

## Lampiran 3

## Penentuan Sampel Berdasarkan Kriteria Inklusi dan Eksklusi

Tikus	Setelah inklusi dan eksklusi	Keterangan
1	Tidak digunakan	Tikus sakit
2	Tikus 2	Sesuai kriteria
3	Tidak digunakan	Tikus sakit
4	Tikus 3	Sesuai kriteria
5	Tikus 22	Sesuai kriteria
6	Tikus 4	Sesuai kriteria
7	Tikus 5	Sesuai kriteria
8	Tidak digunakan	Berat badan tidak sesuai
9	Tikus 6	Sesuai kriteria
10	Tikus 7	Sesuai kriteria
11	Tikus 8	Sesuai kriteria
12	Tikus 9	Sesuai kriteria
13	Tikus 10	Sesuai kriteria
14	Tikus 11	Sesuai kriteria
15	Tikus 12	Sesuai kriteria
16	Tikus 13	Sesuai kriteria
17	Tikus 14	Sesuai kriteria
18	Tikus 15	Sesuai kriteria
19	Tidak digunakan	Kelainan anatomi
20	Tikus 16	Sesuai kriteria
21	Tikus 17	Sesuai kriteria
22	Tikus 18	Sesuai kriteria
23	Tikus 19	Sesuai kriteria
24	Tikus 20	Sesuai kriteria

25	Tikus 21	Sesuai kriteria
26	Tidak digunakan	Tikus sakit
27	Tikus 1	Sesuai kriteria
28	Tikus 23	Sesuai kriteria
29	Tikus 24	Sesuai kriteria
30	Tikus 25	Sesuai kriteria
31	Tikus 26	Sesuai kriteria
32	Tikus 27	Sesuai kriteria
33	Tikus 28	Sesuai kriteria
34	Tikus 29	Sesuai kriteria
35	Tikus 30	Sesuai kriteria



## Lampiran 4

## Randomisasi Tikus ke dalam Masing-masing Kelompok

Tikus	Perlakuan	Random number
1	Kelompok V	0.003037415
2	Kelompok V	0.056631883
3	Kelompok II	0.058393512
4	Kelompok V	0.076571966
5	Kelompok IV	0.090890366
6	Kelompok II	0.115308916
7	Kelompok IV	0.133070234
8	Kelompok II	0.177218636
9	Kelompok III	0.185953105
10	Kelompok III	0.209902876
11	Kelompok IV	0.255611291
12	Kelompok II	0.265796804
13	Kelompok III	0.390496729
14	Kelompok I	0.406049928
15	Kelompok I	0.430575824
16	Kelompok II	0.498892141
17	Kelompok I	0.539570158
18	Kelompok I	0.674070188
19	Kelompok I	0.694858107
20	Kelompok IV	0.722254122
21	Kelompok II	0.737803753

22	Kelompok IV	0.803677956
23	Kelompok V	0.823309852
24	Kelompok IV	0.835926168
25	Kelompok I	0.896717764
26	Kelompok V	0.90517266
27	Kelompok III	0.926369268
28	Kelompok III	0.946252934
29	Kelompok V	0.966949306
30	Kelompok III	0.978291117



## Lampiran 5

## Hasil Penghitungan Dosis Streptozotocin

Tikus	Berat Badan (gram)	Dosis streptozotocin (mg)
1	180	10,8
2	240	14,4
3	220	13,2
4	210	12,6
5	210	12,6
6	190	11,4
7	210	12,6
8	200	12
9	210	12,6
10	200	12
11	200	12
12	200	12
13	200	12
16	230	13,8
20	220	13,2
21	200	12
22	200	12
23	180	10,8
24	210	12,6
26	220	13,2
27	220	13,2
28	270	16,2
29	250	15
30	230	13,8

## Lampiran 6

## Penghitungan Dosis ALA

## Penghitungan dosis ALA 26 April 2013

1. Tikus 1 (Dosis 80 mg/kg)

Berat 150 gram

$$\text{Dosis ALA} = \frac{150}{1000} \times 80 = 12 \text{ mg}$$

2. Tikus 2 (Dosis 500 mg/kg)

Berat 200 gram

$$\text{Dosis ALA} = \frac{200}{1000} \times 500 = 100 \text{ mg}$$

3. Tikus 4 (Dosis 200 mg/kg)

Berat 180 gram

$$\text{Dosis ALA} = \frac{180}{1000} \times 200 = 36 \text{ mg}$$

4. Tikus 5 (Dosis 80 mg/kg)

Berat 170 gram

$$\text{Dosis ALA} = \frac{170}{1000} \times 80 = 13,6 \text{ mg}$$

5. Tikus 6 (Dosis 200 mg/kg)

Berat 150 gram

$$\text{Dosis ALA} = \frac{150}{1000} \times 200 = 30 \text{ mg}$$

6. Tikus 7 (Dosis 500 mg/kg)

Berat 190 gram

$$\text{Dosis ALA} = \frac{190}{1000} \times 500 = 95 \text{ mg}$$

7. Tikus 8 (Dosis 200 mg/kg)

Berat 160 gram

$$\text{Dosis ALA} = \frac{160}{1000} \times 200 = 32 \text{ mg}$$

8. Tikus 10 (Dosis 500 mg/kg)

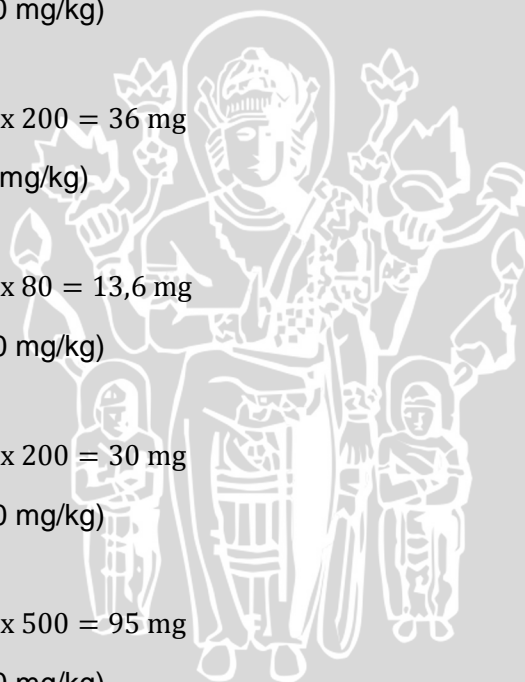
Berat 180 gram

$$\text{Dosis ALA} = \frac{180}{1000} \times 500 = 90 \text{ mg}$$

9. Tikus 11 (Dosis 80 mg/kg)

Berat 170 gram

$$\text{Dosis ALA} = \frac{170}{1000} \times 80 = 13,6 \text{ mg}$$



10. Tikus 12 (Dosis 500 mg/kg)

Berat 190 gram

$$\text{Dosis ALA} = \frac{190}{1000} \times 500 = 95 \text{ mg}$$

11. Tikus 13 (Dosis 200 mg/kg)

Berat 190 gram

$$\text{Dosis ALA} = \frac{190}{1000} \times 200 = 38 \text{ mg}$$

12. Tikus 21 (Dosis 200 mg/kg)

Berat 180 gram

$$\text{Dosis ALA} = \frac{180}{1000} \times 200 = 36 \text{ mg}$$

13. Tikus 26 (Dosis 80 mg/kg)

Berat 200 gram

$$\text{Dosis ALA} = \frac{200}{1000} \times 80 = 16 \text{ mg}$$

14. Tikus 29 (Dosis 500 mg/kg)

Berat 210 gram

$$\text{Dosis ALA} = \frac{210}{1000} \times 500 = 105 \text{ mg}$$

### **Penghitungan dosis ALA 27 April 2013**

1. Tikus 1 (Dosis 80 mg/kg)

Berat 160 gram

$$\text{Dosis ALA} = \frac{160}{1000} \times 80 = 12,8 \text{ mg}$$

2. Tikus 2 (Dosis 500 mg/kg)

Berat 200 gram

$$\text{Dosis ALA} = \frac{200}{1000} \times 500 = 100 \text{ mg}$$

3. Tikus 4 (Dosis 200 mg/kg)

Berat 180 gram

$$\text{Dosis ALA} = \frac{180}{1000} \times 200 = 36 \text{ mg}$$

4. Tikus 5 (Dosis 80 mg/kg)

Berat 190 gram

$$\text{Dosis ALA} = \frac{190}{1000} \times 80 = 15,2 \text{ mg}$$

5. Tikus 6 (Dosis 200 mg/kg)

Berat 160 gram

$$\text{Dosis ALA} = \frac{160}{1000} \times 200 = 33 \text{ mg}$$

## 6. Tikus 7 (Dosis 500 mg/kg)

Berat 200 gram

$$\text{Dosis ALA} = \frac{200}{1000} \times 500 = 100 \text{ mg}$$

## 7. Tikus 8 (Dosis 200 mg/kg)

Berat 180 gram

$$\text{Dosis ALA} = \frac{180}{1000} \times 200 = 36 \text{ mg}$$

## 8. Tikus 10 (Dosis 500 mg/kg)

Berat 180 gram

$$\text{Dosis ALA} = \frac{190}{1000} \times 500 = 95 \text{ mg}$$

## 9. Tikus 11 (Dosis 80 mg/kg)

Berat 180 gram

$$\text{Dosis ALA} = \frac{180}{1000} \times 80 = 14,4 \text{ mg}$$

## 10. Tikus 12 (Dosis 500 mg/kg)

Berat 200 gram

$$\text{Dosis ALA} = \frac{200}{1000} \times 500 = 100 \text{ mg}$$

## 11. Tikus 13 (Dosis 200 mg/kg)

Berat 190 gram

$$\text{Dosis ALA} = \frac{190}{1000} \times 200 = 38 \text{ mg}$$

## 12. Tikus 21 (Dosis 200 mg/kg)

Berat 190 gram

$$\text{Dosis ALA} = \frac{190}{1000} \times 200 = 38 \text{ mg}$$

## 13. Tikus 26 (Dosis 80 mg/kg)

Berat 200 gram

$$\text{Dosis ALA} = \frac{200}{1000} \times 80 = 16 \text{ mg}$$

## 14. Tikus 29 (Dosis 500 mg/kg)

Berat 200 gram

$$\text{Dosis ALA} = \frac{200}{1000} \times 500 = 100 \text{ mg}$$

**Penghitungan dosis ALA 28 April 2013**

## 1. Tikus 1 (Dosis 80 mg/kg)

Berat 180 gram

$$\text{Dosis ALA} = \frac{180}{1000} \times 80 = 14,4 \text{ mg}$$



## 2. Tikus 2 (Dosis 500 mg/kg)

Berat 200 gram

$$\text{Dosis ALA} = \frac{200}{1000} \times 500 = 100 \text{ mg}$$

## 3. Tikus 4 (Dosis 200 mg/kg)

Berat 170 gram

$$\text{Dosis ALA} = \frac{170}{1000} \times 200 = 34 \text{ mg}$$

## 4. Tikus 5 (Dosis 80 mg/kg)

Berat 200 gram

$$\text{Dosis ALA} = \frac{200}{1000} \times 80 = 16 \text{ mg}$$

## 5. Tikus 6 (Dosis 200 mg/kg)

Berat 170 gram

$$\text{Dosis ALA} = \frac{170}{1000} \times 200 = 34 \text{ mg}$$

## 6. Tikus 7 (Dosis 500 mg/kg)

Berat 200 gram

$$\text{Dosis ALA} = \frac{200}{1000} \times 500 = 100 \text{ mg}$$

## 7. Tikus 8 (Dosis 200 mg/kg)

Berat 170 gram

$$\text{Dosis ALA} = \frac{170}{1000} \times 200 = 34 \text{ mg}$$

## 8. Tikus 10 (Dosis 500 mg/kg)

Berat 180 gram

$$\text{Dosis ALA} = \frac{180}{1000} \times 500 = 90 \text{ mg}$$

## 9. Tikus 11 (Dosis 80 mg/kg)

Berat 170 gram

$$\text{Dosis ALA} = \frac{170}{1000} \times 80 = 13,6 \text{ mg}$$

## 10. Tikus 13 (Dosis 200 mg/kg)

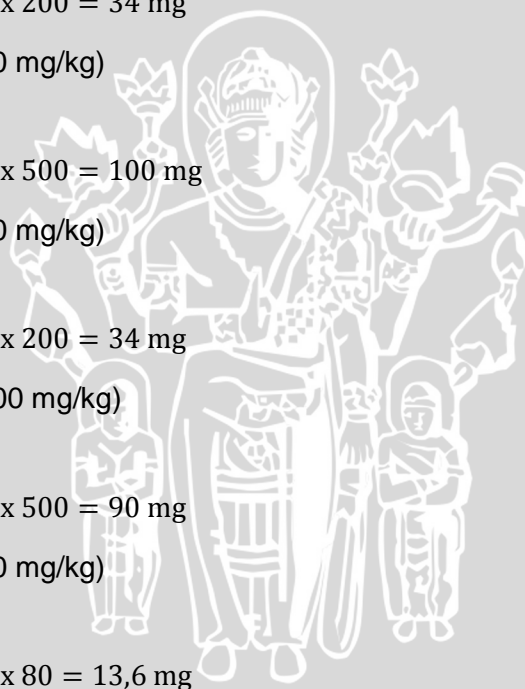
Berat 170 gram

$$\text{Dosis ALA} = \frac{170}{1000} \times 200 = 34 \text{ mg}$$

## 11. Tikus 21 (Dosis 200 mg/kg)

Berat 170 gram

$$\text{Dosis ALA} = \frac{170}{1000} \times 200 = 34 \text{ mg}$$



13. Tikus 26 (Dosis 80 mg/kg)

Berat 210 gram

$$\text{Dosis ALA} = \frac{210}{1000} \times 80 = 16,8 \text{ mg}$$

14. Tikus 29 (Dosis 500 mg/kg)

Berat 200 gram

$$\text{Dosis ALA} = \frac{200}{1000} \times 500 = 100 \text{ mg}$$

### Penghitungan dosis ALA 29 April 2013

1. Tikus 1 (Dosis 80 mg/kg)

Berat 140 gram

$$\text{Dosis ALA} = \frac{140}{1000} \times 80 = 11,2 \text{ mg}$$

2. Tikus 2 (Dosis 500 mg/kg)

Berat 200 gram

$$\text{Dosis ALA} = \frac{200}{1000} \times 500 = 100 \text{ mg}$$

3. Tikus 4 (Dosis 200 mg/kg)

Berat 180 gram

$$\text{Dosis ALA} = \frac{180}{1000} \times 200 = 36 \text{ mg}$$

4. Tikus 5 (Dosis 80 mg/kg)

Berat 160 gram

$$\text{Dosis ALA} = \frac{160}{1000} \times 80 = 12,8 \text{ mg}$$

5. Tikus 6 (Dosis 200 mg/kg)

Berat 170 gram

$$\text{Dosis ALA} = \frac{170}{1000} \times 200 = 34 \text{ mg}$$

6. Tikus 8 (Dosis 200 mg/kg)

Berat 160 gram

$$\text{Dosis ALA} = \frac{160}{1000} \times 200 = 32 \text{ mg}$$

7. Tikus 10 (Dosis 500 mg/kg)

Berat 160 gram

$$\text{Dosis ALA} = \frac{160}{1000} \times 500 = 80 \text{ mg}$$

8. Tikus 11 (Dosis 80 mg/kg)

Berat 150 gram

$$\text{Dosis ALA} = \frac{150}{1000} \times 80 = 12 \text{ mg}$$

9. Tikus 13 (Dosis 200 mg/kg)

Berat 150 gram

$$\text{Dosis ALA} = \frac{150}{1000} \times 200 = 30 \text{ mg}$$

10. Tikus 21 (Dosis 200 mg/kg)

Berat 150 gram

$$\text{Dosis ALA} = \frac{150}{1000} \times 200 = 30 \text{ mg}$$

11. Tikus 26 (Dosis 80 mg/kg)

Berat 200 gram

$$\text{Dosis ALA} = \frac{200}{1000} \times 80 = 16 \text{ mg}$$

12. Tikus 29 (Dosis 500 mg/kg)

Berat 170 gram

$$\text{Dosis ALA} = \frac{170}{1000} \times 500 = 85 \text{ mg}$$

#### **Penghitungan dosis ALA 30 April 2013**

1. Tikus 1 (Dosis 80 mg/kg)

Berat 150 gram

$$\text{Dosis ALA} = \frac{150}{1000} \times 80 = 12 \text{ mg}$$

2. Tikus 2 (Dosis 500 mg/kg)

Berat 170 gram

$$\text{Dosis ALA} = \frac{170}{1000} \times 500 = 85 \text{ mg}$$

3. Tikus 4 (Dosis 200 mg/kg)

Berat 170 gram

$$\text{Dosis ALA} = \frac{170}{1000} \times 200 = 34 \text{ mg}$$

4. Tikus 5 (Dosis 80 mg/kg)

Berat 170 gram

$$\text{Dosis ALA} = \frac{170}{1000} \times 80 = 13,6 \text{ mg}$$

5. Tikus 6 (Dosis 200 mg/kg)

Berat 180 gram

$$\text{Dosis ALA} = \frac{180}{1000} \times 200 = 36 \text{ mg}$$

6. Tikus 8 (Dosis 200 mg/kg)

Berat 160 gram

$$\text{Dosis ALA} = \frac{160}{1000} \times 200 = 32 \text{ mg}$$

7. Tikus 10 (Dosis 500 mg/kg)

Berat 160 gram

$$\text{Dosis ALA} = \frac{160}{1000} \times 500 = 80 \text{ mg}$$

8. Tikus 11 (Dosis 80 mg/kg)

Berat 180 gram

$$\text{Dosis ALA} = \frac{180}{1000} \times 80 = 14,4 \text{ mg}$$

9. Tikus 13 (Dosis 200 mg/kg)

Berat 170 gram

$$\text{Dosis ALA} = \frac{170}{1000} \times 200 = 34 \text{ mg}$$

10. Tikus 21 (Dosis 200 mg/kg)

Berat 150 gram

$$\text{Dosis ALA} = \frac{150}{1000} \times 200 = 30 \text{ mg}$$

11. Tikus 26 (Dosis 80 mg/kg)

Berat 200 gram

$$\text{Dosis ALA} = \frac{200}{1000} \times 80 = 16 \text{ mg}$$

### **Penghitungan dosis ALA 1 Mei 2013**

1. Tikus 1 (Dosis 80 mg/kg)

Berat 140 gram

$$\text{Dosis ALA} = \frac{140}{1000} \times 80 = 11,2 \text{ mg}$$

2. Tikus 2 (Dosis 500 mg/kg)

Berat 190 gram

$$\text{Dosis ALA} = \frac{190}{1000} \times 500 = 95 \text{ mg}$$

3. Tikus 4 (Dosis 200 mg/kg)

Berat 180 gram

$$\text{Dosis ALA} = \frac{180}{1000} \times 200 = 36 \text{ mg}$$

4. Tikus 5 (Dosis 80 mg/kg)

Berat 160 gram

$$\text{Dosis ALA} = \frac{160}{1000} \times 80 = 12,8 \text{ mg}$$

5. Tikus 6 (Dosis 200 mg/kg)

Berat 170 gram

$$\text{Dosis ALA} = \frac{170}{1000} \times 200 = 34 \text{ mg}$$

6. Tikus 8 (Dosis 200 mg/kg)

Berat 160 gram

$$\text{Dosis ALA} = \frac{160}{1000} \times 200 = 32 \text{ mg}$$

7. Tikus 10 (Dosis 500 mg/kg)

Berat 150 gram

$$\text{Dosis ALA} = \frac{150}{1000} \times 500 = 75 \text{ mg}$$

8. Tikus 11 (Dosis 80 mg/kg)

Berat 180 gram

$$\text{Dosis ALA} = \frac{180}{1000} \times 80 = 14,4 \text{ mg}$$

9. Tikus 13 (Dosis 200 mg/kg)

Berat 160 gram

$$\text{Dosis ALA} = \frac{160}{1000} \times 200 = 32 \text{ mg}$$

10. Tikus 21 (Dosis 200 mg/kg)

Berat 160 gram

$$\text{Dosis ALA} = \frac{160}{1000} \times 200 = 32 \text{ mg}$$

11. Tikus 26 (Dosis 80 mg/kg)

Berat 210 gram

$$\text{Dosis ALA} = \frac{210}{1000} \times 80 = 16,8 \text{ mg}$$

### Penghitungan dosis ALA 2 Mei 2013

1. Tikus 1 (Dosis 80 mg/kg)

Berat 140 gram

$$\text{Dosis ALA} = \frac{140}{1000} \times 80 = 11,2 \text{ mg}$$

2. Tikus 2 (Dosis 500 mg/kg)

Berat 160 gram

$$\text{Dosis ALA} = \frac{160}{1000} \times 500 = 80 \text{ mg}$$

3. Tikus 4 (Dosis 200 mg/kg)

Berat 180 gram

$$\text{Dosis ALA} = \frac{180}{1000} \times 200 = 36 \text{ mg}$$

## 4. Tikus 5 (Dosis 80 mg/kg)

Berat 150 gram

$$\text{Dosis ALA} = \frac{150}{1000} \times 80 = 12 \text{ mg}$$

## 5. Tikus 6 (Dosis 200 mg/kg)

Berat 200 gram

$$\text{Dosis ALA} = \frac{200}{1000} \times 200 = 40 \text{ mg}$$

## 6. Tikus 8 (Dosis 200 mg/kg)

Berat 170 gram

$$\text{Dosis ALA} = \frac{170}{1000} \times 200 = 34 \text{ mg}$$

## 7. Tikus 10 (Dosis 500 mg/kg)

Berat 150 gram

$$\text{Dosis ALA} = \frac{150}{1000} \times 500 = 75 \text{ mg}$$

## 8. Tikus 11 (Dosis 80 mg/kg)

Berat 180 gram

$$\text{Dosis ALA} = \frac{180}{1000} \times 80 = 14,4 \text{ mg}$$

## 9. Tikus 13 (Dosis 200 mg/kg)

Berat 150 gram

$$\text{Dosis ALA} = \frac{150}{1000} \times 200 = 30 \text{ mg}$$

## 10. Tikus 21 (Dosis 200 mg/kg)

Berat 150 gram

$$\text{Dosis ALA} = \frac{150}{1000} \times 200 = 30 \text{ mg}$$

## 11. Tikus 26 (Dosis 80 mg/kg)

Berat 200 gram

$$\text{Dosis ALA} = \frac{200}{1000} \times 80 = 16 \text{ mg}$$

## 12. Tikus 28 (Dosis 80 mg/kg)

Berat 210 gram

$$\text{Dosis ALA} = \frac{220}{1000} \times 80 = 17,6 \text{ mg}$$

**Penghitungan dosis ALA 3 Mei 2013**

## 1. Tikus 1 (Dosis 80 mg/kg)

Berat 140 gram

$$\text{Dosis ALA} = \frac{140}{1000} \times 80 = 11,2 \text{ mg}$$

## 2. Tikus 2 (Dosis 500 mg/kg)

Berat 150 gram

$$\text{Dosis ALA} = \frac{150}{1000} \times 500 = 75 \text{ mg}$$

## 3. Tikus 4 (Dosis 200 mg/kg)

Berat 200 gram

$$\text{Dosis ALA} = \frac{200}{1000} \times 200 = 40 \text{ mg}$$

## 4. Tikus 5 (Dosis 80 mg/kg)

Berat 150 gram

$$\text{Dosis ALA} = \frac{150}{1000} \times 80 = 12 \text{ mg}$$

## 5. Tikus 6 (Dosis 200 mg/kg)

Berat 200 gram

$$\text{Dosis ALA} = \frac{200}{1000} \times 200 = 40 \text{ mg}$$

## 6. Tikus 8 (Dosis 200 mg/kg)

Berat 150 gram

$$\text{Dosis ALA} = \frac{150}{1000} \times 200 = 30 \text{ mg}$$

## 7. Tikus 10 (Dosis 500 mg/kg)

Berat 150 gram

$$\text{Dosis ALA} = \frac{150}{1000} \times 500 = 75 \text{ mg}$$

## 8. Tikus 11 (Dosis 80 mg/kg)

Berat 150 gram

$$\text{Dosis ALA} = \frac{150}{1000} \times 80 = 12 \text{ mg}$$

## 9. Tikus 13 (Dosis 200 mg/kg)

Berat 140 gram

$$\text{Dosis ALA} = \frac{140}{1000} \times 200 = 28 \text{ mg}$$

## 10. Tikus 21 (Dosis 200 mg/kg)

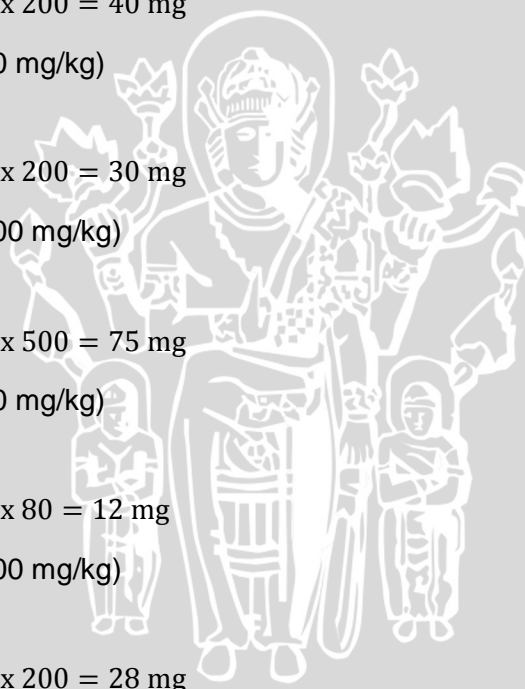
Berat 130 gram

$$\text{Dosis ALA} = \frac{130}{1000} \times 200 = 26 \text{ mg}$$

## 11. Tikus 26 (Dosis 80 mg/kg)

Berat 210 gram

$$\text{Dosis ALA} = \frac{210}{1000} \times 80 = 16,8 \text{ mg}$$



12. Tikus 28 (Dosis 80 mg/kg)

Berat 210 gram

$$\text{Dosis ALA} = \frac{210}{1000} \times 80 = 16,8 \text{ mg}$$

### Penghitungan dosis ALA 4 Mei 2013

1. Tikus 4 (Dosis 200 mg/kg)

Berat 170 gram

$$\text{Dosis ALA} = \frac{170}{1000} \times 200 = 34 \text{ mg}$$

2. Tikus 5 (Dosis 80 mg/kg)

Berat 140 gram

$$\text{Dosis ALA} = \frac{140}{1000} \times 80 = 11,2 \text{ mg}$$

3. Tikus 6 (Dosis 200 mg/kg)

Berat 180 gram

$$\text{Dosis ALA} = \frac{180}{1000} \times 200 = 36 \text{ mg}$$

4. Tikus 8 (Dosis 200 mg/kg)

Berat 140 gram

$$\text{Dosis ALA} = \frac{140}{1000} \times 200 = 28 \text{ mg}$$

5. Tikus 11 (Dosis 80 mg/kg)

Berat 130 gram

$$\text{Dosis ALA} = \frac{130}{1000} \times 80 = 10,4 \text{ mg}$$

6. Tikus 13 (Dosis 200 mg/kg)

Berat 130 gram

$$\text{Dosis ALA} = \frac{130}{1000} \times 200 = 26 \text{ mg}$$

7. Tikus 26 (Dosis 80 mg/kg)

Berat 190 gram

$$\text{Dosis ALA} = \frac{190}{1000} \times 80 = 15,2 \text{ mg}$$

8. Tikus 28 (Dosis 80 mg/kg)

Berat 220 gram

$$\text{Dosis ALA} = \frac{220}{1000} \times 80 = 17,6 \text{ mg}$$



**Penghitungan dosis ALA 5 Mei 2013**

1. Tikus 4 (Dosis 200 mg/kg)

Berat 150 gram

$$\text{Dosis ALA} = \frac{150}{1000} \times 200 = 30 \text{ mg}$$

2. Tikus 6 (Dosis 200 mg/kg)

Berat 250 gram

$$\text{Dosis ALA} = \frac{250}{1000} \times 200 = 50 \text{ mg}$$

3. Tikus 26 (Dosis 80 mg/kg)

Berat 160 gram

$$\text{Dosis ALA} = \frac{160}{1000} \times 80 = 12,8 \text{ mg}$$

4. Tikus 28 (Dosis 80 mg/kg)

Berat 230 gram

$$\text{Dosis ALA} = \frac{230}{1000} \times 80 = 18,4 \text{ mg}$$

**Penghitungan dosis ALA 6 Mei 2013**

1. Tikus 6 (Dosis 200 mg/kg)

Berat 260 gram

$$\text{Dosis ALA} = \frac{260}{1000} \times 200 = 52 \text{ mg}$$

2. Tikus 28 (Dosis 80 mg/kg)

Berat 210 gram

$$\text{Dosis ALA} = \frac{210}{1000} \times 80 = 16,8 \text{ mg}$$

**Penghitungan dosis ALA 7 Mei 2013**

1. Tikus 6 (Dosis 200 mg/kg)

Berat 260 gram

$$\text{Dosis ALA} = \frac{260}{1000} \times 200 = 52 \text{ mg}$$

2. Tikus 28 (Dosis 80 mg/kg)

Berat 230 gram

$$\text{Dosis ALA} = \frac{230}{1000} \times 80 = 18,4 \text{ mg}$$

**Penghitungan dosis ALA 8 Mei 2013**

1. Tikus 6 (Dosis 200 mg/kg)

Berat 250 gram

$$\text{Dosis ALA} = \frac{250}{1000} \times 200 = 50 \text{ mg}$$

2. Tikus 28 (Dosis 80 mg/kg)

Berat 230 gram

$$\text{Dosis ALA} = \frac{230}{1000} \times 80 = 18,4 \text{ mg}$$

**Penghitungan dosis ALA 9 Mei 2013**

1. Tikus 6 (Dosis 200 mg/kg)

Berat 260 gram

$$\text{Dosis ALA} = \frac{260}{1000} \times 200 = 52 \text{ mg}$$

2. Tikus 28 (Dosis 80 mg/kg)

Berat 230 gram

$$\text{Dosis ALA} = \frac{230}{1000} \times 80 = 18,4 \text{ mg}$$

**Penghitungan dosis ALA 10 Mei 2013**

1. Tikus 3 (Dosis 80 mg/kg)

Berat 250 gram

$$\text{Dosis ALA} = \frac{250}{1000} \times 80 = 20 \text{ mg}$$

2. Tikus 6 (Dosis 200 mg/kg)

Berat 250 gram

$$\text{Dosis ALA} = \frac{250}{1000} \times 200 = 50 \text{ mg}$$

3. Tikus 20 (Dosis 200 mg/kg)

Berat 250 gram

$$\text{Dosis ALA} = \frac{250}{1000} \times 200 = 50 \text{ mg}$$

4. Tikus 22 (Dosis 80 mg/kg)

Berat 250 gram

$$\text{Dosis ALA} = \frac{250}{1000} \times 80 = 20 \text{ mg}$$

5. Tikus 24 (Dosis 200 mg/kg)

Berat 210 gram

$$\text{Dosis ALA} = \frac{210}{1000} \times 200 = 42 \text{ mg}$$

6. Tikus 28 (Dosis 80 mg/kg)

Berat 230 gram

$$\text{Dosis ALA} = \frac{230}{1000} \times 80 = 18,4 \text{ mg}$$

### Penghitungan dosis ALA 11 Mei 2013

1. Tikus 3 (Dosis 80 mg/kg)

Berat 240 gram

$$\text{Dosis ALA} = \frac{240}{1000} \times 80 = 19,2 \text{ mg}$$

2. Tikus 6 (Dosis 200 mg/kg)

Berat 260 gram

$$\text{Dosis ALA} = \frac{260}{1000} \times 200 = 52 \text{ mg}$$

3. Tikus 20 (Dosis 200 mg/kg)

Berat 250 gram

$$\text{Dosis ALA} = \frac{250}{1000} \times 200 = 50 \text{ mg}$$

4. Tikus 22 (Dosis 80 mg/kg)

Berat 240 gram

$$\text{Dosis ALA} = \frac{240}{1000} \times 80 = 19,2 \text{ mg}$$

5. Tikus 24 (Dosis 200 mg/kg)

Berat 190 gram

$$\text{Dosis ALA} = \frac{190}{1000} \times 200 = 38 \text{ mg}$$

6. Tikus 28 (Dosis 80 mg/kg)

Berat 240 gram

$$\text{Dosis ALA} = \frac{240}{1000} \times 80 = 19,2 \text{ mg}$$

### Penghitungan dosis ALA 12 Mei 2013

1. Tikus 3 (Dosis 80 mg/kg)

Berat 240 gram

$$\text{Dosis ALA} = \frac{240}{1000} \times 80 = 19,2 \text{ mg}$$

2. Tikus 6 (Dosis 200 mg/kg)

Berat 240 gram

$$\text{Dosis ALA} = \frac{240}{1000} \times 200 = 48 \text{ mg}$$

3. Tikus 20 (Dosis 200 mg/kg)

Berat 250 gram

$$\text{Dosis ALA} = \frac{250}{1000} \times 200 = 50 \text{ mg}$$

4. Tikus 22 (Dosis 80 mg/kg)

Berat 230 gram

$$\text{Dosis ALA} = \frac{230}{1000} \times 80 = 19,2 \text{ mg}$$

5. Tikus 24 (Dosis 200 mg/kg)

Berat 180 gram

$$\text{Dosis ALA} = \frac{180}{1000} \times 200 = 36 \text{ mg}$$

6. Tikus 28 (Dosis 80 mg/kg)

Berat 230 gram

$$\text{Dosis ALA} = \frac{230}{1000} \times 80 = 18,4 \text{ mg}$$

#### **Penghitungan dosis ALA 13 Mei 2013**

1. Tikus 3 (Dosis 80 mg/kg)

Berat 230 gram

$$\text{Dosis ALA} = \frac{230}{1000} \times 80 = 18,4 \text{ mg}$$

2. Tikus 6 (Dosis 200 mg/kg)

Berat 250 gram

$$\text{Dosis ALA} = \frac{250}{1000} \times 200 = 50 \text{ mg}$$

3. Tikus 20 (Dosis 200 mg/kg)

Berat 250 gram

$$\text{Dosis ALA} = \frac{250}{1000} \times 200 = 50 \text{ mg}$$

4. Tikus 22 (Dosis 80 mg/kg)

Berat 240 gram

$$\text{Dosis ALA} = \frac{240}{1000} \times 80 = 19,2 \text{ mg}$$

5. Tikus 24 (Dosis 200 mg/kg)

Berat 240 gram

$$\text{Dosis ALA} = \frac{240}{1000} \times 200 = 48 \text{ mg}$$

6. Tikus 28 (Dosis 80 mg/kg)

Berat 230 gram

$$\text{Dosis ALA} = \frac{230}{1000} \times 80 = 18,4 \text{ mg}$$

**Penghitungan dosis ALA (14 Mei 2013)**

1. Tikus 3 (Dosis 80 mg/kg)

Berat 250 gram

$$\text{Dosis ALA} = \frac{250}{1000} \times 80 = 20 \text{ mg}$$

2. Tikus 6 (Dosis 200 mg/kg)

Berat 270 gram

$$\text{Dosis ALA} = \frac{270}{1000} \times 200 = 54 \text{ mg}$$

3. Tikus 20 (Dosis 200 mg/kg)

Berat 260 gram

$$\text{Dosis ALA} = \frac{260}{1000} \times 200 = 52 \text{ mg}$$

4. Tikus 22 (Dosis 80 mg/kg)

Berat 240 gram

$$\text{Dosis ALA} = \frac{240}{1000} \times 80 = 19,2 \text{ mg}$$

5. Tikus 24 (Dosis 200 mg/kg)

Berat 170 gram

$$\text{Dosis ALA} = \frac{170}{1000} \times 200 = 34 \text{ mg}$$

6. Tikus 28 (Dosis 80 mg/kg)

Berat 230 gram

$$\text{Dosis ALA} = \frac{230}{1000} \times 80 = 18,4 \text{ mg}$$

**Penghitungan dosis ALA 15 Mei 2013**

1. Tikus 3 (Dosis 80 mg/kg)

Berat 220 gram

$$\text{Dosis ALA} = \frac{220}{1000} \times 80 = 17,6 \text{ mg}$$

2. Tikus 6 (Dosis 200 mg/kg)

Berat 250 gram

$$\text{Dosis ALA} = \frac{250}{1000} \times 200 = 50 \text{ mg}$$

3. Tikus 20 (Dosis 200 mg/kg)

Berat 250 gram

$$\text{Dosis ALA} = \frac{250}{1000} \times 200 = 50 \text{ mg}$$

4. Tikus 22 (Dosis 80 mg/kg)

Berat 230 gram

$$\text{Dosis ALA} = \frac{230}{1000} \times 80 = 18,4 \text{ mg}$$

5. Tikus 24 (Dosis 200 mg/kg)

Berat 190 gram

$$\text{Dosis ALA} = \frac{190}{1000} \times 200 = 38 \text{ mg}$$

6. Tikus 28 (Dosis 80 mg/kg)

Berat 250 gram

$$\text{Dosis ALA} = \frac{250}{1000} \times 80 = 20 \text{ mg}$$

### Penghitungan dosis ALA 16 Mei 2013

1. Tikus 3 (Dosis 80 mg/kg)

Berat 180 gram

$$\text{Dosis ALA} = \frac{180}{1000} \times 80 = 14,4 \text{ mg}$$

2. Tikus 6 (Dosis 200 mg/kg)

Berat 250 gram

$$\text{Dosis ALA} = \frac{250}{1000} \times 200 = 50 \text{ mg}$$

3. Tikus 20 (Dosis 200 mg/kg)

Berat 240 gram

$$\text{Dosis ALA} = \frac{240}{1000} \times 200 = 48 \text{ mg}$$

4. Tikus 22 (Dosis 80 mg/kg)

Berat 230 gram

$$\text{Dosis ALA} = \frac{230}{1000} \times 80 = 18,4 \text{ mg}$$

5. Tikus 24 (Dosis 200 mg/kg)

Berat 180 gram

$$\text{Dosis ALA} = \frac{180}{1000} \times 200 = 36 \text{ mg}$$

6. Tikus 28 (Dosis 80 mg/kg)

Berat 200 gram

$$\text{Dosis ALA} = \frac{200}{1000} \times 80 = 16 \text{ mg}$$

**Penghitungan dosis ALA 17 Mei 2013**

1. Tikus 3 (Dosis 80 mg/kg)

Berat 170 gram

$$\text{Dosis ALA} = \frac{170}{1000} \times 80 = 13,6 \text{ mg}$$

2. Tikus 6 (Dosis 200 mg/kg)

Berat 240 gram

$$\text{Dosis ALA} = \frac{240}{1000} \times 200 = 48 \text{ mg}$$

3. Tikus 20 (Dosis 200 mg/kg)

Berat 240 gram

$$\text{Dosis ALA} = \frac{240}{1000} \times 200 = 48 \text{ mg}$$

4. Tikus 22 (Dosis 80 mg/kg)

Berat 230 gram

$$\text{Dosis ALA} = \frac{230}{1000} \times 80 = 18,4 \text{ mg}$$

5. Tikus 24 (Dosis 200 mg/kg)

Berat 180 gram

$$\text{Dosis ALA} = \frac{180}{1000} \times 200 = 36 \text{ mg}$$

6. Tikus 28 (Dosis 80 mg/kg)

Berat 200 gram

$$\text{Dosis ALA} = \frac{200}{1000} \times 80 = 16 \text{ mg}$$

**Penghitungan dosis ALA 18 Mei 2013**

1. Tikus 3 (Dosis 80 mg/kg)

Berat 170 gram

$$\text{Dosis ALA} = \frac{170}{1000} \times 80 = 13,6 \text{ mg}$$

2. Tikus 6 (Dosis 200 mg/kg)

Berat 190 gram

$$\text{Dosis ALA} = \frac{190}{1000} \times 200 = 38 \text{ mg}$$

3. Tikus 20 (Dosis 200 mg/kg)

Berat 250 gram

$$\text{Dosis ALA} = \frac{250}{1000} \times 200 = 50 \text{ mg}$$

4. Tikus 22 (Dosis 80 mg/kg)

Berat 250 gram

$$\text{Dosis ALA} = \frac{250}{1000} \times 80 = 20 \text{ mg}$$

5. Tikus 24 (Dosis 200 mg/kg)

Berat 170 gram

$$\text{Dosis ALA} = \frac{170}{1000} \times 200 = 34 \text{ mg}$$

6. Tikus 28 (Dosis 80 mg/kg)

Berat 200 gram

$$\text{Dosis ALA} = \frac{200}{1000} \times 80 = 16 \text{ mg}$$

### Penghitungan dosis ALA 19 Mei 2013

1. Tikus 3 (Dosis 80 mg/kg)

Berat 200 gram

$$\text{Dosis ALA} = \frac{200}{1000} \times 80 = 16 \text{ mg}$$

2. Tikus 6 (Dosis 200 mg/kg)

Berat 190 gram

$$\text{Dosis ALA} = \frac{180}{1000} \times 200 = 36 \text{ mg}$$

3. Tikus 20 (Dosis 200 mg/kg)

Berat 260 gram

$$\text{Dosis ALA} = \frac{260}{1000} \times 200 = 52 \text{ mg}$$

4. Tikus 22 (Dosis 80 mg/kg)

Berat 250 gram

$$\text{Dosis ALA} = \frac{250}{1000} \times 80 = 20 \text{ mg}$$

5. Tikus 24 (Dosis 200 mg/kg)

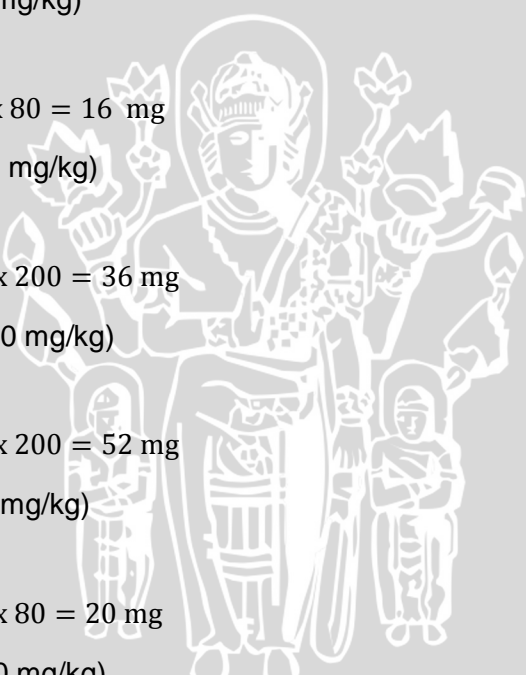
Berat 180 gram

$$\text{Dosis ALA} = \frac{180}{1000} \times 200 = 36 \text{ mg}$$

6. Tikus 28 (Dosis 80 mg/kg)

Berat 200 gram

$$\text{Dosis ALA} = \frac{200}{1000} \times 80 = 16 \text{ mg}$$





**Penghitungan dosis ALA 20 Mei 2013**

1. Tikus 3 (Dosis 80 mg/kg)

Berat 190 gram

$$\text{Dosis ALA} = \frac{190}{1000} \times 80 = 15,2 \text{ mg}$$

2. Tikus 6 (Dosis 200 mg/kg)

Berat 190 gram

$$\text{Dosis ALA} = \frac{190}{1000} \times 200 = 38 \text{ mg}$$

3. Tikus 20 (Dosis 200 mg/kg)

Berat 240 gram

$$\text{Dosis ALA} = \frac{240}{1000} \times 200 = 48 \text{ mg}$$

4. Tikus 22 (Dosis 80 mg/kg)

Berat 240 gram

$$\text{Dosis ALA} = \frac{240}{1000} \times 80 = 19,2 \text{ mg}$$

5. Tikus 24 (Dosis 200 mg/kg)

Berat 190 gram

$$\text{Dosis ALA} = \frac{190}{1000} \times 200 = 38 \text{ mg}$$

6. Tikus 28 (Dosis 80 mg/kg)

Berat 210 gram

$$\text{Dosis ALA} = \frac{210}{1000} \times 80 = 16,8 \text{ mg}$$

**Penghitungan dosis ALA 21 Mei 2013**

1. Tikus 3 (Dosis 80 mg/kg)

Berat 150 gram

$$\text{Dosis ALA} = \frac{150}{1000} \times 80 = 12 \text{ mg}$$

2. Tikus 6 (Dosis 200 mg/kg)

Berat 200 gram

$$\text{Dosis ALA} = \frac{200}{1000} \times 200 = 40 \text{ mg}$$

3. Tikus 20 (Dosis 200 mg/kg)

Berat 250 gram

$$\text{Dosis ALA} = \frac{250}{1000} \times 200 = 50 \text{ mg}$$

4. Tikus 22 (Dosis 80 mg/kg)

Berat 240 gram

$$\text{Dosis ALA} = \frac{240}{1000} \times 80 = 19,2 \text{ mg}$$

5. Tikus 24 (Dosis 200 mg/kg)

Berat 160 gram

$$\text{Dosis ALA} = \frac{160}{1000} \times 200 = 32 \text{ mg}$$

6. Tikus 28 (Dosis 80 mg/kg)

Berat 200 gram

$$\text{Dosis ALA} = \frac{200}{1000} \times 80 = 16 \text{ mg}$$

### Penghitungan dosis ALA 22 Mei 2013

1. Tikus 3 (Dosis 80 mg/kg)

Berat 160 gram

$$\text{Dosis ALA} = \frac{160}{1000} \times 80 = 12,8 \text{ mg}$$

2. Tikus 6 (Dosis 200 mg/kg)

Berat 190 gram

$$\text{Dosis ALA} = \frac{200}{1000} \times 200 = 38 \text{ mg}$$

3. Tikus 20 (Dosis 200 mg/kg)

Berat 240 gram

$$\text{Dosis ALA} = \frac{240}{1000} \times 200 = 48 \text{ mg}$$

4. Tikus 22 (Dosis 80 mg/kg)

Berat 240 gram

$$\text{Dosis ALA} = \frac{240}{1000} \times 80 = 19,2 \text{ mg}$$

5. Tikus 24 (Dosis 200 mg/kg)

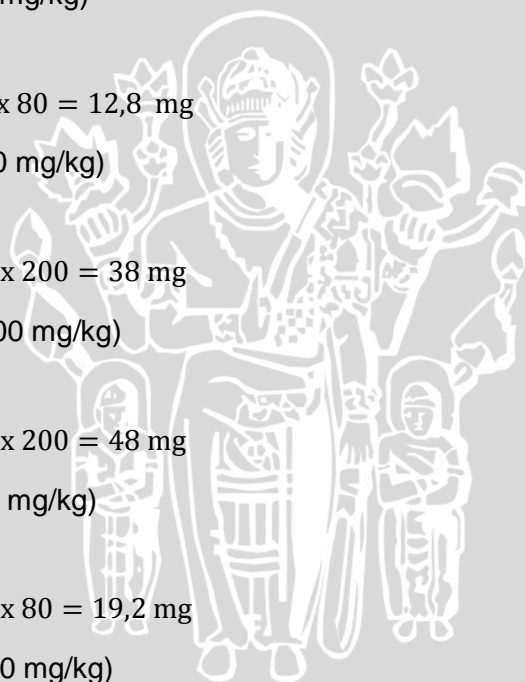
Berat 190 gram

$$\text{Dosis ALA} = \frac{190}{1000} \times 200 = 38 \text{ mg}$$

6. Tikus 28 (Dosis 80 mg/kg)

Berat 230 gram

$$\text{Dosis ALA} = \frac{230}{1000} \times 80 = 18,4 \text{ mg}$$



**Penghitungan dosis ALA 23 Mei 2013**

1. Tikus 3 (Dosis 80 mg/kg)

Berat 150 gram

$$\text{Dosis ALA} = \frac{150}{1000} \times 80 = 12 \text{ mg}$$

2. Tikus 6 (Dosis 200 mg/kg)

Berat 190 gram

$$\text{Dosis ALA} = \frac{190}{1000} \times 200 = 38 \text{ mg}$$

3. Tikus 20 (Dosis 200 mg/kg)

Berat 250 gram

$$\text{Dosis ALA} = \frac{250}{1000} \times 200 = 50 \text{ mg}$$

4. Tikus 22 (Dosis 80 mg/kg)

Berat 230 gram

$$\text{Dosis ALA} = \frac{230}{1000} \times 80 = 18,4 \text{ mg}$$

5. Tikus 24 (Dosis 200 mg/kg)

Berat 170 gram

$$\text{Dosis ALA} = \frac{170}{1000} \times 200 = 34 \text{ mg}$$

6. Tikus 28 (Dosis 80 mg/kg)

Berat 190 gram

$$\text{Dosis ALA} = \frac{190}{1000} \times 80 = 15,2 \text{ mg}$$

**Penghitungan dosis ALA 24 Mei 2013**

1. Tikus 3 (Dosis 80 mg/kg)

Berat 140 gram

$$\text{Dosis ALA} = \frac{140}{1000} \times 80 = 11,2 \text{ mg}$$

2. Tikus 6 (Dosis 200 mg/kg)

Berat 200 gram

$$\text{Dosis ALA} = \frac{200}{1000} \times 200 = 40 \text{ mg}$$

3. Tikus 20 (Dosis 200 mg/kg)

Berat 260 gram

$$\text{Dosis ALA} = \frac{260}{1000} \times 200 = 52 \text{ mg}$$

4. Tikus 22 (Dosis 80 mg/kg)

Berat 270 gram

$$\text{Dosis ALA} = \frac{270}{1000} \times 80 = 21,6 \text{ mg}$$

5. Tikus 24 (Dosis 200 mg/kg)

Berat 180 gram

$$\text{Dosis ALA} = \frac{180}{1000} \times 200 = 36 \text{ mg}$$

6. Tikus 28 (Dosis 80 mg/kg)

Berat 210 gram

$$\text{Dosis ALA} = \frac{210}{1000} \times 80 = 16,8 \text{ mg}$$

#### **Penghitungan dosis ALA 25 Mei 2013**

1. Tikus 3 (Dosis 80 mg/kg)

Berat 150 gram

$$\text{Dosis ALA} = \frac{150}{1000} \times 80 = 12 \text{ mg}$$

2. Tikus 20 (Dosis 200 mg/kg)

Berat 250 gram

$$\text{Dosis ALA} = \frac{250}{1000} \times 200 = 50 \text{ mg}$$

3. Tikus 22 (Dosis 80 mg/kg)

Berat 230 gram

$$\text{Dosis ALA} = \frac{230}{1000} \times 80 = 18,4 \text{ mg}$$

4. Tikus 24 (Dosis 200 mg/kg)

Berat 170 gram

$$\text{Dosis ALA} = \frac{170}{1000} \times 200 = 34 \text{ mg}$$

5. Tikus 28 (Dosis 80 mg/kg)

Berat 200 gram

$$\text{Dosis ALA} = \frac{200}{1000} \times 80 = 16 \text{ mg}$$

#### **Penghitungan dosis ALA 26 Mei 2013**

1. Tikus 3 (Dosis 80 mg/kg)

Berat 160 gram

$$\text{Dosis ALA} = \frac{160}{1000} \times 80 = 12,8 \text{ mg}$$

2. Tikus 20 (Dosis 200 mg/kg)

Berat 240 gram

$$\text{Dosis ALA} = \frac{240}{1000} \times 200 = 48 \text{ mg}$$

3. Tikus 22 (Dosis 80 mg/kg)

Berat 240 gram

$$\text{Dosis ALA} = \frac{240}{1000} \times 80 = 19,2 \text{ mg}$$

4. Tikus 24 (Dosis 200 mg/kg)

Berat 170 gram

$$\text{Dosis ALA} = \frac{170}{1000} \times 200 = 34 \text{ mg}$$

5. Tikus 28 (Dosis 80 mg/kg)

Berat 200 gram

$$\text{Dosis ALA} = \frac{200}{1000} \times 80 = 16 \text{ mg}$$

#### **Penghitungan dosis ALA 27 Mei 2013**

1. Tikus 3 (Dosis 80 mg/kg)

Berat 150 gram

$$\text{Dosis ALA} = \frac{150}{1000} \times 80 = 12 \text{ mg}$$

2. Tikus 20 (Dosis 200 mg/kg)

Berat 250 gram

$$\text{Dosis ALA} = \frac{250}{1000} \times 200 = 50 \text{ mg}$$

3. Tikus 22 (Dosis 80 mg/kg)

Berat 250 gram

$$\text{Dosis ALA} = \frac{250}{1000} \times 80 = 20 \text{ mg}$$

4. Tikus 24 (Dosis 200 mg/kg)

Berat 200 gram

$$\text{Dosis ALA} = \frac{200}{1000} \times 200 = 40 \text{ mg}$$

5. Tikus 28 (Dosis 80 mg/kg)

Berat 200 gram

$$\text{Dosis ALA} = \frac{200}{1000} \times 80 = 16 \text{ mg}$$

**Penghitungan dosis ALA 28 Mei 2013**

1. Tikus 3 (Dosis 80 mg/kg)

Berat 170 gram

$$\text{Dosis ALA} = \frac{170}{1000} \times 80 = 13,6 \text{ mg}$$

2. Tikus 20 (Dosis 200 mg/kg)

Berat 290 gram

$$\text{Dosis ALA} = \frac{290}{1000} \times 200 = 58 \text{ mg}$$

3. Tikus 22 (Dosis 80 mg/kg)

Berat 270 gram

$$\text{Dosis ALA} = \frac{270}{1000} \times 80 = 21,6 \text{ mg}$$

4. Tikus 24 (Dosis 200 mg/kg)

Berat 200 gram

$$\text{Dosis ALA} = \frac{200}{1000} \times 200 = 40 \text{ mg}$$

5. Tikus 28 (Dosis 80 mg/kg)

Berat 230 gram

$$\text{Dosis ALA} = \frac{230}{1000} \times 80 = 18,4 \text{ mg}$$

**Penghitungan dosis ALA 29 Mei 2013**

1. Tikus 3 (Dosis 80 mg/kg)

Berat 150 gram

$$\text{Dosis ALA} = \frac{150}{1000} \times 80 = 12 \text{ mg}$$

2. Tikus 20 (Dosis 200 mg/kg)

Berat 260 gram

$$\text{Dosis ALA} = \frac{260}{1000} \times 200 = 52 \text{ mg}$$

3. Tikus 22 (Dosis 80 mg/kg)

Berat 250 gram

$$\text{Dosis ALA} = \frac{250}{1000} \times 80 = 20 \text{ mg}$$

4. Tikus 24 (Dosis 200 mg/kg)

Berat 180 gram

$$\text{Dosis ALA} = \frac{180}{1000} \times 200 = 36 \text{ mg}$$

5. Tikus 28 (Dosis 80 mg/kg)

Berat 210 gram

$$\text{Dosis ALA} = \frac{210}{1000} \times 80 = 16,8 \text{ mg}$$

#### **Penghitungan dosis ALA 30 Mei 2013**

1. Tikus 20 (Dosis 200 mg/kg)

Berat 250 gram

$$\text{Dosis ALA} = \frac{250}{1000} \times 200 = 50 \text{ mg}$$

2. Tikus 22 (Dosis 80 mg/kg)

Berat 240 gram

$$\text{Dosis ALA} = \frac{240}{1000} \times 80 = 19,2 \text{ mg}$$

3. Tikus 24 (Dosis 200 mg/kg)

Berat 180 gram

$$\text{Dosis ALA} = \frac{180}{1000} \times 200 = 36 \text{ mg}$$

#### **Penghitungan dosis ALA 30 Mei 2013**

Penghitungan dosis ALA

1. Tikus 20 (Dosis 200 mg/kg)

Berat 250 gram

$$\text{Dosis ALA} = \frac{250}{1000} \times 200 = 50 \text{ mg}$$

2. Tikus 22 (Dosis 80 mg/kg)

Berat 240 gram

$$\text{Dosis ALA} = \frac{240}{1000} \times 80 = 19,2 \text{ mg}$$

3. Tikus 24 (Dosis 200 mg/kg)

Berat 180 gram

$$\text{Dosis ALA} = \frac{180}{1000} \times 200 = 36 \text{ mg}$$

#### **Penghitungan dosis ALA 31 Mei 2013**

1. Tikus 20 (Dosis 200 mg/kg)

Berat 250 gram

$$\text{Dosis ALA} = \frac{250}{1000} \times 200 = 50 \text{ mg}$$

2. Tikus 22 (Dosis 80 mg/kg)

Berat 230 gram

$$\text{Dosis ALA} = \frac{230}{1000} \times 80 = 18,4 \text{ mg}$$

3. Tikus 24 (Dosis 200 mg/kg)

Berat 150 gram

$$\text{Dosis ALA} = \frac{150}{1000} \times 200 = 30 \text{ mg}$$

#### **Penghitungan dosis ALA 1 Juni 2013**

1. Tikus 20 (Dosis 200 mg/kg)

Berat 250 gram

$$\text{Dosis ALA} = \frac{250}{1000} \times 200 = 50 \text{ mg}$$

2. Tikus 22 (Dosis 80 mg/kg)

Berat 240 gram

$$\text{Dosis ALA} = \frac{240}{1000} \times 80 = 19,2 \text{ mg}$$

#### **Penghitungan dosis ALA 2 Juni 2013**

1. Tikus 20 (Dosis 200 mg/kg)

Berat 250 gram

$$\text{Dosis ALA} = \frac{250}{1000} \times 200 = 50 \text{ mg}$$

2. Tikus 22 (Dosis 80 mg/kg)

Berat 240 gram

$$\text{Dosis ALA} = \frac{240}{1000} \times 80 = 19,2 \text{ mg}$$

#### **Penghitungan dosis ALA 3 Juni 2013**

1. Tikus 20 (Dosis 200 mg/kg)

Berat 260 gram

$$\text{Dosis ALA} = \frac{260}{1000} \times 200 = 52 \text{ mg}$$

2. Tikus 22 (Dosis 80 mg/kg)

Berat 260 gram

$$\text{Dosis ALA} = \frac{240}{1000} \times 80 = 20,8 \text{ mg}$$



**Penghitungan dosis ALA 4 Juni 2013**

1. Tikus 20 (Dosis 200 mg/kg)

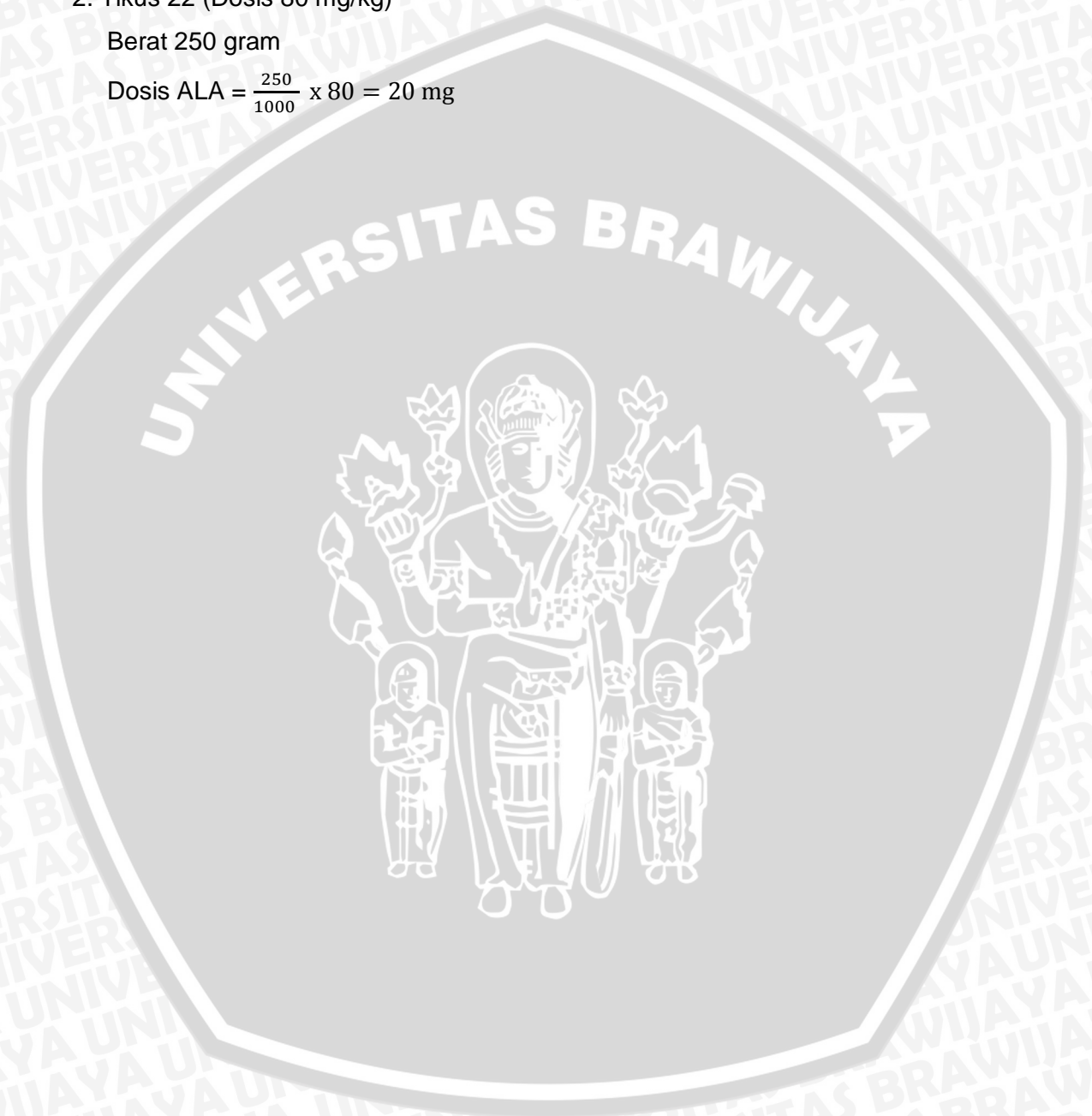
Berat 250 gram

$$\text{Dosis ALA} = \frac{250}{1000} \times 200 = 50 \text{ mg}$$

2. Tikus 22 (Dosis 80 mg/kg)

Berat 250 gram

$$\text{Dosis ALA} = \frac{250}{1000} \times 80 = 20 \text{ mg}$$



Lampiran 7

Data Survival Tikus

Minggu Kel.	Berat Badan (gram)			
	1	2	3	4
NTA	√	√	√	√
NTA	√	√	√	√
NTA	√	√	√	√
NTA	√	√	√	√
NTA	√	√	√	√
NTA	√	√	√	√
NTA	√	√	√	√
DTA	√	√	√	√
DTA	√	√	-	-
DTA	√	√	-	-
DTA	√	√	√	√
DTA	√	√	√	√
DA80	√	√	-	-
DA80	√	√	√	-
DA80	√	√	-	-
DA80	√	√	-	-
DA80	√	√	√	√
DA80	√	√	-	-
DA80	√	√	√	-
DA200	√	√	-	-

DA200	√	√	√	√
DA200	√	√	-	-
DA200	√	√	-	-
DA200	√	√	√	√
DA200	√	-	-	-
DA200	√	√	√	√
DA500	√	√	-	-
DA500	√	-	-	-
DA500	√	-	-	-
DA500	√	-	-	-
DA500	√	-	-	-

**Keterangan :**

NTA = tikus normal yang mendapatkan olive oil tanpa ALA

DTA = tikus diabetes yang mendapatkan olive oil tanpa ALA

DA80 = tikus diabetes yang mendapatkan olive oil + ALA dosis 80 mg/kg berat badan

DA200 = tikus diabetes yang mendapatkan olive oil + ALA dosis 200 mg/kg berat badan

DA500 = tikus diabetes yang mendapatkan olive oil + ALA dosis 500 mg/kg berat badan

Lampiran 8

Data Berat Badan Tikus

Minggu Kel.	Berat Badan (gram)			
	1	2	3	4
NTA	220	240	250	250
NTA	200	220	230	230
NTA	200	210	210	210
NTA	260	290	280	280
NTA	250	200	210	210
NTA	210	220	230	190
DTA	210	180	200	240
DTA	200			
DTA	130			
DTA	180	180	230	230
DTA	240	190	160	160
DA80	140			
DA80	150			
DA80	130			
DA80	160			
DA80	220	200	190	210
DA80	180	150		
DA80	230	230	240	240
DA200	180			

DA200	200	270	250	190
DA200	140			
DA200	130			
DA200	130			
DA200	240	250	250	250
DA200	180	170	180	
DA500	150			
DA500	200			
DA500	150			
DA500	190			
DA500	170			

**Keterangan :**

NTA = tikus normal yang mendapatkan olive oil tanpa ALA

DTA = tikus diabetes yang mendapatkan olive oil tanpa ALA

DA80 = tikus diabetes yang mendapatkan olive oil + ALA dosis 80 mg/kg berat badan

DA200 = tikus diabetes yang mendapatkan olive oil + ALA dosis 200 mg/kg berat badan

DA500 = tikus diabetes yang mendapatkan olive oil + ALA dosis 500 mg/kg berat badan

 = tikus mati sebelum selesai perlakuan selama 28 hari

## Lampiran 9

## Data Glukosa Darah Puasa Tikus

Minggu Kel.	Glukosa Darah Puasa (mg/dL)			
	1	2	3	4
NTA	120	118	111	105
NTA	111	98	110	115
NTA	98	152	119	123
NTA	111	97	111	119
NTA	120	202	122	133
NTA	101	47	154	232
DTA	555	556	409	108
DTA	600			
DTA	600			
DTA	600	409	108	127
DTA	593	462	388	465
DA80	556			
DA80	517			
DA80	546			
DA80	600			
DA80	113	106	124	105
DA80	247	465		
DA80	102	82	123	51
DA200	600			

DA200	379	142	119	415
DA200	600			
DA200	583			
DA200	427			
DA200	89	109	130	200
DA200	593	499	422	
DA500	600			
DA500				
DA500	561			
DA500				
DA500				

**Keterangan :**

NTA = tikus normal yang mendapatkan olive oil tanpa ALA

DTA = tikus diabetes yang mendapatkan olive oil tanpa ALA

DA80 = tikus diabetes yang mendapatkan olive oil + ALA dosis 80 mg/kg berat badan

DA200 = tikus diabetes yang mendapatkan olive oil + ALA dosis 200 mg/kg berat badan

DA500 = tikus diabetes yang mendapatkan olive oil + ALA dosis 500 mg/kg berat badan

 = tikus mati sebelum selesai perlakuan selama 28 hari

## Lampiran 10

## Data Rasio Bobot Ginjal Terhadap Berat Badan Tikus

Kelompok	Bobot Ginjal Kanan (gram)	Bobot Ginjal Kiri (gram)	Total Bobot Ginjal (gram)	Berat Badan (gram)	Rasio BG/BB
NTA	0,97	0,99	1,96	250	$7,84 \times 10^{-3}$
NTA	1,05	1,01	2,06	230	$8,96 \times 10^{-3}$
NTA	1,00	0,86	1,86	210	$8,86 \times 10^{-3}$
NTA	1,06	1,58	2,64	280	$9,43 \times 10^{-3}$
NTA	0,90	0,80	1,7	210	$8,09 \times 10^{-3}$
NTA	1,08	1,03	2,11	190	0,01
DTA	0,95	0,88	1,83	240	$7,62 \times 10^{-3}$
DTA					
DTA					
DTA	1,25	1,07	2,32	230	0,01
DTA	0,69	0,60	1,29	160	$8,06 \times 10^{-3}$
DA80					
DA80	0,75	0,74	1,49	150	$9,93 \times 10^{-3}$
DA80					
DA80					
DA80	1,1	1,1	2,2	210	0,01
DA80					
DA80	0,91	0,87	1,78	240	$7,42 \times 10^{-3}$
DA200					



DA200	0,92	0,91	1,83	190	$9,63 \times 10^{-3}$
DA200					
DA200					
DA200	1,1	1,24	2,34	130	0,02
DA200					
DA200	0,86	0,83	1,69	180	$9,39 \times 10^{-3}$
DA500	0,74	0,72	1,46	150	$9,73 \times 10^{-3}$
DA500					
DA500	0,94	0,83	1,77	150	0,01
DA500					
DA500					

**Keterangan :**

NTA = tikus normal yang mendapatkan olive oil tanpa ALA

DTA = tikus diabetes yang mendapatkan olive oil tanpa ALA

DA80 = tikus diabetes yang mendapatkan olive oil + ALA dosis 80 mg/kg berat badan

DA200 = tikus diabetes yang mendapatkan olive oil + ALA dosis 200 mg/kg berat badan

DA500 = tikus diabetes yang mendapatkan olive oil + ALA dosis 500 mg/kg berat badan

 = tikus mati sebelum selesai perlakuan selama 28 hari

## Lampiran 11

## Data Kadar Malondialdehid Ginjal Tikus

Kelompok	Absorbansi	Kadar MDA (ng/mL)
NTA	0,004	41,5
NTA	0,003	39,0
NTA	0,005	44,0
NTA	0,005	44,0
NTA	0,005	44,0
NTA	0,005	44,0
DTA	0,004	41,5
DTA	0,002	36,5
DTA	0,005	44,0
DTA	0,004	41,5
DTA	0,005	44,0
DA80		
DA80		
DA80	0,003	39,0
DA80	0,003	39,0
DA80	0,006	46,5
DA80	0,004	41,5
DA80	0,012	61,5
DA200	0,005	44,0

DA200	0,005	44,0
DA200	0,002	44,0
DA200		
DA200	0,004	41,5
DA200		
DA200	0,004	41,5
DA500		
DA500		
DA500		
DA500		
DA500		

**Keterangan :**


NTA = tikus normal yang mendapatkan olive oil tanpa ALA

DTA = tikus diabetes yang mendapatkan olive oil tanpa ALA

DA80 = tikus diabetes yang mendapatkan olive oil + ALA dosis 80 mg/kg berat badan

DA200 = tikus diabetes yang mendapatkan olive oil + ALA dosis 200 mg/kg berat badan

DA500 = tikus diabetes yang mendapatkan olive oil + ALA dosis 500 mg/kg berat badan

 = tikus mati sebelum selesai perlakuan selama 28 hari

## Lampiran 12

## Hasil Analisis Statistik Rasio Bobot Ginjal terhadap Berat Badan Tikus

## 1. Rata-rata Rasio Berat Ginjal terhadap Berat Badan

Descriptives								
Rasio								
	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
NTA	6	.0088633	.00080842	.00033004	.0080149	.0097117	.00784	.01000
DTA	3	.0085600	.00126633	.00073112	.0054143	.0117057	.00762	.01000
DA80	3	.0091167	.00146977	.00084857	.0054655	.0127678	.00742	.01000
DA200	3	.0130067	.00605759	.00349735	-.0020412	.0280546	.00939	.02000
DA500	2	.0098650	.00019092	.00013500	.0081497	.0115803	.00973	.01000
Total	17	.0097035	.00280843	.00068115	.0082596	.0111475	.00742	.02000

## 2. Uji Homogenitas Rasio Berat Ginjal terhadap Berat Badan

Test of Homogeneity of Variances			
Rasio			
Levene Statistic	df1	df2	Sig.
11.679	4	12	.000

## 3. Uji Normalitas Rasio Berat Ginjal terhadap Berat Badan

Tests of Normality						
Kelompok	Kolmogorov-Smirnov <sup>a</sup>			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
NTA	.165	6	.200*	.963	6	.841
DTA	.320	3	.	.883	3	.333
Rasio DA80	.377	3	.	.770	3	.045
DA200	.378	3	.	.767	3	.038
DA500	.260	2	.			

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

a. Lilliefors Significance Correction

#### 4. Uji Beda Rasio Berat Ginjal terhadap Berat Badan

##### Kruskal-Wallis Test

		Ranks	
	Kelompok	N	Mean Rank
Rasio	NTA	6	7.42
	DTA	3	6.83
	DA80	3	9.17
	DA200	3	11.67
	DA500	2	12.75
	Total	17	

##### Test Statistics<sup>a,b</sup>

	Rasio
Chi-Square	3.123
df	4
Asymp. Sig.	.537

a. Kruskal Wallis Test

b. Grouping Variable: Kelompok

#### 5. Uji Korelasi antara Perlakuan dengan Rasio Berat Ginjal /Berat Badan

		Correlations	
		Kelompok	Rasio
Kelompok	Pearson Correlation	1	.366
	Sig. (2-tailed)		.148
	N	17	17
Rasio	Pearson Correlation	.366	1
	Sig. (2-tailed)	.148	
	N	17	17

## Lampiran 13

## Hasil Analisis Statistik Kadar Malondialdehid Ginjal Tikus

## 1. Rata-rata Kadar Malondialdehid

## Descriptives

MDA									
	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum	Between-Component Variance
					Lower Bound	Upper Bound			
NTA	6	42.750	2.0917	.8539	40.555	44.945	39.0	44.0	
DTA	5	41.500	3.0619	1.3693	37.698	45.302	36.5	44.0	
DA80	5	45.500	9.4538	4.2279	33.762	57.238	39.0	61.5	
DA200	5	43.000	1.3693	.6124	41.300	44.700	41.5	44.0	
Total	21	43.167	4.8305	1.0541	40.968	45.365	36.5	61.5	
Model			4.9963	1.0903	40.866	45.467			
Fixed Effects									
Random Effects				1.0903 <sup>a</sup>	39.697 <sup>a</sup>	46.636 <sup>a</sup>			-2.0744

a. Warning: Between-component variance is negative. It was replaced by 0.0 in computing this random effects measure.

## 2. Uji Normalitas Kadar Malondialdehid

## Tests of Normality

kelompok	Kolmogorov-Smirnov <sup>a</sup>			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
NTA	.392	6	.004	.701	6	.006
DTA	.300	5	.161	.833	5	.146
DA80	.264	5	.200*	.786	5	.062
DA200	.367	5	.026	.684	5	.006

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

a. Lilliefors Significance Correction

### 3. Uji Homogenitas Kadar Malondialdehid

#### Test of Homogeneity of Variances

MDA			
Levene Statistic	df1	df2	Sig.
3.933	3	17	.027

### 4. Uji Beda antara Perlakuan dengan Kadar Malondialdehid

#### Kruskal-Wallis Test

Ranks			
	kelompok	N	Mean Rank
MDA	NTA	6	11.75
	DTA	5	9.20
	DA80	5	10.90
	DA200	5	12.00
	Total	21	

#### Test Statistics<sup>a,b</sup>

	MDA
Chi-Square	.713
df	3
Asymp. Sig.	.870

a. Kruskal Wallis Test

b. Grouping Variable: kelompok

### 5. Uji Korelasi antara Perlakuan dengan Kadar Malondialdehid

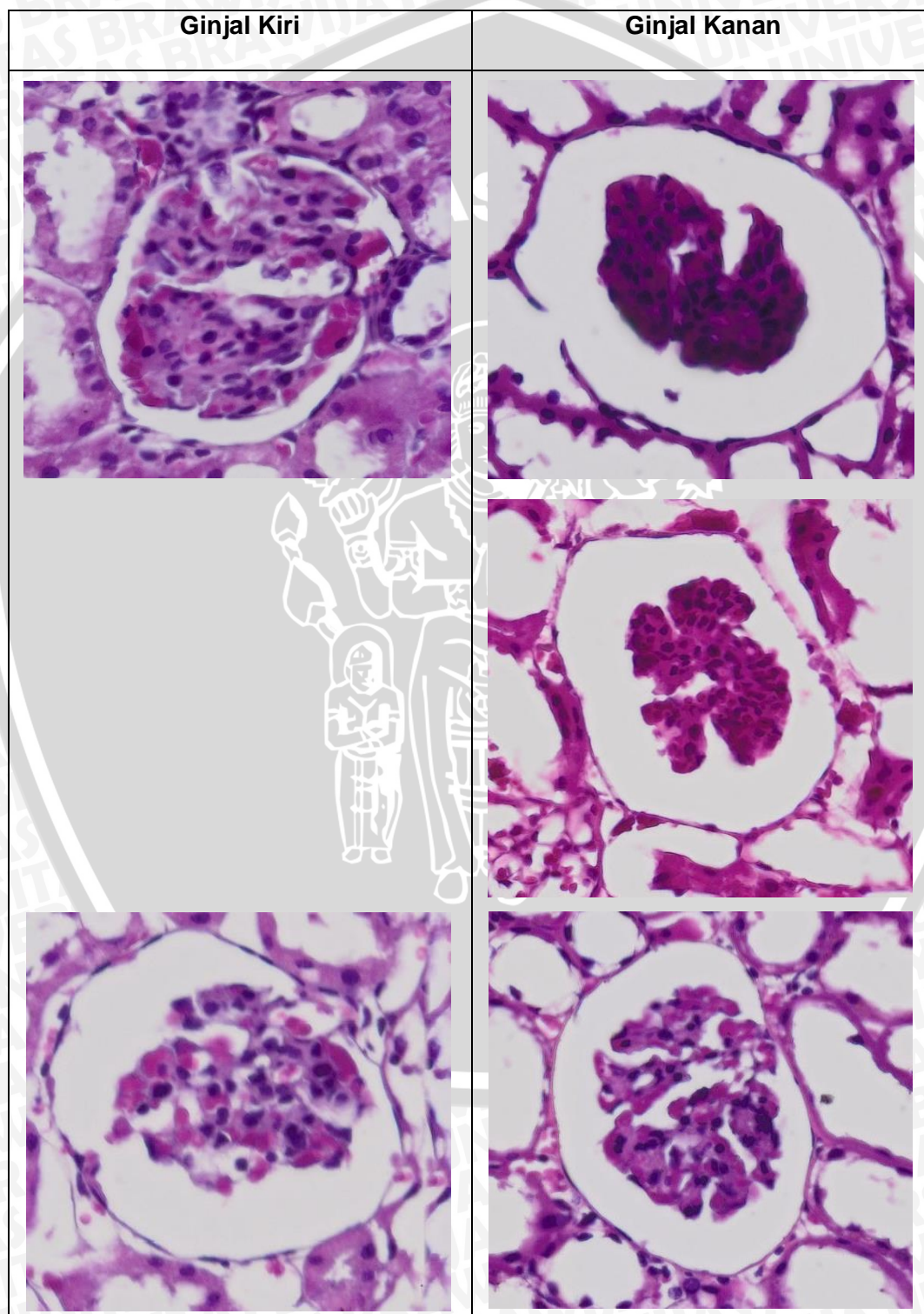
#### Correlations

		MDA	kelompok
MDA	Pearson Correlation	1	.111
	Sig. (2-tailed)		.632
	N	21	21
kelompok	Pearson Correlation	.111	1
	Sig. (2-tailed)	.632	
	N	21	21

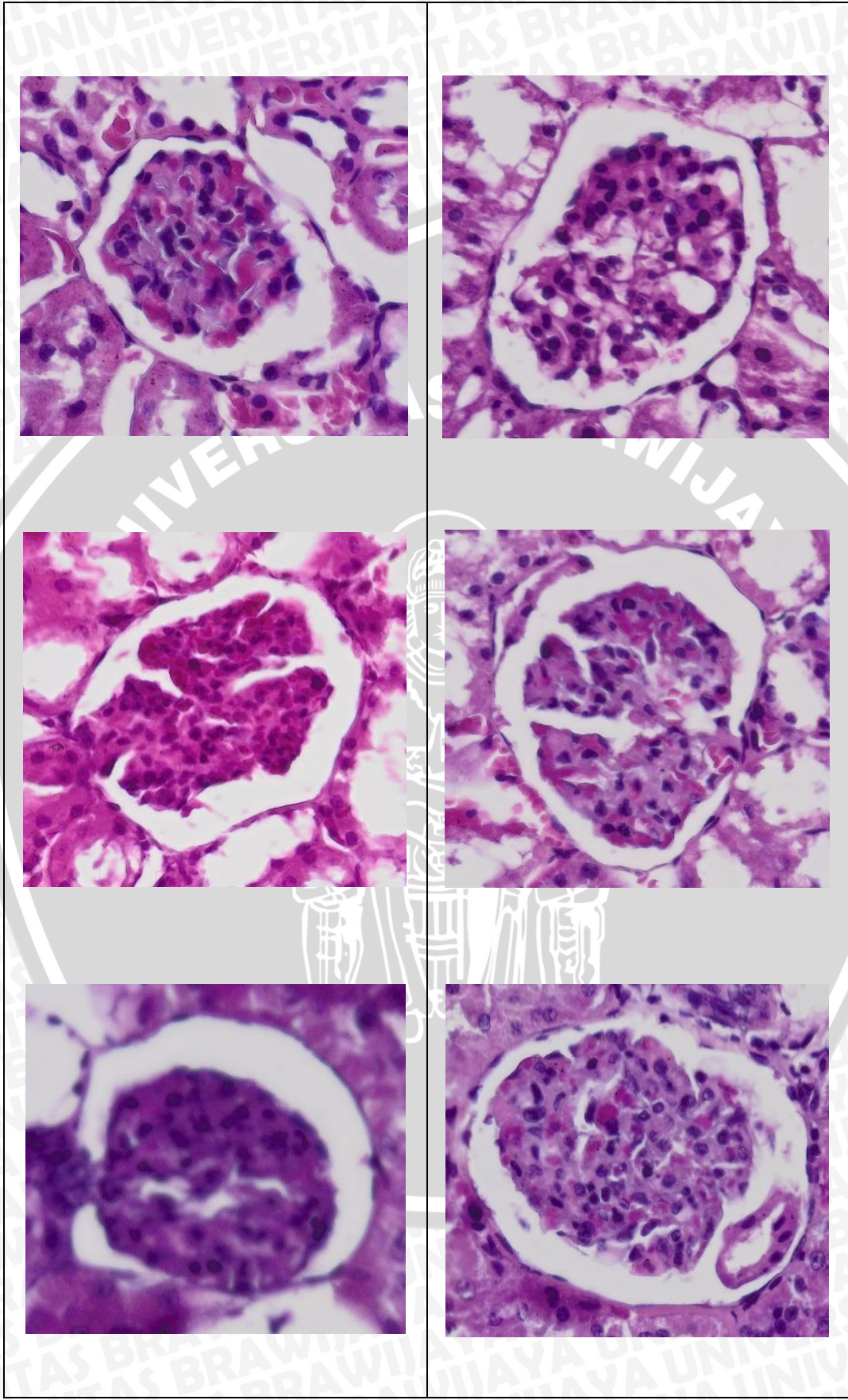
Lampiran 14

Histologi Ginjal Tikus

Kelompok NTA



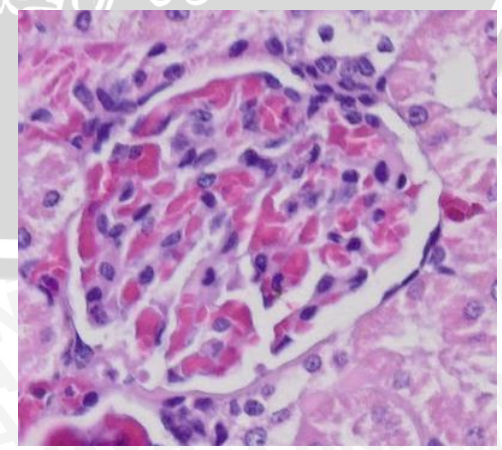
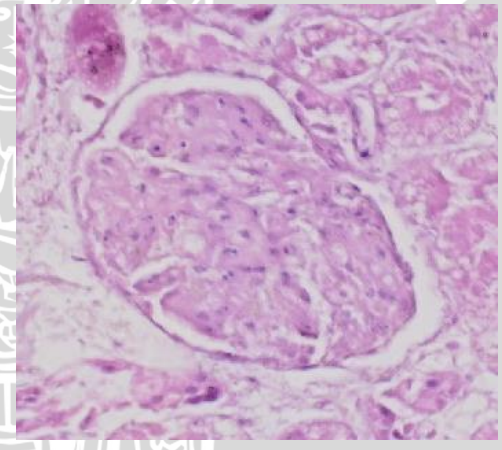
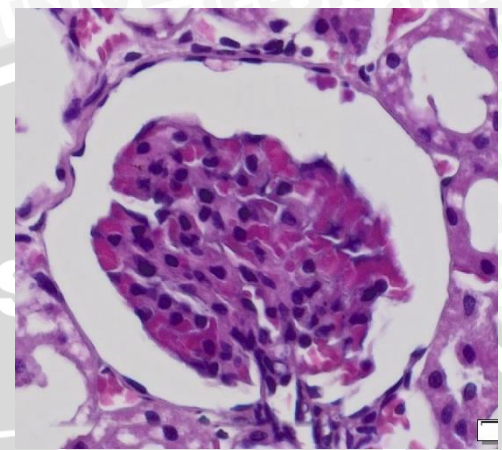
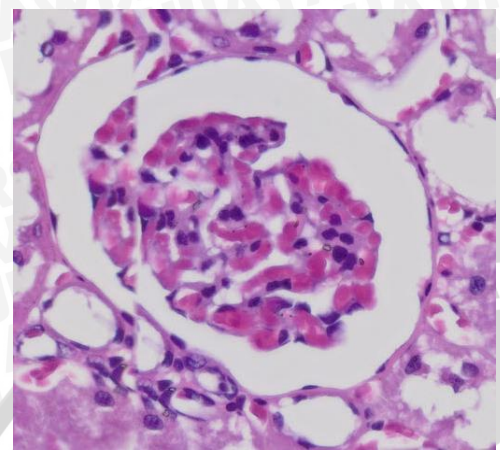


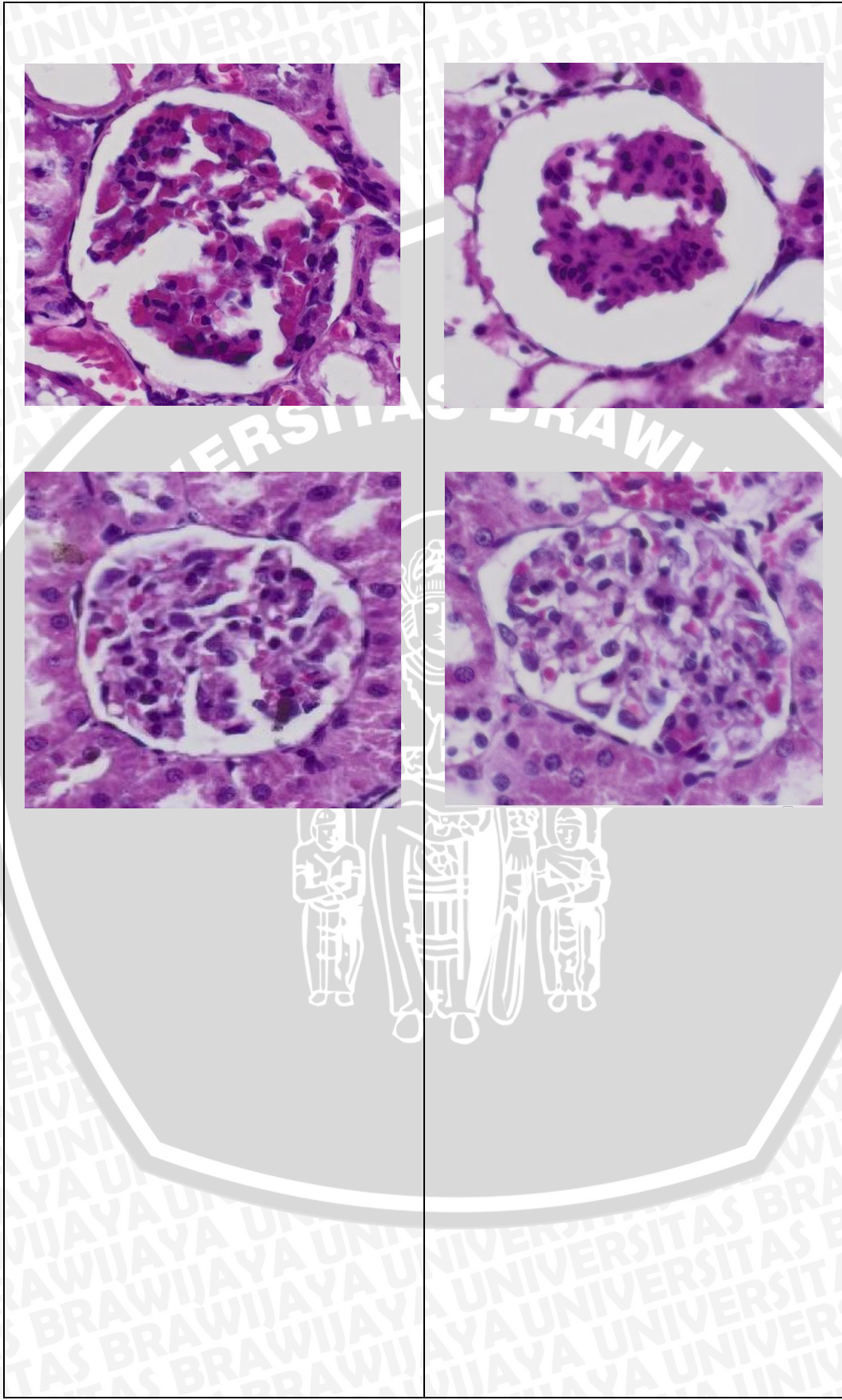


Kelompok DTA

Ginjal Kiri

Ginjal Kanan

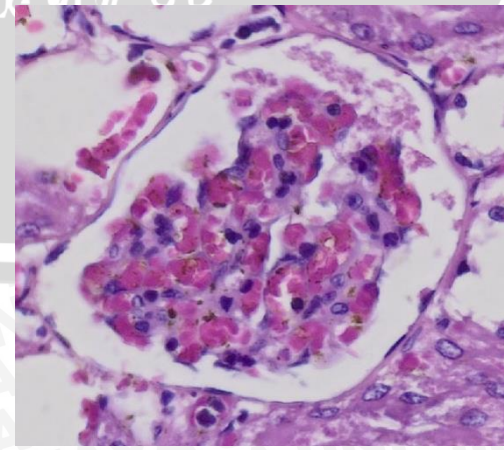
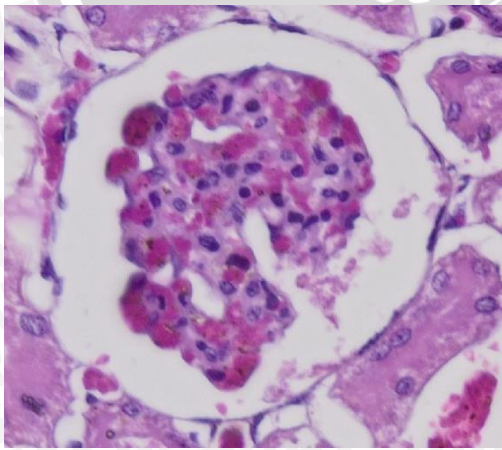
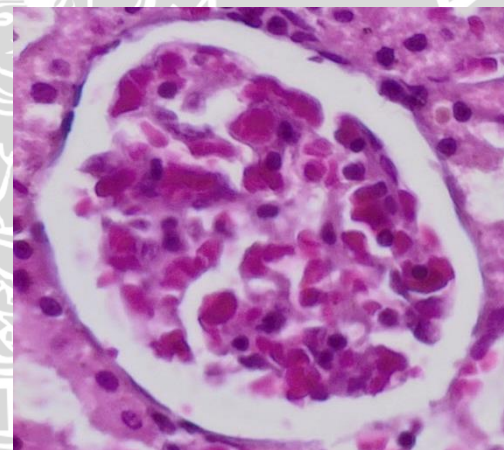
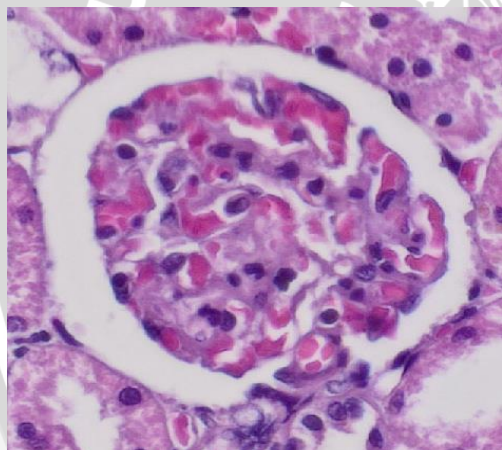
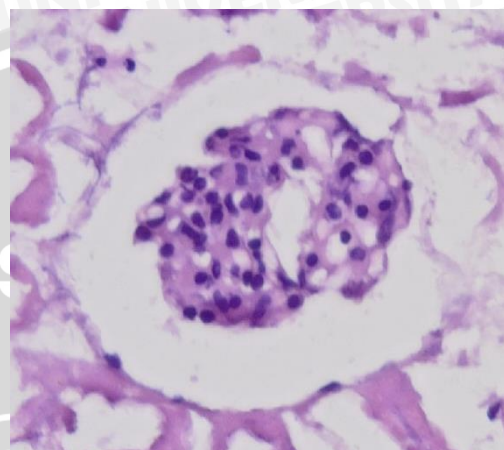
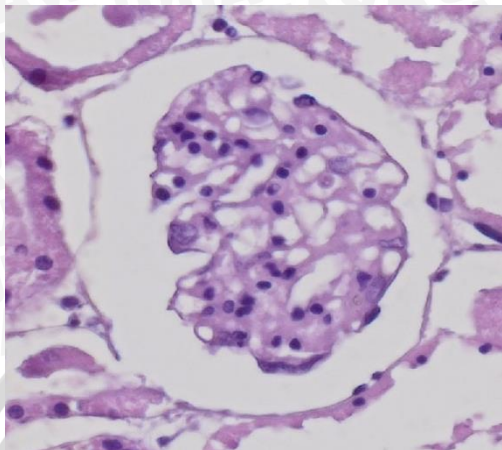


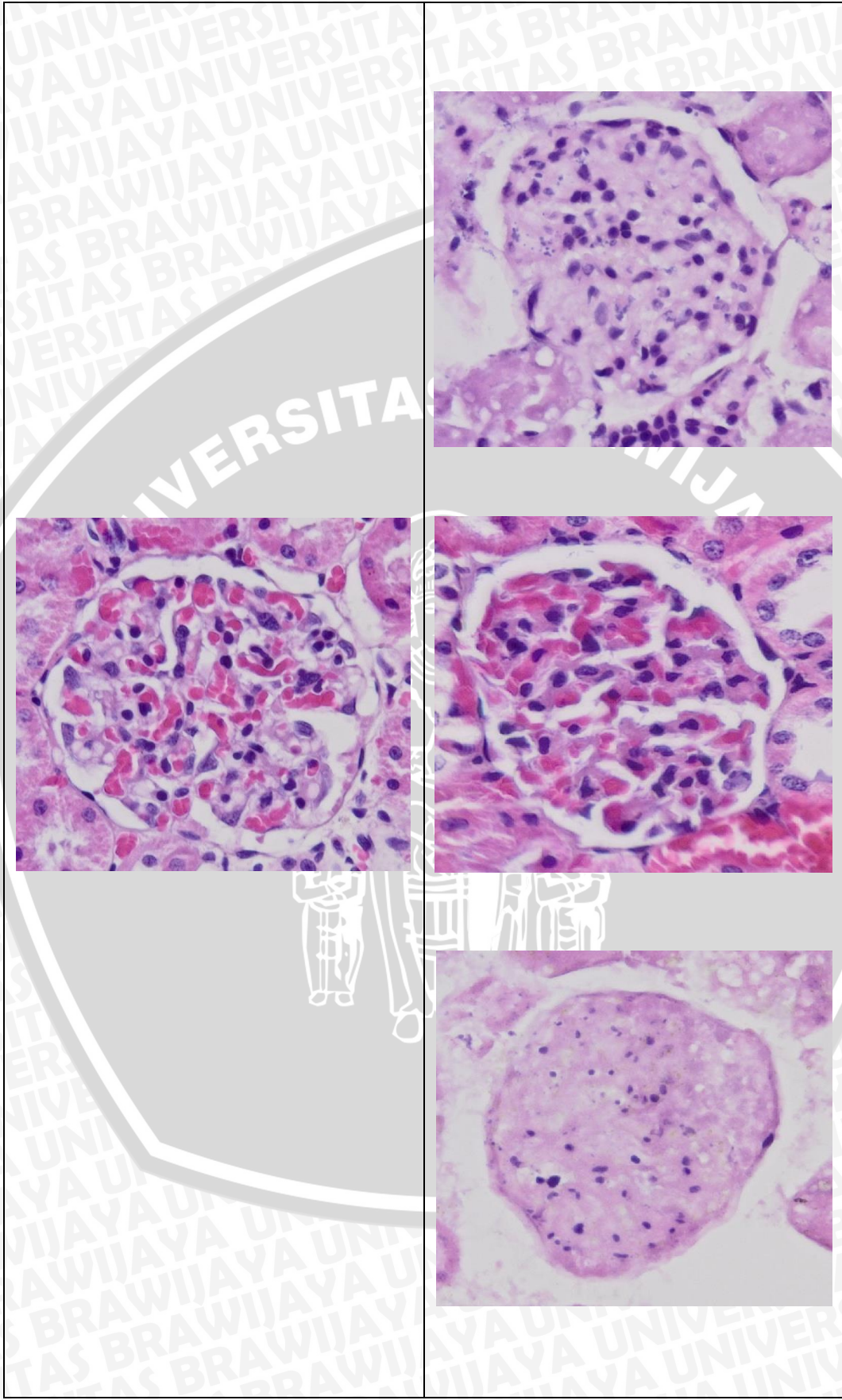


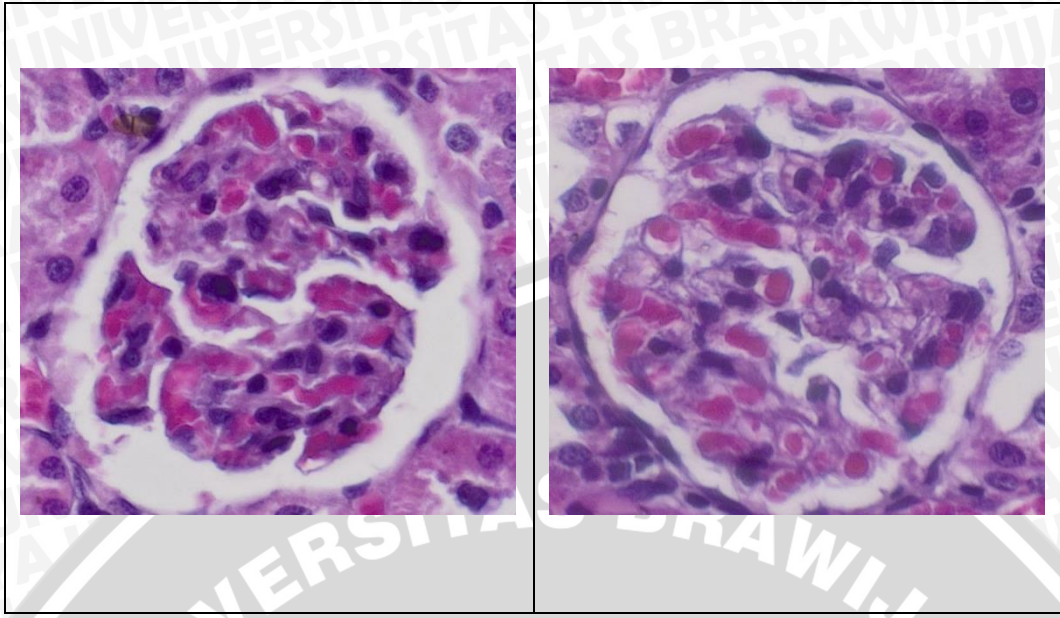
Kelompok DA80

Ginjal Kiri

Ginjal Kanan



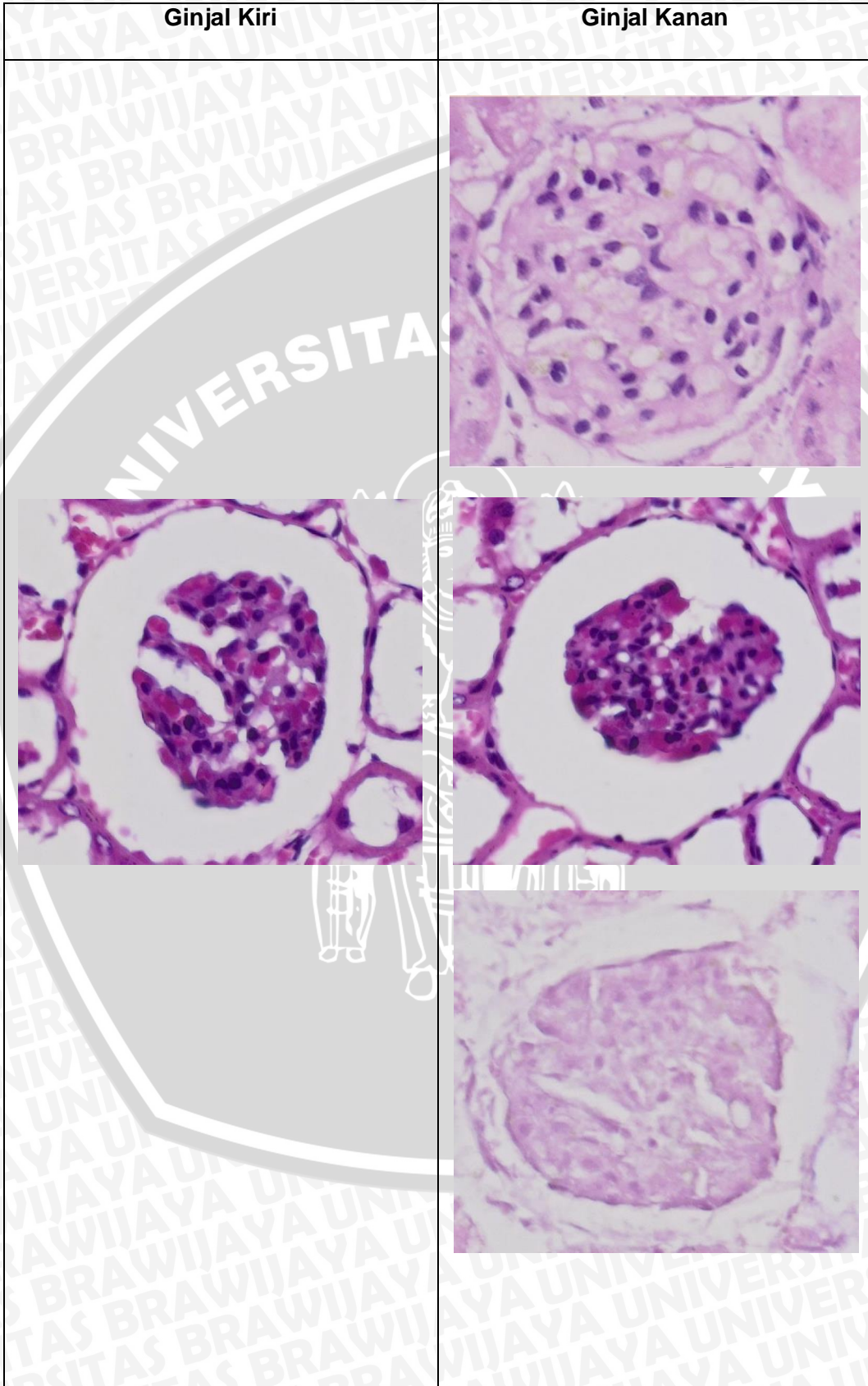


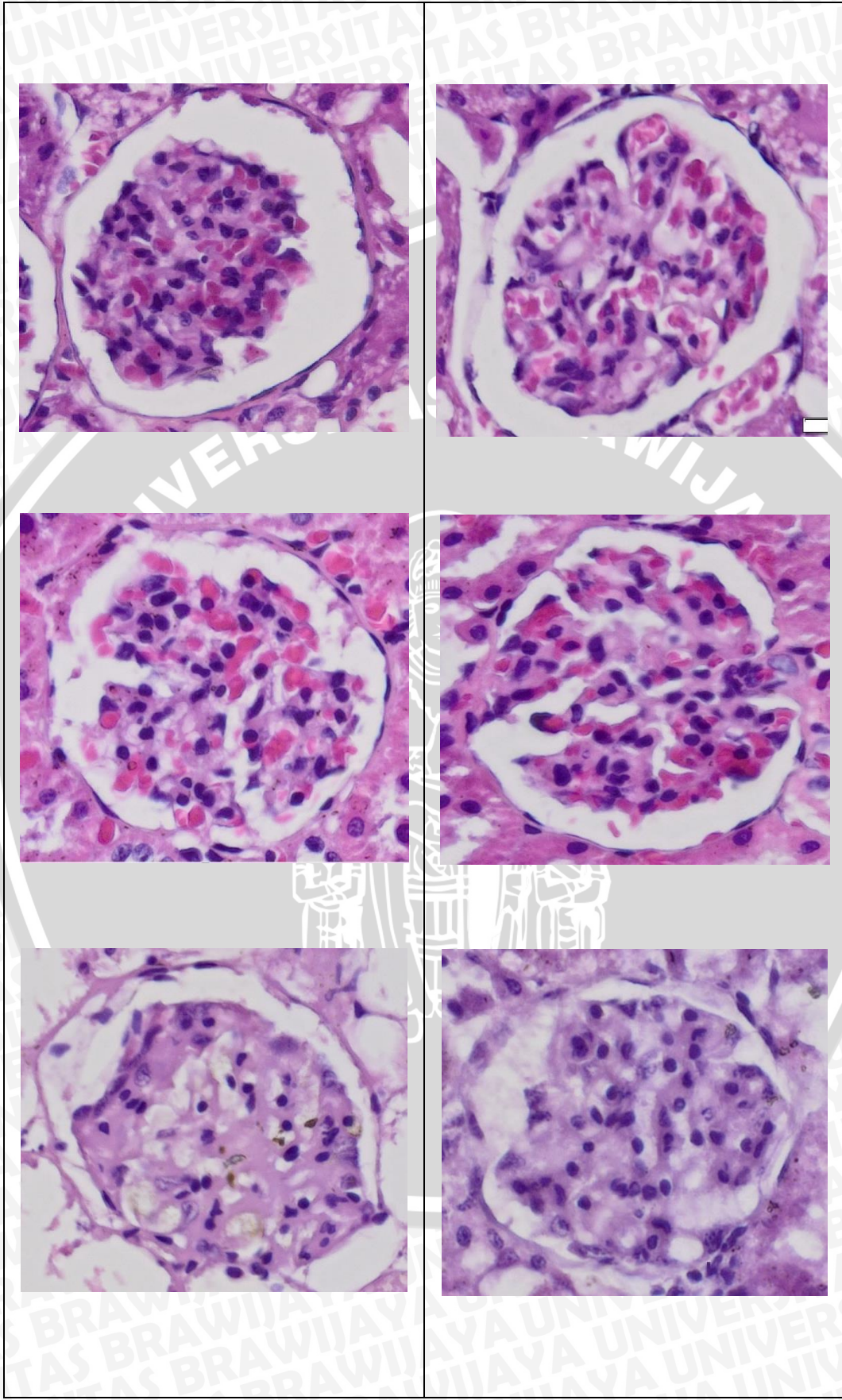


Kelompok DA200

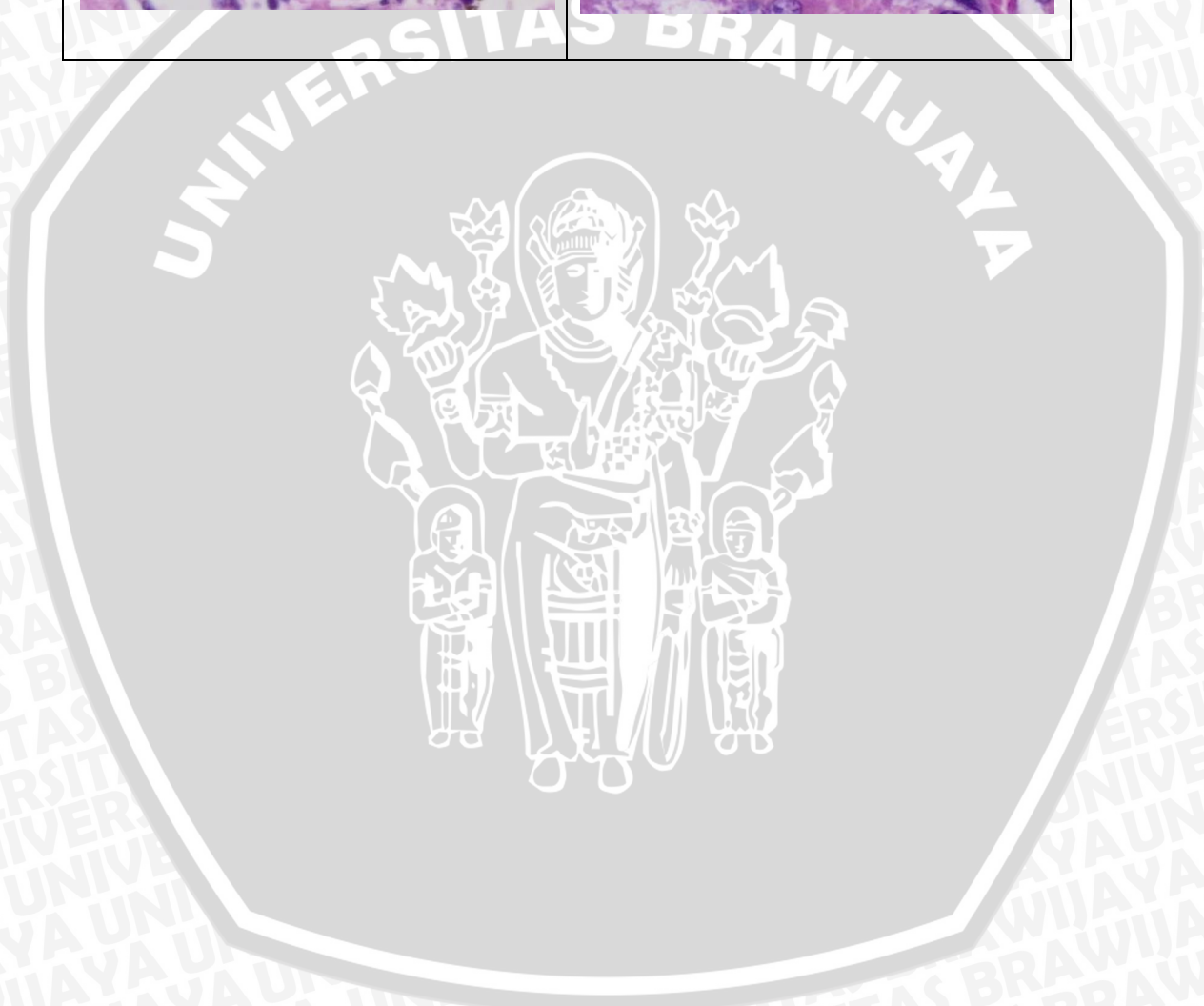
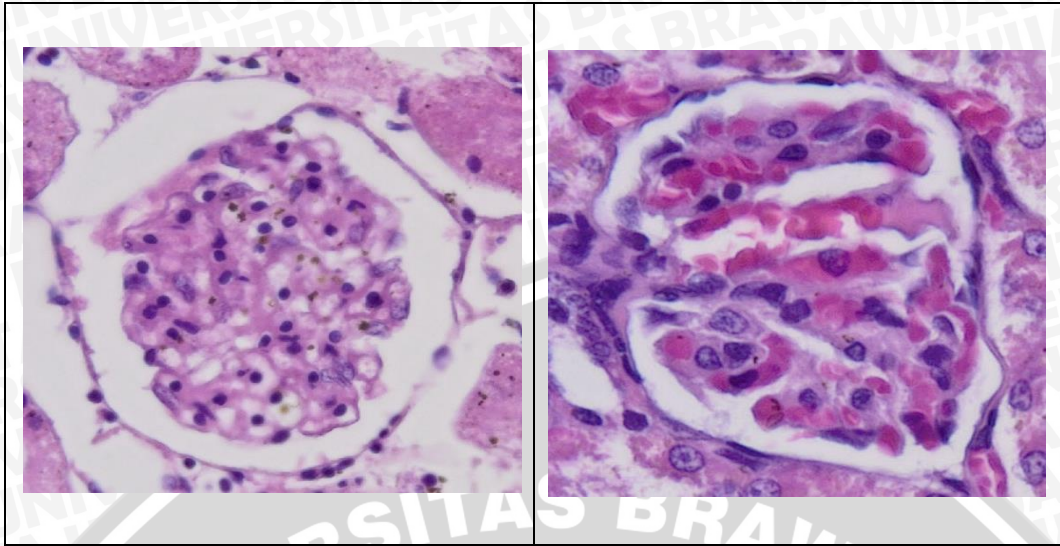
Ginjal Kiri

Ginjal Kanan

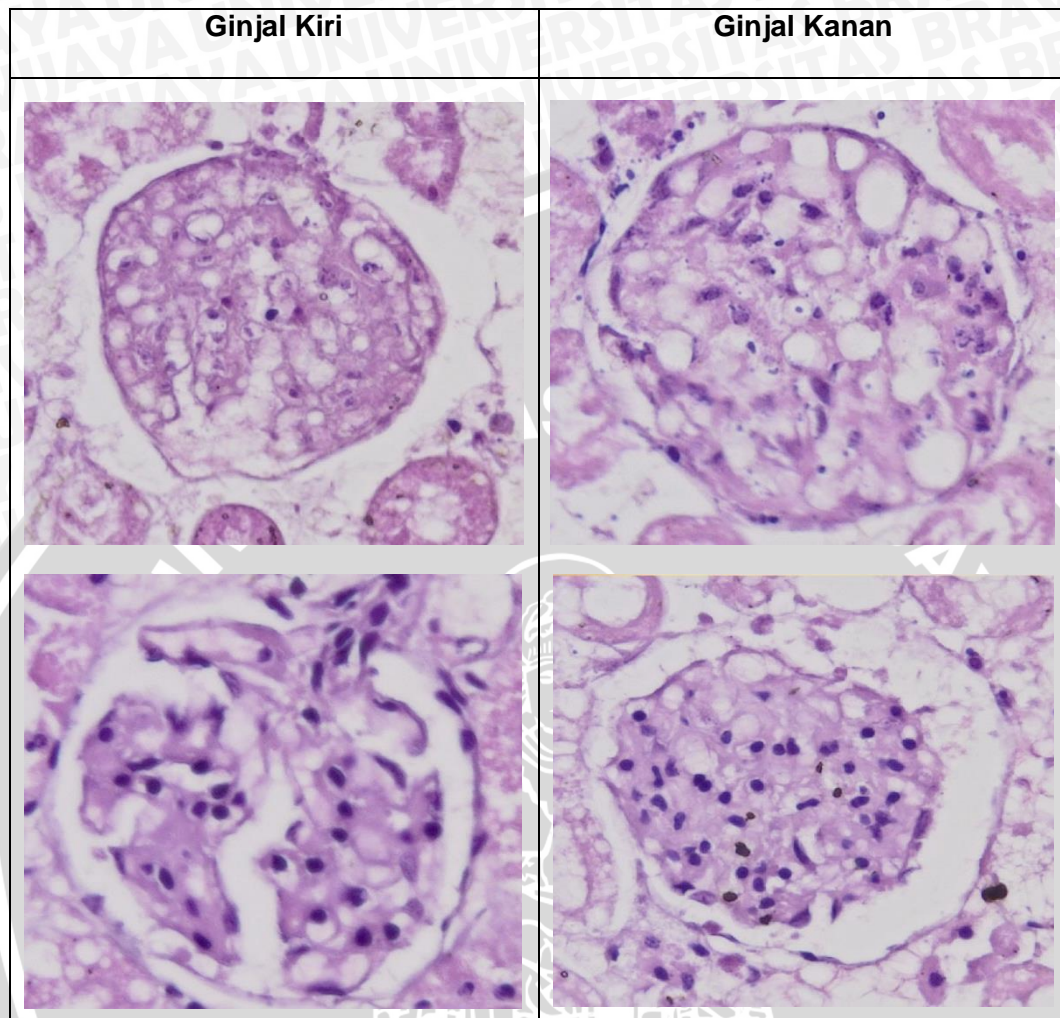








Kelompok DA500



**Keterangan :**

NTA = tikus normal yang mendapatkan olive oil tanpa ALA

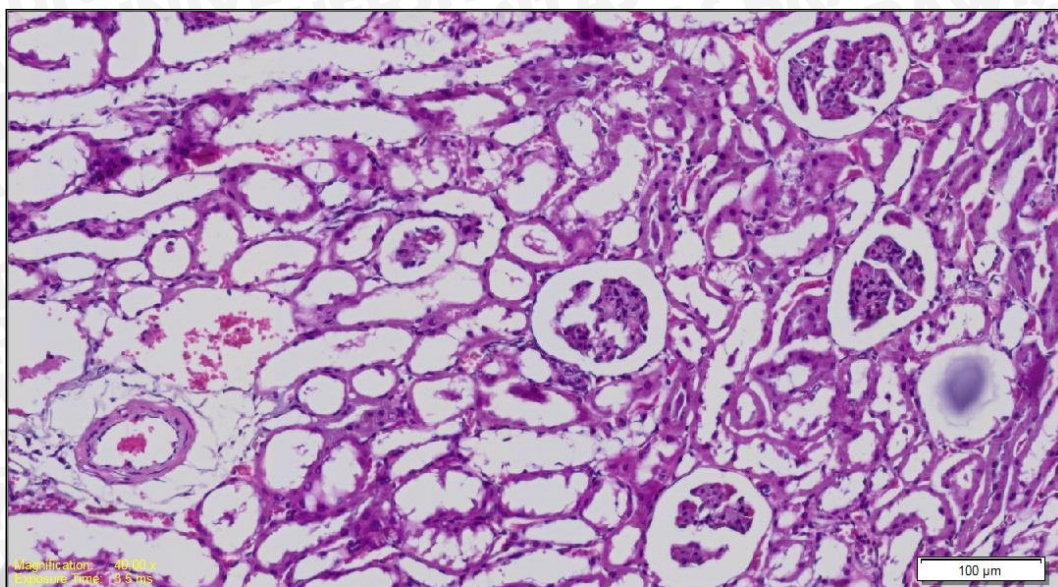
DTA = tikus diabetes yang mendapatkan olive oil tanpa ALA

DA80 = tikus diabetes yang mendapatkan olive oil + ALA dosis 80 mg/kg berat badan

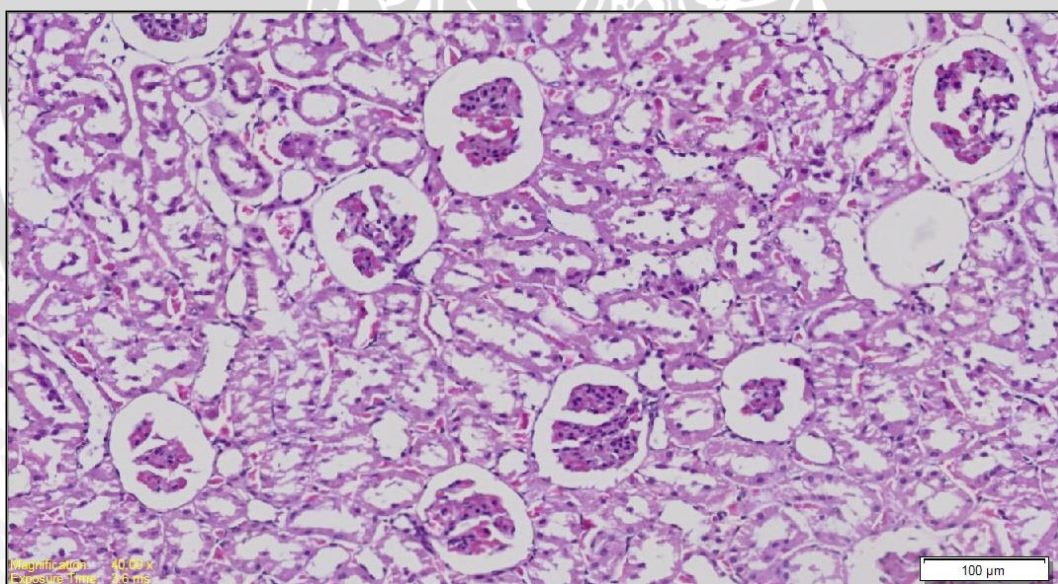
DA200 = tikus diabetes yang mendapatkan olive oil + ALA dosis 200 mg/kg berat badan

DA500 = tikus diabetes yang mendapatkan olive oil + ALA dosis 500 mg/kg berat badan

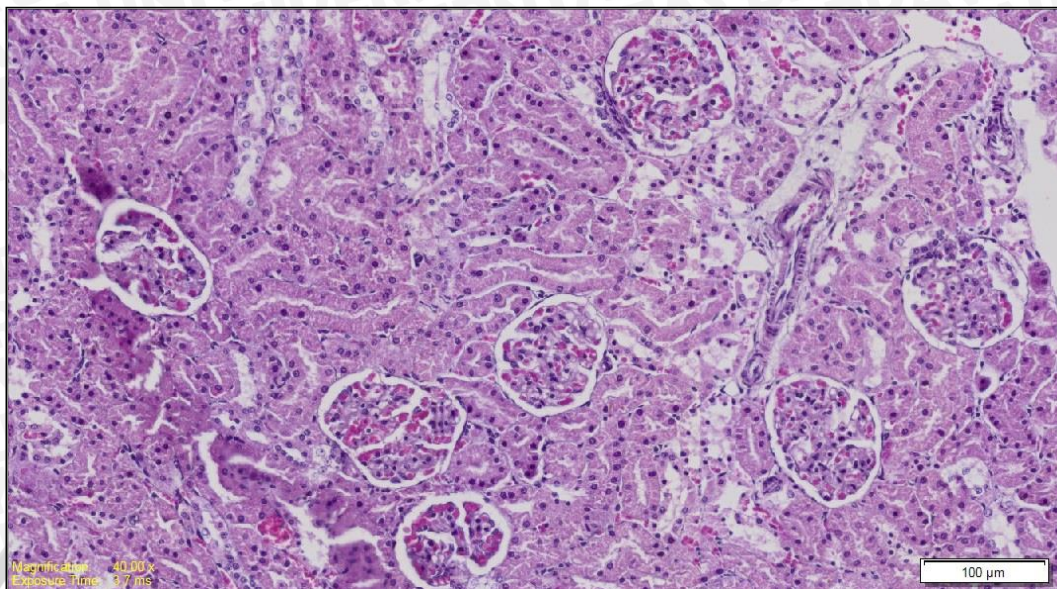
### Ginjal Kelompok NTA



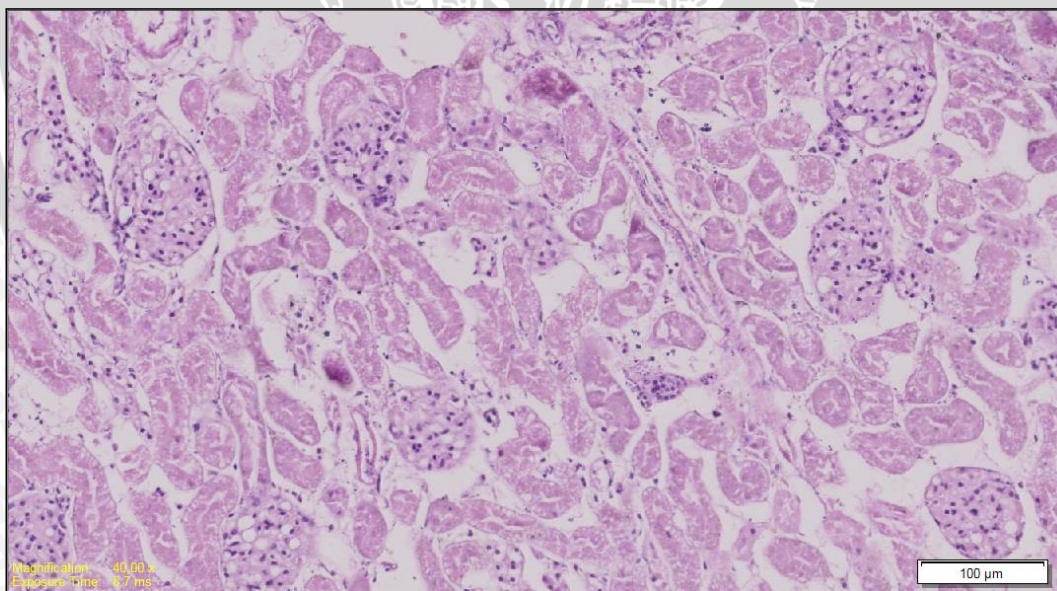
### Ginjal Kelompok DTA



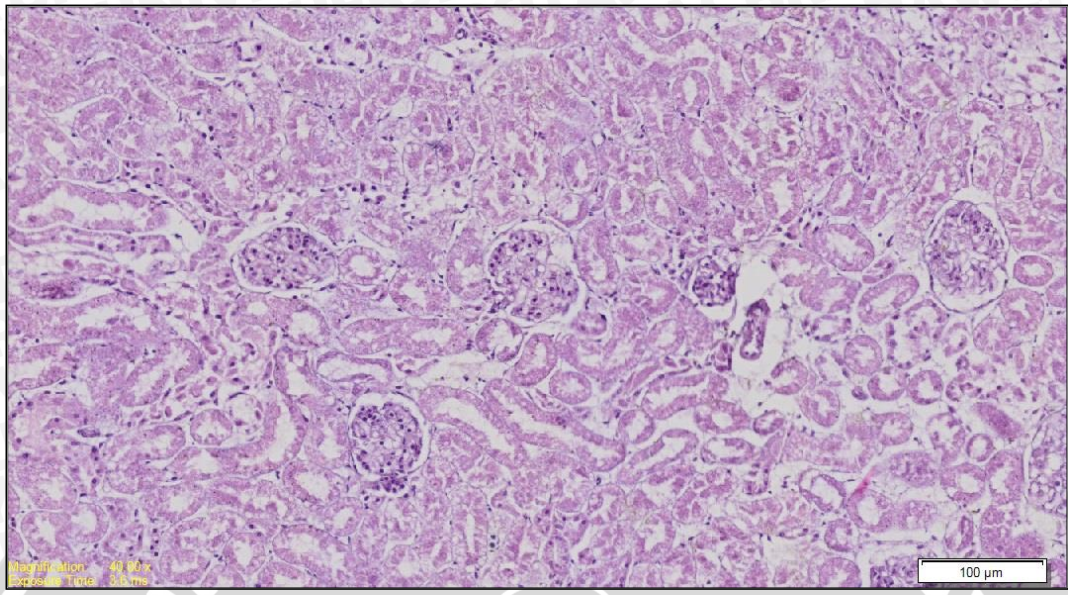
### Ginjal Kelompok DA80



### Ginjal Kelompok DA200



### Ginjal Kelompok DA500



Lampiran 15

DOKUMENTASI PENELITIAN TUGAS AKHIR



Rak Kandang Tikus dengan Alat Sirkulasi Udara



Kandang Tikus



Pencucian Kandang Tikus



Pemberian Pakan Tikus



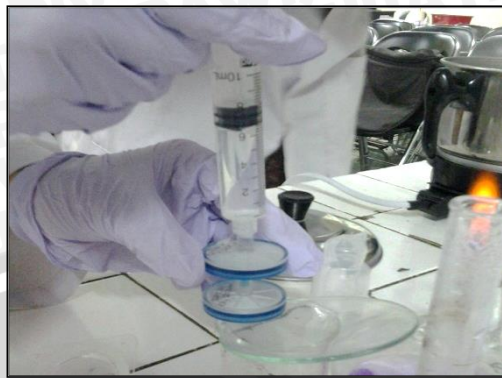
Alat Glucose Check



Pemeriksaan Glukosa Darah Puasa Tikus



Sterilisasi Alat dengan Uap Panas



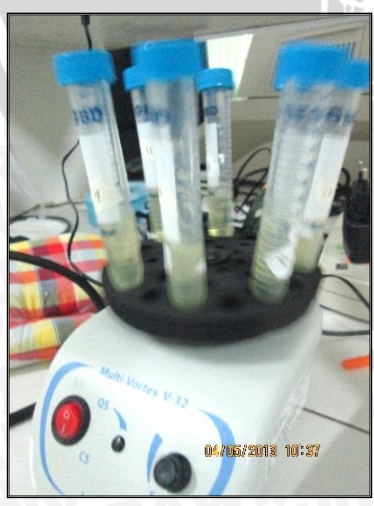
Penyaringan STZ dengan Milipore



Pengambilan STZ



Induksi Streptozotocin



Preparasi ALA



Preparasi ALA



Asam Alfa Lipoat Siap Divortex



Asam Alfa Lipoat yang Telah Selesai Dibuat



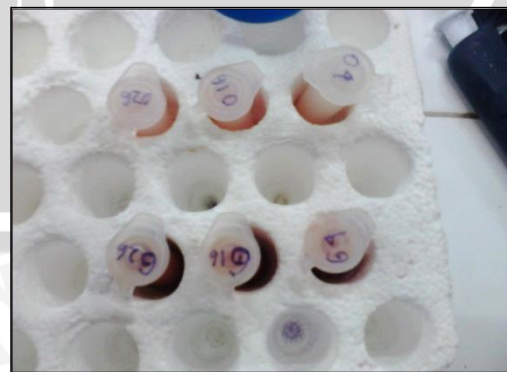
Eutanasia Hewan Coba



Pembedahan Hewan Coba



Pengukuran MDA Ginjal

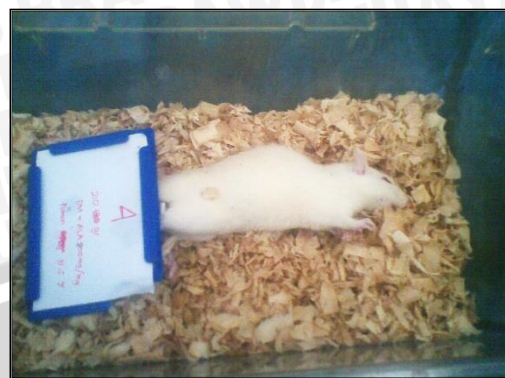


Pengukuran MDA Ginjal





Sampel Ginjal Tikus



Tikus yang Mati Sebelum Selesai Terapi ALA



Tiobarbituric Acid 100%



Tim Penelitian DM + ALA