Percent Daily Values are based on a 2000 calorie diet. Your daily values may be higher or lower depending on your calorie needs.

**Additional Information**

|       |          |
|-------|----------|
| SKU   | 42098584 |
| Brand | Langnese |

## **Lampiran 6. IFCC Wthout Pyridoxal Phosphate**

### **1. SGOT**

#### **1.1. Peralatan**

- a) Kuvet
- b) Mikropipet 100  $\mu$ l, 1000  $\mu$ l
- c) Tip kuning dan tip biru

#### **1.2. Bahan**

Serum

#### **1.3. Reagensia 1**

- a) TRIS pH 7,65 110 mmol/L
- b) L-aspartate 320 mmol/L
- c) LDH (Lactate dehydrogenase)  $\geq$  1200 U/L
- d) MDH (Malate dehydrogenase)  $\geq$  800 U/L

#### **1.4. Reagensia 2**

- a) NADH 1mmol
- b) 2-oxoglutarat 65 mmol

#### **1.5. Cara Kerja**

- a) Dari reagen 1 dan 2 dibuat monoreagen dengan perbandingan 4 bagian reagen 1 ditambah 1 bagian reagen 2. Homogenkan dan stabilkan pada suhu 37°C
- b) Masukkan 1000  $\mu$ l reagen pada kuvet blanko, lalu masukkan 1000  $\mu$ l reagen dan 100  $\mu$ l serum pada kuvet sampel.
- c) Homogenkan, baca dengan spektrofotometer pada panjang

gelombang 340 nm dengan faktor 1745.

d) Pembacaan dilakukan pada menit 1, 2, dan 3.

e) Catat hasil pemeriksaan dan hitung kadar SGOT dengan rumus

$$\Delta A/\text{min} \times \text{faktor} = \text{aktivitas SGOT (U/L)}$$

## 2. SGPT

### 2.1. Peralatan

- a) Kuvet
- b) Mikropipet 100  $\mu\text{l}$ , 1000  $\mu\text{l}$
- c) Tip kuning dan tip biru

### 2.2. Bahan

Serum

### 2.3. Reagensia 1

- a) THS pH 7,15 140 mmol/L
- b) L-alanine 700 mmol/L
- c) LDH (Lactate dehydrogenase)  $\geq 2300$  U/L

### 2.4. Reagensia 2

- a) NADH 1mmol
- b) 2-oxoglutarat 85 mmol

### 2.5. Cara Kerja

- a) Dari reagen 1 dan 2 dibuat monoreagen dengan perbandingan 4 bagian reagen 1 ditambah 1 bagian reagen 2. Homogenkan dan stabilkan pada suhu 37°C.

- b) Masukkan 1000  $\mu$ l reagen pada kuvet blanko, lalu masukkan 1000  $\mu$ l reagen dan 100  $\mu$ l serum pada kuvet sampel.
- c) Homogenkan, baca dengan spektrofotometer pada panjang gelombang 340 nm dengan faktor 1745.
- d) Pembacaan dilakukan pada menit 1, 2, dan 3.
- e) Catat hasil pemeriksaan dan hitung kadar SGPT dengan rumus  
$$\Delta A/\text{min} \times \text{faktor} = \text{aktivitas SGPT (U/L)}$$

## Lampiran 7. Data kadar SGOT dan SGPT



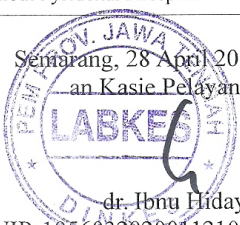
PEMERINTAH PROPINSI JAWA TENGAH  
DINAS KESEHATAN  
**BALAI LABORATORIUM KESEHATAN**  
Jl. Soekarno Hatta no.185 Semarang 50196 Telp. (024) 6710662 Fax.6715241

### Hasil Pemeriksaan Laboratorium

|                |                  |                |               |
|----------------|------------------|----------------|---------------|
| Nomor RM       | 004602           | Umur           | 22th 5bl 20hr |
| Reg. Kunjungan | KRM. 15/04.00400 | Jenis Kelamin  | Laki-laki     |
| Nama           | Widi Taufik A.   | Tgl. Periksa   | 28 April 2015 |
| Alamat         | Semarang         | Dokter Perujuk | FK-UNDIP      |

| Pemeriksaan | Hasil        | Satuan | Metode Pemeriksaan                    |
|-------------|--------------|--------|---------------------------------------|
| SGOT        | K1.1 = 140,5 | U/L    | IFCC Without Pyridoxal Phosphate 37°C |
| SGPT        | 75,9         | U/L    | IFCC Without Pyridoxal Phosphate 37°C |
| SGOT        | K1.2 = 148,9 | U/L    | IFCC Without Pyridoxal Phosphate 37°C |
| SGPT        | 61,3         | U/L    | IFCC Without Pyridoxal Phosphate 37°C |
| SGOT        | K1.3 = 183,4 | U/L    | IFCC Without Pyridoxal Phosphate 37°C |
| SGPT        | 76           | U/L    | IFCC Without Pyridoxal Phosphate 37°C |
| SGOT        | K1.4 = 158,9 | U/L    | IFCC Without Pyridoxal Phosphate 37°C |
| SGPT        | 81,9         | U/L    | IFCC Without Pyridoxal Phosphate 37°C |
| SGOT        | K1.5 = 223,7 | U/L    | IFCC Without Pyridoxal Phosphate 37°C |
| SGPT        | 98,9         | U/L    | IFCC Without Pyridoxal Phosphate 37°C |
| SGOT        | K1.6 = 222,9 | U/L    | IFCC Without Pyridoxal Phosphate 37°C |
| SGPT        | 91,1         | U/L    | IFCC Without Pyridoxal Phosphate 37°C |
| SGOT        | K1.8 = 182,4 | U/L    | IFCC Without Pyridoxal Phosphate 37°C |
| SGPT        | 82,2         | U/L    | IFCC Without Pyridoxal Phosphate 37°C |
| SGOT        | K2.1 = 107,4 | U/L    | IFCC Without Pyridoxal Phosphate 37°C |
| SGPT        | 58,2         | U/L    | IFCC Without Pyridoxal Phosphate 37°C |
| SGOT        | K2.2 = 215   | U/L    | IFCC Without Pyridoxal Phosphate 37°C |
| SGPT        | 83,1         | U/L    | IFCC Without Pyridoxal Phosphate 37°C |
| SGOT        | K2.5 = 216,7 | U/L    | IFCC Without Pyridoxal Phosphate 37°C |
| SGPT        | 76,8         | U/L    | IFCC Without Pyridoxal Phosphate 37°C |
| SGOT        | K2.6 = 149,4 | U/L    | IFCC Without Pyridoxal Phosphate 37°C |
| SGPT        | 61,5         | U/L    | IFCC Without Pyridoxal Phosphate 37°C |
| SGOT        | K2.7 = 146,1 | U/L    | IFCC Without Pyridoxal Phosphate 37°C |
| SGPT        | 74,9         | U/L    | IFCC Without Pyridoxal Phosphate 37°C |

|      |              |     |                                       |
|------|--------------|-----|---------------------------------------|
| SGOT | K2.8 = 149,4 | U/L | IFCC Without Pyridoxal Phosphate 37°C |
| SGPT | 65,5         | U/L | IFCC Without Pyridoxal Phosphate 37°C |
| SGOT | P1.1 = 151,9 | U/L | IFCC Without Pyridoxal Phosphate 37°C |
| SGPT | 69,7         | U/L | IFCC Without Pyridoxal Phosphate 37°C |
| SGOT | P1.2 = 179,7 | U/L | IFCC Without Pyridoxal Phosphate 37°C |
| SGPT | 59,5         | U/L | IFCC Without Pyridoxal Phosphate 37°C |
| SGOT | P1.3 = 167,2 | U/L | IFCC Without Pyridoxal Phosphate 37°C |
| SGPT | 80,4         | U/L | IFCC Without Pyridoxal Phosphate 37°C |
| SGOT | P1.4 = 170,5 | U/L | IFCC Without Pyridoxal Phosphate 37°C |
| SGPT | 68,9         | U/L | IFCC Without Pyridoxal Phosphate 37°C |
| SGOT | P1.5 = 172   | U/L | IFCC Without Pyridoxal Phosphate 37°C |
| SGPT | 72,4         | U/L | IFCC Without Pyridoxal Phosphate 37°C |
| SGOT | P1.6 = 276,6 | U/L | IFCC Without Pyridoxal Phosphate 37°C |
| SGPT | 127,6        | U/L | IFCC Without Pyridoxal Phosphate 37°C |
| SGOT | P1.7 = 387,5 | U/L | IFCC Without Pyridoxal Phosphate 37°C |
| SGPT | 158,1        | U/L | IFCC Without Pyridoxal Phosphate 37°C |
| SGOT | P1.8 = 189,6 | U/L | IFCC Without Pyridoxal Phosphate 37°C |
| SGPT | 76,9         | U/L | IFCC Without Pyridoxal Phosphate 37°C |
| SGOT | P2.1 = 143,8 | U/L | IFCC Without Pyridoxal Phosphate 37°C |
| SGPT | 65,3         | U/L | IFCC Without Pyridoxal Phosphate 37°C |
| SGOT | P2.2 = 166,1 | U/L | IFCC Without Pyridoxal Phosphate 37°C |
| SGPT | 89,6         | U/L | IFCC Without Pyridoxal Phosphate 37°C |
| SGOT | P2.3 = 177,3 | U/L | IFCC Without Pyridoxal Phosphate 37°C |
| SGPT | 85,4         | U/L | IFCC Without Pyridoxal Phosphate 37°C |
| SGOT | P2.4 = 147,9 | U/L | IFCC Without Pyridoxal Phosphate 37°C |
| SGPT | 66,9         | U/L | IFCC Without Pyridoxal Phosphate 37°C |
| SGOT | P2.5 = 217,3 | U/L | IFCC Without Pyridoxal Phosphate 37°C |
| SGPT | 20,4         | U/L | IFCC Without Pyridoxal Phosphate 37°C |
| SGOT | P2.6 = 144,9 | U/L | IFCC Without Pyridoxal Phosphate 37°C |
| SGPT | 19,9         | U/L | IFCC Without Pyridoxal Phosphate 37°C |
| SGOT | P2.7 = 294,7 | U/L | IFCC Without Pyridoxal Phosphate 37°C |
| SGPT | 68,7         | U/L | IFCC Without Pyridoxal Phosphate 37°C |

  
 Semarang, 28 April 2015  
 an Kasie Pelayanan  
 dr. Ibnu Hidayat  
 NIP. 195603292001121001

### Lampiran 8. Berat Badan Sampel

| Kelompok | Berat Badan Awal (g) | Berat Badan Akhir (g) |
|----------|----------------------|-----------------------|
| K1.1     | 203                  | 268                   |
| K1.2     | 201                  | 260                   |
| K1.3     | 197                  | 314                   |
| K1.4     | 193                  | 213                   |
| K1.5     | 185                  | 252                   |
| K1.6     | 197                  | 376                   |
| K1.7     | 199                  | 305                   |
| K2.1     | 212                  | 168                   |
| K2.2     | 210                  | 160                   |
| K2.3     | 201                  | -                     |
| K2.4     | 197                  | -                     |
| K2.5     | 202                  | 158                   |
| K2.6     | 201                  | 156                   |
| K2.7     | 211                  | 157                   |
| K2.8     | 203                  | 163                   |
| P1.1     | 194                  | 160                   |
| P1.2     | 183                  | 174                   |
| P1.3     | 187                  | 147                   |
| P1.4     | 197                  | 181                   |
| P1.5     | 220                  | 169                   |
| P1.6     | 186                  | 174                   |
| P1.7     | 181                  | 181                   |
| P1.8     | 206                  | 167                   |
| P2.1     | 189                  | 118                   |
| P2.2     | 188                  | 152                   |
| P2.3     | 193                  | 151                   |
| P2.4     | 207                  | 186                   |
| P2.5     | 196                  | 180                   |
| P2.6     | 186                  | 176                   |
| P2.7     | 188                  | 167                   |

| Kelompok | Rerata Berat Awal (g) | Rerata Berat Akhir (g) |
|----------|-----------------------|------------------------|
| K1       | $198,6 \pm 3,8$       | $272,0 \pm 40,3$       |
| K2       | $205,4 \pm 4,7$       | $158,8 \pm 2,8$        |
| P1       | $200,0 \pm 13,9$      | $170,2 \pm 7,8$        |
| P2       | $194,6 \pm 7,6$       | $157,4 \pm 27,2$       |

## Lampiran 9. Ethical clearance

|                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                                                            |                                                                                     |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
|                                                                                                                                                       | <p><b>KOMISI ETIK PENELITIAN KESEHATAN (KEPK)</b><br/> <b>FAKULTAS KEDOKTERAN UNIVERSITAS DIPONEGORO</b><br/> <b>DAN RSUP dr KARIADI SEMARANG</b><br/>         Sekretariat : Kantor Dekanat FK Undip Lt.3<br/>         Jl. Dr. Soetomo 18. Semarang<br/>         Telp/Fax. 024-8318350</p> |  |
| <p><b>ETHICAL CLEARANCE</b><br/> <b>No. 204/EC/FK-RSDK/2015</b></p>                                                                                                                                                                    |                                                                                                                                                                                                                                                                                            |                                                                                     |
| <p>Komisi Etik Penelitian Kesehatan Fakultas Kedokteran Universitas Diponegoro-RSUP. Dr. Kariadi Semarang, setelah membaca dan menelaah Usulan Penelitian dengan judul :</p>                                                           |                                                                                                                                                                                                                                                                                            |                                                                                     |
| <p><b>PENGARUH PEMBERIAN MADU TERHADAP FUNGSI HATI TIKUS WISTAR</b><br/> <b>JANTAN YANG DIINDUKSI MONOSODIUM GLUTAMATE</b></p>                                                                                                         |                                                                                                                                                                                                                                                                                            |                                                                                     |
| <p><b>Peneliti Utama</b></p>                                                                                                                                                                                                           | <p>: <b>Widi Taufik Aliftiyo</b></p>                                                                                                                                                                                                                                                       |                                                                                     |
| <p><b>Pembimbing</b></p>                                                                                                                                                                                                               | <p>: 1. Dr. dr. Kusmijati Tjahjono D.K, M.Kes<br/>         2. Dr. dr. Andrew Johan, M.Si</p>                                                                                                                                                                                               |                                                                                     |
| <p><b>Penelitian</b></p>                                                                                                                                                                                                               | <p>: Dilaksanakan di Laboratorium Biologi Fakultas Matematika dan Ilmu Pengetahuan Alam Universitas Negeri Semarang</p>                                                                                                                                                                    |                                                                                     |
| <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 &amp; dekapitasi hewan coba dan melaporkan ke KEPK bahwa penelitian sudah selesai dilampiri Abstrak Penelitian.</p>                                                 |                                                                                                                                                                                                                                                                                            |                                                                                     |
| <p>Semarang, <b>14 APR 2015</b></p>                                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                            |                                                                                     |
| <p>Komisi Etik Penelitian Kesehatan<br/>         Fakultas Kedokteran Undip-RS. Dr. Kariadi<br/>         Ketua</p>                                                                                                                      |                                                                                                                                                                                                                                                                                            |                                                                                     |
|                                                                                                                                                     |                                                                                                                                                                                                                                                                                            |                                                                                     |
| <p><b>Prof. Dr.dr. Suprihati, M.Sc, Sp.THT-KL(K)</b><br/>         NIP.19500621 197703 2 001</p>                                                                                                                                        |                                                                                                                                                                                                                                                                                            |                                                                                     |

**Lampiran 10. Surat keterangan 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. /UN. 37.1.4.5./PP/2015

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

Nama : Widi Taufik Aliftiyo  
NIM : 22010111130058  
Fakultas/ Universitas : Kedokteran/ UNDIP Semarang  
Judul : Pengaruh Pemberian Madu terhadap Fungsi Hati Tikus Wistar Jantan yang Diinduksi Monosodium Glutamate

telah melakukan penelitian di Laboratorium Jurusan Biologi FMIPA Universitas Negeri Semarang pada bulan Maret-April 2015

Demikian Surat Keterangan ini kami buat untuk dapat digunakan sebagaimana perlunya.

Semarang, 27 April 2015

Mengetahui  
Ketua Jurusan Biologi FMIPA UNNES



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

Kepala Laboratorium

Dra. Lina Herlina, M.Si  
NIP. 19670207.199203.2001

## Lampiran 11. Hasil analisis program statistik

### 1. Tabel dekskriptif SGPT

| Descriptives |                 |                                  |             |            |
|--------------|-----------------|----------------------------------|-------------|------------|
| Kelompok     |                 |                                  | Statistic   | Std. Error |
| SGPT         | Kontrol Negatif | Mean                             | 75.460      | 3.7940     |
|              |                 | 95% Confidence Interval for Mean | Lower Bound | 64.926     |
|              |                 |                                  | Upper Bound | 85.994     |
|              |                 | 5% Trimmed Mean                  | 75.872      |            |
|              |                 | Median                           | 76.000      |            |
|              |                 | Variance                         | 71.973      |            |
|              |                 | Std. Deviation                   | 8.4837      |            |
|              |                 | Minimum                          | 61.3        |            |
|              |                 | Maximum                          | 82.2        |            |
|              |                 | Range                            | 20.9        |            |
|              |                 | Interquartile Range              | 13.5        |            |
|              |                 | Skewness                         | -1.546      | .913       |
|              |                 | Kurtosis                         | 2.614       | 2.000      |
|              |                 | Mean                             | 72.360      | 3.9148     |
|              |                 |                                  | Lower Bound | 61.491     |
|              |                 |                                  | Upper Bound | 83.229     |
| SGPT         | Kontrol Positif | 5% Trimmed Mean                  | 72.367      |            |
|              |                 | Median                           | 74.900      |            |
|              |                 | Variance                         | 76.628      |            |
|              |                 | Std. Deviation                   | 8.7537      |            |
|              |                 | Minimum                          | 61.5        |            |
|              |                 | Maximum                          | 83.1        |            |
|              |                 | Range                            | 21.6        |            |
|              |                 | Interquartile Range              | 16.5        |            |
|              |                 | Skewness                         | -.162       | .913       |
|              |                 | Kurtosis                         | -1.643      | 2.000      |
|              |                 | Mean                             | 69.480      | 2.8598     |
|              |                 |                                  | Lower Bound | 61.540     |
|              |                 |                                  | Upper Bound | 77.420     |
|              |                 | 5% Trimmed Mean                  | 69.622      |            |
|              |                 |                                  |             |            |

|             |                                  |             |         |
|-------------|----------------------------------|-------------|---------|
| Perlakuan 2 | Median                           | 69.700      |         |
|             | Variance                         | 40.892      |         |
|             | Std. Deviation                   | 6.3947      |         |
|             | Minimum                          | 59.5        |         |
|             | Maximum                          | 76.9        |         |
|             | Range                            | 17.4        |         |
|             | Interquartile Range              | 10.5        |         |
|             | Skewness                         | -.894       | .913    |
|             | Kurtosis                         | 1.736       | 2.000   |
|             | Mean                             | 65.520      | 12.2736 |
|             | 95% Confidence Interval for Mean | Lower Bound | 31.443  |
|             |                                  | Upper Bound | 99.597  |
|             | 5% Trimmed Mean                  | 66.689      |         |
|             | Median                           | 66.900      |         |
|             | Variance                         | 753.207     |         |
|             | Std. Deviation                   | 27.4446     |         |
|             | Minimum                          | 20.4        |         |
|             | Maximum                          | 89.6        |         |
|             | Range                            | 69.2        |         |
|             | Interquartile Range              | 44.7        |         |
|             | Skewness                         | -1.412      | .913    |
|             | Kurtosis                         | 2.217       | 2.000   |

## 2. Tabel uji normalitas *Saphiro-Wilk* SGPT

| Tests of Normality |                 |                                 |    |                   |              |    |      |
|--------------------|-----------------|---------------------------------|----|-------------------|--------------|----|------|
| Kelompok           |                 | Kolmogorov-Smirnov <sup>a</sup> |    |                   | Shapiro-Wilk |    |      |
|                    |                 | Statistic                       | df | Sig.              | Statistic    | df | Sig. |
| SGPT               | Kontrol Negatif | .321                            | 5  | .102              | .817         | 5  | .111 |
|                    | Kontrol Positif | .214                            | 5  | .200 <sup>*</sup> | .952         | 5  | .753 |
|                    | Perlakuan 1     | .264                            | 5  | .200 <sup>*</sup> | .941         | 5  | .676 |
|                    | Perlakuan 2     | .297                            | 5  | .172              | .858         | 5  | .221 |

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

a. Lilliefors Significance Correction

## 5. Hasil uji homogenitas varians

**Test of Homogeneity of Variances**

SGPT

| Levene Statistic | df1 | df2 | Sig. |
|------------------|-----|-----|------|
| 1.983            | 3   | 16  | .157 |

6. Hasil uji *One Way* ANOVA**ANOVA**

SGPT

|                | Sum of Squares | df | Mean Square | F    | Sig. |
|----------------|----------------|----|-------------|------|------|
| Between Groups | 268.670        | 3  | 89.557      | .380 | .769 |
| Within Groups  | 3770.800       | 16 | 235.675     |      |      |
| Total          | 4039.470       | 19 |             |      |      |

## 7. Tabel Deskriptif SGOT

**Descriptives**

| Descriptives                     |                                  |                     | Statistic | Std. Error |
|----------------------------------|----------------------------------|---------------------|-----------|------------|
| Kelompok                         |                                  |                     |           |            |
| SGOT                             | Mean                             |                     | 162.820   | 8.7012     |
|                                  | 95% Confidence Interval for Mean | Lower Bound         | 138.662   |            |
|                                  |                                  | Upper Bound         | 186.978   |            |
|                                  | 5% Trimmed Mean                  |                     | 162.917   |            |
|                                  | Median                           |                     | 158.900   |            |
|                                  | Variance                         |                     | 378.557   |            |
|                                  | Kontrol Negatif                  | Std. Deviation      | 19.4565   |            |
|                                  |                                  | Minimum             | 140.5     |            |
|                                  |                                  | Maximum             | 183.4     |            |
|                                  |                                  | Range               | 42.9      |            |
|                                  |                                  | Interquartile Range | 38.2      |            |
|                                  | Skewness                         | .133                | .913      |            |
|                                  | Kurtosis                         | -2.659              | 2.000     |            |
|                                  | Kontrol Positif                  | Mean                | 175.320   | 16.5595    |
| 95% Confidence Interval for Mean |                                  | Lower Bound         | 129.344   |            |
|                                  |                                  | Upper Bound         | 221.296   |            |

|  |             |                                  |             |         |
|--|-------------|----------------------------------|-------------|---------|
|  | Perlakuan 1 | 5% Trimmed Mean                  | 174.644     |         |
|  |             | Median                           | 149.400     |         |
|  |             | Variance                         | 1371.077    |         |
|  |             | Std. Deviation                   | 37.0281     |         |
|  |             | Minimum                          | 146.1       |         |
|  |             | Maximum                          | 216.7       |         |
|  |             | Range                            | 70.6        |         |
|  |             | Interquartile Range              | 68.1        |         |
|  |             | Skewness                         | .604        | .913    |
|  |             | Kurtosis                         | -3.317      | 2.000   |
|  |             | Mean                             | 172.740     | 6.2152  |
|  |             | 95% Confidence Interval for Mean | Lower Bound | 155.484 |
|  |             |                                  | Upper Bound | 189.996 |
|  |             | 5% Trimmed Mean                  | 172.961     |         |
|  |             | Median                           | 172.000     |         |
|  | Perlakuan 2 | Variance                         | 193.143     |         |
|  |             | Std. Deviation                   | 13.8976     |         |
|  |             | Minimum                          | 151.9       |         |
|  |             | Maximum                          | 189.6       |         |
|  |             | Range                            | 37.7        |         |
|  |             | Interquartile Range              | 23.5        |         |
|  |             | Skewness                         | -.610       | .913    |
|  |             | Kurtosis                         | 1.107       | 2.000   |
|  |             | Mean                             | 170.480     | 13.1899 |
|  |             | 95% Confidence Interval for Mean | Lower Bound | 133.859 |
|  |             |                                  | Upper Bound | 207.101 |
|  |             | 5% Trimmed Mean                  | 169.361     |         |
|  |             | Median                           | 166.100     |         |
|  |             | Variance                         | 869.872     |         |
|  |             | Std. Deviation                   | 29.4936     |         |
|  |             | Minimum                          | 143.8       |         |
|  |             | Maximum                          | 217.3       |         |
|  |             | Range                            | 73.5        |         |
|  |             | Interquartile Range              | 51.5        |         |
|  |             | Skewness                         | 1.175       | .913    |

|          |       |       |
|----------|-------|-------|
| Kurtosis | 1.209 | 2.000 |
|----------|-------|-------|

### 8. Tabel uji normalitas *Saphiro-Wilk* SGOT

| Tests of Normality |                                 |      |      |                   |      |      |      |
|--------------------|---------------------------------|------|------|-------------------|------|------|------|
| Kelompok           | Kolmogorov-Smirnov <sup>a</sup> |      |      | Shapiro-Wilk      |      |      |      |
|                    | Statistic                       | df   | Sig. | Statistic         | df   | Sig. |      |
| SGOT               | Kontrol Negatif                 | .243 | 5    | .200 <sup>*</sup> | .885 | 5    | .331 |
|                    | Kontrol Positif                 | .358 | 5    | .035              | .718 | 5    | .015 |
|                    | Perlakuan 1                     | .236 | 5    | .200 <sup>*</sup> | .963 | 5    | .829 |
|                    | Perlakuan 2                     | .209 | 5    | .200 <sup>*</sup> | .900 | 5    | .408 |

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

a. Lilliefors Significance Correction

### 9. Tabel uji perbedaan Kruskal Wallis

| Ranks            |    |           |
|------------------|----|-----------|
| Kelompok         | N  | Mean Rank |
| Kontrol Negatif  | 5  | 9.20      |
| Kontrol Positif  | 5  | 10.60     |
| SGOT Perlakuan 1 | 5  | 12.40     |
| Perlakuan 2      | 5  | 9.80      |
| Total            | 20 |           |

| Test Statistics <sup>a,b</sup> |      |
|--------------------------------|------|
|                                | SGOT |
| Chi-Square                     | .829 |
| df                             | 3    |
| Asymp. Sig.                    | .842 |

a. Kruskal Wallis Test

b. Grouping Variable:

Kelompok

## Lampiran 12. Dokumentasi penelitian



## **Lampiran 12. Biodata mahasiswa**

### **Identitas**

Nama : Widi Taufik Aliftiyo  
 NIM : 22010111130058  
 Tempat/tanggal lahir : Tasikmalaya, 7 November 1992  
 Jenis kelamin : Laki-laki  
 Alamat : Perum Sukarindik Blok C 48, Kota Tasikmalaya  
 Nomor telepon : 0265-342531  
 Nomor HP : 085727566992  
 Email : widi\_taufik\_aliftiyo@yahoo.co.id

### **Riwayat Pendidikan Formal**

- |        |                                     |                         |        |
|--------|-------------------------------------|-------------------------|--------|
| 1. SD  | : SDN Citapen 1                     | Lulus tahun             | : 2005 |
| 2. SMP | : SMPN 1 Tasikmalaya                | Lulus Tahun             | : 2007 |
| 3. SMA | : SMAN 1 Tasikmalaya                | Lulus Tahun             | : 2010 |
| 4. S1  | : Fakultas Kedokteran<br>Diponegoro | Universitas Masuk Tahun | : 2011 |