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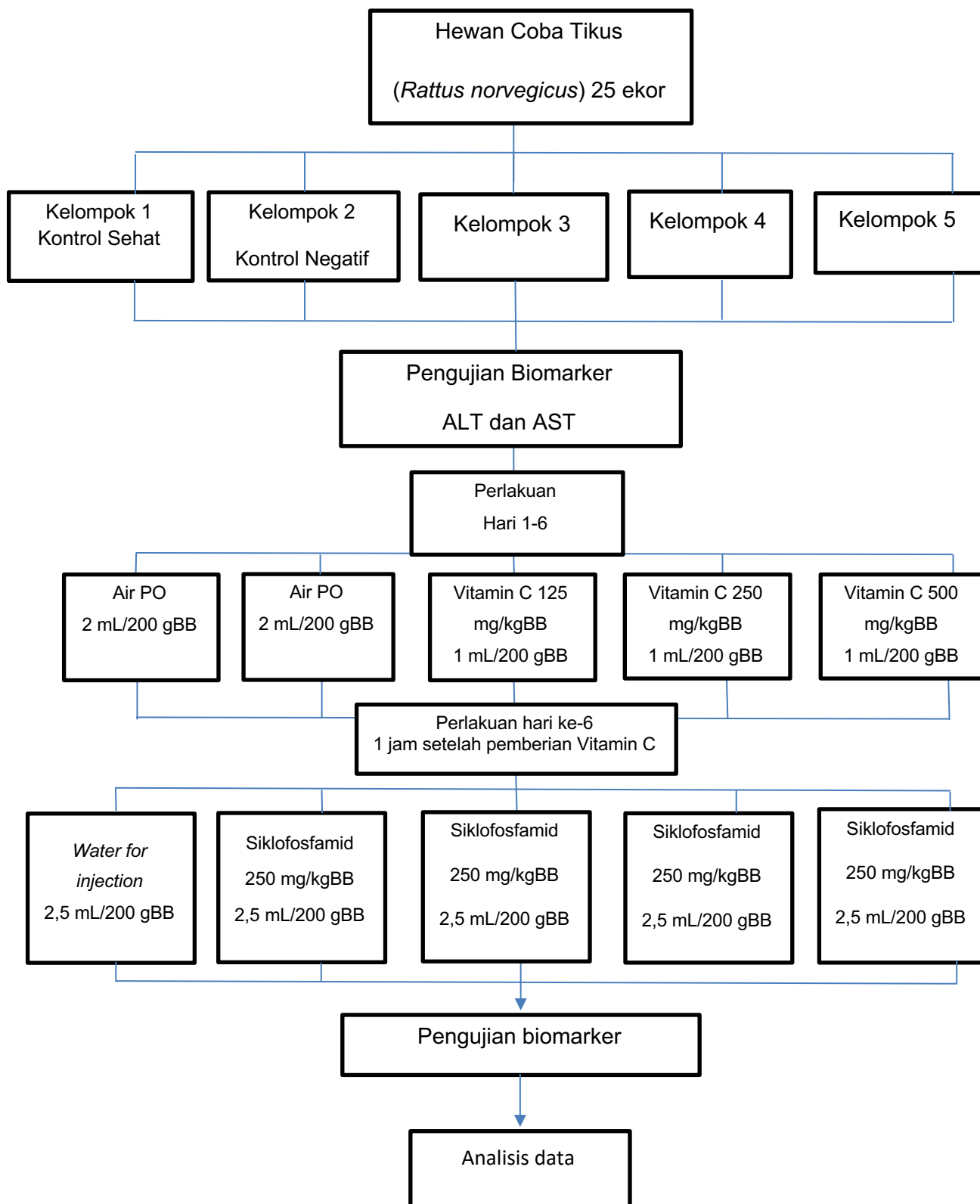
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LAMPIRAN

Lampiran 1. Skema Kerja



Lampiran 2. Perhitungan dosis

Lampiran 2.1 Perhitungan Dosis Vitamin C

- Dosis 125 mg/kgBB = 125 mg/kgBB
= 125 mg/1000 gBB

Untuk tikus dengan bobot badan 200 gBB :

$$= 25 \text{ mg}/200 \text{ gBB tikus}$$

- Serbuk vitamin C yang akan ditimbang :

$$\begin{aligned} 25 \text{ mg}/200 \text{ gBB} &= \frac{25 \text{ mg}}{1 \text{ mL}} \times 10 \text{ mL} \\ &= 250 \text{ mg}/10 \text{ mL} \\ &= 25 \text{ mg/mL} \end{aligned}$$

Jadi larutan stok dibuat sebanyak 10 mL, dengan cara ditimbang 250 mg serbuk vitamin C kemudian dilarutkan dan dicukuokan hingga 10 mL dengan menggunakan *water one*.

Lampiran 2.2 Perhitungan Dosis Siklofosfamid

- Sediaan yang beredar = vial rekonstitusi 1000 mg/50 mL
= 50 mg/2,5 mL
- Dosis 250 mg/kgBB = 250 mg/kgBB
= 250 mg/1000 gBB

Untuk tikus dengan bobot badan rata-rata 200 gBB :

$$= 50 \text{ mg}/200 \text{ gBB tikus}$$

- Volume pemberian pada tikus :

$$50 \text{ mg}/200 \text{ gBB} = 50 \text{ mg}/2,5 \text{ mL}$$

Jadi larutan stok dibuat sebanyak 50 mL, dengan melarutkan 1.000 mg serbuk siklofosfamid dan dicukupkan hingga mencapai 50 mL dengan menggunakan *water for injection*.

Lampiran 3. Tabel hasil uji

Lampiran 3.1 Tabel Hasil Analisis kadar serum Alanin

Aminotransferase (ALT)

| HASIL ANALISIS ALT | | | | | | | |
|--------------------|--------------------------------|----------------|-----------------|------------------|----------|---------|--------------------------|
| No. | Kelompok | Kode hewan uji | Bobot Badan (g) | Nilai ALT (IU/L) | | | |
| | | | | Awal | 1x24 jam | Selisih | Persentase perubahan (%) |
| 1 | Kontrol sehat | Kepala | 259 | 31,07 | 29,32 | -1,75 | -5.96 |
| 2 | (Air + water for injection) | Punggung | 251 | 16,21 | 19,04 | 2,93 | 14.86 |
| 3 | | Ekor | 248 | 15,27 | 27,08 | 11,81 | 43.61 |
| 4 | | Kepala | 252 | 22,77 | 26,02 | 3,25 | 12.49 |
| | | Rata-rata | - | 21,33 | 25,365 | 4.03 | 16.24 |
| | SD | - | 7,300210043 | 4,435384237 | 20.4807 | - | |
| | SEM | - | 3,650105021 | 2,217692119 | - | - | |
| 5 | Kontrol Negatif | Kepala | 240 | 15,01 | 61,91 | 46,90 | 75.75 |
| 6 | (Air + Siklofosamid 250 mg/kg) | Punggung | 243 | 33,83 | 47,33 | 13,50 | 28.52 |
| 7 | | Ekor | 280 | 30,96 | 54,02 | 23,06 | 42.68 |
| 8 | | Kepala | 271 | 17,43 | 35,47 | 18,04 | 50.85 |
| | | Rata-rata | - | 24,3075 | 49,6825 | 25.37 | 49.45 |
| | SD | - | 9,463566541 | 11,19307934 | 19,81251 | - | |
| | SEM | - | 4,73178327 | 5,596539668 | - | - | |
| 9 | Vit C 125 mg/kg | Kepala | 246 | 31,21 | 35,94 | 4,73 | 13.16 |
| 10 | + Siklofosamid 250 mg/kg | Punggung | 284 | 37,45 | 27,69 | -9,76 | -35.24 |
| 11 | | Ekor | 241 | 23,96 | 32,04 | 8,08 | 25.21 |
| 12 | | Kepala | 250 | 18,27 | 34,21 | 15,94 | 46.59 |
| | | Rata-rata | - | 27,7225 | 32,47 | 4.74 | 27.47 |
| | SD | - | 8,372436424 | 3,563790117 | 34,66232 | - | |
| | SEM | - | 4,186218212 | 1,781895059 | - | - | |
| 13 | Vit C 250 mg/kg | Kepala | 281 | 20,08 | 31,77 | 11,69 | 55.66 |
| 14 | + Siklofosamid 250 mg/kg | Punggung | 222 | 31,17 | 31,57 | 0,40 | 1.26 |
| 15 | | Ekor | 240 | 34,08 | 36,83 | 2,75 | 7.46 |
| 16 | | Kepala | 246 | 17,05 | 31,29 | 14,14 | 45.50 |
| | | Rata-rata | - | 25,595 | 32,865 | 7.27 | 27.47 |
| | SD | - | 8,296748359 | 2,650654007 | 27,12447 | - | |
| | SEM | - | 4,14837418 | 1,325327004 | - | - | |
| 17 | Vit C 500 mg/kg | Kepala | 245 | 26,42 | 37,48 | 8,06 | 29.50 |
| 18 | + Siklofosamid 250 mg/kg | Punggung | 280 | 29,80 | 31,05 | 1,25 | 4.02 |
| 19 | | Ekor | 268 | 18,54 | 19,04 | 0,50 | 2.62 |
| 20 | | Kepala | 254 | 13,88 | 28,70 | 14,82 | 51.63 |
| | | Rata-rata | - | 22,16 | 29,0675 | 6.90 | 21.94 |

| | | | | | | |
|-----------|---|-------------|-------------|-------------|---------|---|
| SD | - | - | 7,261313013 | 7,646050724 | 23,3323 | - |
| SEM | - | - | 3,630656506 | 3,823025362 | - | - |
| Rata-rata | - | 255,05 | - | - | - | - |
| SD | - | 16,93478202 | - | - | - | - |
| SEM | - | 3,786732378 | - | - | - | - |

**Lampiran 3.2 Tabel Hasil Analisis kadar serum Aspartat
Aminotransferase (AST)**

| HASIL ANALISIS AST | | | | | | | |
|--------------------|--------------------------------|----------------|-----------------|------------------|----------|---------|--------------------------|
| No. | Kelompok | Kode hewan uji | Bobot Badan (g) | Nilai AST (IU/L) | | | |
| | | | | Awal | 1x24 jam | Selisih | Persentase perubahan (%) |
| 1 | Kontrol sehat | Kepala | 259 | 68,30 | 45,84 | -22,46 | -48.99 |
| 2 | (Air + water for injection) | Punggung | 251 | 58,94 | 62,87 | 3,93 | 6.25 |
| 3 | | Ekor | 248 | 34,56 | 50,23 | 15,67 | 31.19 |
| 4 | | Kepala | 252 | 35,57 | 44,40 | 8,83 | 19.88 |
| | | Rata-rata | - | 49,3425 | 50,835 | 1.49 | 2.08 |
| | SD | - | 16,92830839 | 8,397747714 | 35,54847 | - | - |
| | SEM | - | 8,464154196 | 4,198873857 | - | - | - |
| 5 | Kontrol Negatif | Kepala | 240 | 64,65 | 131,7 | 67,05 | 50.91 |
| 6 | (Air + Siklofosamid 250 mg/kg) | Punggung | 243 | 84,25 | 141,5 | 57,25 | 40.45 |
| 7 | | Ekor | 280 | 85,13 | 136,1 | 50,97 | 37.45 |
| 8 | | Kepala | 271 | 66,60 | 192,7 | 126,10 | 65.43 |
| | | Rata-rata | - | 75,1575 | 150,5 | 75.34 | 48.56 |
| | SD | - | 11,04177937 | 28,41736558 | 12,64193 | - | - |
| | SEM | - | 5,520889685 | 14,20868279 | - | - | - |
| 9 | Vit C 125 mg/kg | Kepala | 246 | 58,00 | 86,17 | 28,17 | 32.69 |
| 10 | + Siklofosamid 250 mg/kg | Punggung | 284 | 61,52 | 111,0 | 49,48 | 44.57 |
| 11 | | Ekor | 241 | 41,88 | 150,5 | 108,62 | 72.17 |
| 12 | | Kepala | 250 | 50,33 | 141,8 | 91,33 | 64.50 |
| | | Rata-rata | - | 52,9325 | 122,3675 | 69.43 | 53.48 |
| | SD | - | 8,724591203 | 29,48750399 | 18,09645 | - | - |
| | SEM | - | 4,362295602 | 14,743752 | - | - | - |
| 13 | Vit C 250 mg/kg | Kepala | 281 | 68,73 | 145,1 | 76,37 | 52.63 |
| 14 | + Siklofosamid 250 mg/kg | Punggung | 222 | 55,56 | 125,6 | 70,04 | 55.76 |
| 15 | | Ekor | 240 | 63,26 | 106,3 | 43,04 | 40.48 |
| 16 | | Kepala | 246 | 86,53 | 103,1 | 16,57 | 16.07 |
| | | Rata-rata | - | 68,52 | 120,025 | 51.50 | 41.23 |
| | SD | - | 13,16603458 | 19,44794334 | 18,02547 | - | - |
| | SEM | - | 6,583017292 | 9,723971668 | - | - | - |
| 17 | Vit C 500 mg/kg | Kepala | 245 | 64,03 | 70,59 | 6,56 | 9.29 |
| 18 | + Siklofosamid 250 mg/kg | Punggung | 280 | 32,54 | 72,7 | 40,16 | 55.24 |
| 19 | | Ekor | 268 | 33,7 | 97,08 | 63,38 | 65.28 |
| 20 | | Kepala | 254 | 49,97 | 121,3 | 71,33 | 58.80 |
| | | Rata-rata | - | 45,06 | 90,4175 | 45.35 | 47.15 |
| | SD | - | 14,94176473 | 23,84084223 | 25,58230 | - | - |
| | SEM | - | 7,470882366 | 11,92042112 | - | - | - |

| | | | | | | |
|-----------|---|-------------|---|---|---|---|
| Rata-rata | - | 255,05 | - | - | - | - |
| SD | - | 16,93478202 | - | - | - | - |
| SEM | | 3,786732378 | - | - | - | - |

Lampiran 4. Data Hasil Analisis Statistika

Lampiran 6.1 Data Hasil Analisis Statistika Bobot Badan

Uji Normalitas

| Tests of Normality | | | | | | | |
|--------------------|-----------------|---------------------------------|----|------|--------------|----|------|
| | Kelompok | Kolmogorov-Smirnov ^a | | | Shapiro-Wilk | | |
| | | Statistic | df | Sig. | Statistic | df | Sig. |
| BB | Kontrol sehat | .293 | 4 | . | .918 | 4 | .528 |
| | Kontrol negatif | .281 | 4 | . | .861 | 4 | .262 |
| | Vit C 125 | .356 | 4 | . | .799 | 4 | .101 |
| | Vit C 250 | .270 | 4 | . | .943 | 4 | .672 |
| | Vit C 500 | .192 | 4 | . | .977 | 4 | .882 |

a. Lilliefors Significance Correction

Oneway

Test of Homogeneity of Variances

| Levene Statistic | df1 | df2 | Sig. |
|------------------|-----|-----|------|
| 1.619 | 4 | 15 | .221 |

ANOVA

| | Sum of Squares | df | Mean Square | F | Sig. |
|----------------|----------------|----|-------------|------|------|
| Between Groups | 496.700 | 4 | 124.175 | .376 | .822 |
| Within Groups | 4952.250 | 15 | 330.150 | | |
| Total | 5448.950 | 19 | | | |

Lampiran 6.2 Data Hasil Analisis Statistika Kadar ALT

Lampiran 6.2.1 Data Hasil Analisis Statistika Kadar ALT Sebelum

Induksi Siklofosamid

Uji Normalitas

| Tests of Normality | | | | | | | |
|--------------------|-----------------|---------------------------------|----|------|--------------|----|------|
| | Kelompok | Kolmogorov-Smirnov ^a | | | Shapiro-Wilk | | |
| | | Statistic | df | Sig. | Statistic | df | Sig. |
| ALT | Kontrol sehat | .258 | 4 | . | .893 | 4 | .398 |
| | Kontrol negatif | .266 | 4 | . | .858 | 4 | .254 |
| | Vit C 125 | .173 | 4 | . | .984 | 4 | .927 |
| | Vit C 250 | .249 | 4 | . | .889 | 4 | .378 |
| | Vit C 500 | .221 | 4 | . | .949 | 4 | .710 |

a. Lilliefors Significance Correction

Oneway

Test of Homogeneity of Variances

ALT

| Levene Statistic | df1 | df2 | Sig. |
|------------------|-----|-----|------|
| .557 | 4 | 15 | .697 |

ANOVA

ALT

| | Sum of Squares | df | Mean Square | F | Sig. |
|----------------|----------------|----|-------------|------|------|
| Between Groups | 107.046 | 4 | 26.761 | .400 | .806 |
| Within Groups | 1003.538 | 15 | 66.903 | | |
| Total | 1110.583 | 19 | | | |

Lampiran 6.2.2 Data Hasil Analisis Statistika Kadar ALT Setelah Induksi Siklofosamid

Lampiran 6.2.2.1 Kelompok 1

Uji Normalitas

| | Kolmogorov-Smirnov ^a | | | Shapiro-Wilk | | |
|-------|---------------------------------|----|------|--------------|----|------|
| | Statistic | df | Sig. | Statistic | df | Sig. |
| Awal | .258 | 4 | . | .893 | 4 | .398 |
| Akhir | .309 | 4 | . | .889 | 4 | .376 |

a. Lilliefors Significance Correction

Paired Sample Test

| | Paired Differences | | | | | t | df | Sig. (2-tailed) |
|---------------------------|--------------------|----------------|-----------------|---|---------|--------|----|-----------------|
| | Mean | Std. Deviation | Std. Error Mean | 95% Confidence Interval of the Difference | | | | |
| | | | | Lower | Upper | | | |
| Pair 1 Awal - Akhir | -4.03500 | 5.65642 | 2.82821 | -13.03562 | 4.96562 | -1.427 | 3 | .249 |

Lampiran 6.2.2.2 Kelompok 2

Uji Normalitas

| | Kolmogorov-Smirnov ^a | | | Shapiro-Wilk | | |
|-------|---------------------------------|----|------|--------------|----|------|
| | Statistic | df | Sig. | Statistic | df | Sig. |
| Awal | .266 | 4 | . | .858 | 4 | .254 |
| Akhir | .167 | 4 | . | .989 | 4 | .954 |

a. Lilliefors Significance Correction

Paired Sample Test

Paired Samples Test

| | Paired Differences | | | | | t | df | Sig. (2-tailed) |
|------------------------|--------------------|----------------|-----------------|---|----------|--------|----|-----------------|
| | Mean | Std. Deviation | Std. Error Mean | 95% Confidence Interval of the Difference | | | | |
| | | | | Lower | Upper | | | |
| Pair 1 Awal - Akhir | -25.37500 | 14.87170 | 7.43585 | -49.03920 | -1.71080 | -3.413 | 3 | .042 |

Lampiran 6.2.2.3 Kelompok 3

Uji Normalitas

Tests of Normality

| | Kolmogorov-Smirnov ^a | | | Shapiro-Wilk | | |
|-------|---------------------------------|----|------|--------------|----|------|
| | Statistic | df | Sig. | Statistic | df | Sig. |
| Awal | .173 | 4 | . | .984 | 4 | .927 |
| Akhir | .202 | 4 | . | .955 | 4 | .745 |

a. Lilliefors Significance Correction

Paired Sample Test

Paired Samples Test

| | Paired Differences | | | | | t | df | Sig. (2-tailed) |
|------------------------|--------------------|----------------|-----------------|---|----------|-------|----|-----------------|
| | Mean | Std. Deviation | Std. Error Mean | 95% Confidence Interval of the Difference | | | | |
| | | | | Lower | Upper | | | |
| Pair 1 Awal - Akhir | -4.74750 | 10.75245 | 5.37622 | -21.85705 | 12.36205 | -.883 | 3 | .442 |

Lampiran 6.2.2.4 Kelompok 4

Uji Normalitas

| Tests of Normality | | | | | | |
|--------------------|---------------------------------|----|------|--------------|----|------|
| | Kolmogorov-Smirnov ^a | | | Shapiro-Wilk | | |
| | Statistic | df | Sig. | Statistic | df | Sig. |
| Awal | .249 | 4 | . | .889 | 4 | .378 |
| Akhir | .410 | 4 | . | .700 | 4 | .012 |

a. Lilliefors Significance Correction

Wilcoxon Signed Ranks Test

| Test Statistics ^a | |
|------------------------------|---------------------|
| | Akhir - Awal |
| Z | -1.826 ^b |
| Asymp. Sig. (2-tailed) | .068 |

a. Wilcoxon Signed Ranks Test

b. Based on negative ranks.

Lampiran 6.2.2.5 Kelompok 5

Uji Normalitas

| Tests of Normality | | | | | | |
|--------------------|---------------------------------|----|------|--------------|----|------|
| | Kolmogorov-Smirnov ^a | | | Shapiro-Wilk | | |
| | Statistic | df | Sig. | Statistic | df | Sig. |
| Awal | .221 | 4 | . | .949 | 4 | .710 |
| Akhir | .231 | 4 | . | .973 | 4 | .861 |

a. Lilliefors Significance Correction

Paired Sample Test

| Paired Samples Test | | | | | | | | | |
|---------------------|--------------------|----------------|-----------------|---|-----------|---------|--------|-----------------|------|
| | Paired Differences | | | | | t | df | Sig. (2-tailed) | |
| | Mean | Std. Deviation | Std. Error Mean | 95% Confidence Interval of the Difference | | | | | |
| | | | | Lower | Upper | | | | |
| Pair 1 | Awal - Akhir | -6.90750 | 7.13943 | 3.56971 | -18.26792 | 4.45292 | -1.935 | 3 | .148 |

Lampiran 6.2.3 Perbandingan Hasil Uji Kadar ALT Setelah perlakuan antar kelompok uji

Uji Normalitas

| Tests of Normality | | | | | | | |
|--------------------|---|---------------------------------|----|------|--------------|----|------|
| | Perlakuan | Kolmogorov-Smirnov ^a | | | Shapiro-Wilk | | |
| | | Statistic | df | Sig. | Statistic | df | Sig. |
| ALT | Kontrol sehat | .279 | 4 | . | .852 | 4 | .232 |
| | Kontrol negatif | .374 | 4 | . | .757 | 4 | .045 |
| | Vit C 125 mg/kgBB + Siklofosfamid 250 mg/kgBB | .245 | 4 | . | .933 | 4 | .613 |
| | Vit C 250 mg/kgBB + Siklofosfamid 250 mg/kgBB | .260 | 4 | . | .907 | 4 | .465 |
| | Vit C 500 mg/kgBB + Siklofosfamid 250 mg/kgBB | .271 | 4 | . | .888 | 4 | .373 |

a. Lilliefors Significance Correction

Kruskal-Wallis Test

| Ranks | | | |
|-------|-----------------|---|-----------|
| | Perlakuan | N | Mean Rank |
| ALT | Kontrol sehat | 4 | 3.88 |
| | Kontrol negatif | 4 | 17.75 |

| | | |
|--|----|-------|
| Vit C 125 mg/kgBB + Siklofosfamid 250 mg/kgBB | 4 | 11.25 |
| Vit C 250 mg/kgBB + Siklofosfamid 250 mg/kgBB | 4 | 11.50 |
| Vit C 500 mg/kgBB + Siklofosfamid 250 mg/kgBB | 4 | 8.13 |
| Total | 20 | |

Test Statistics^{a,b}

| | ALT |
|-------------|--------|
| Chi-Square | 11.855 |
| df | 4 |
| Asymp. Sig. | .018 |

a. Kruskal Wallis Test

b. Grouping Variable:

Perlakuan

Lampiran 6.3 Data Hasil Analisis Statistika Kadar AST

Lampiran 6.3.1 Data Hasil Analisis Statistika Kadar AST Sebelum

Induksi Siklofosamid

Uji Normalitas

| Tests of Normality | | | | | | | |
|--------------------|-----------------|---------------------------------|----|------|--------------|----|------|
| | Kelompok | Kolmogorov-Smirnov ^a | | | Shapiro-Wilk | | |
| | | Statistic | df | Sig. | Statistic | df | Sig. |
| AST | Kontrol sehat | .292 | 4 | . | .853 | 4 | .235 |
| | Kontrol negatif | .295 | 4 | . | .791 | 4 | .087 |
| | Vit C 125 | .219 | 4 | . | .956 | 4 | .752 |
| | Vit C 250 | .244 | 4 | . | .947 | 4 | .699 |
| | Vit C 500 | .276 | 4 | . | .885 | 4 | .361 |

a. Lilliefors Significance Correction

Oneway

Test of Homogeneity of Variances

| Levene Statistic | df1 | df2 | Sig. |
|------------------|-----|-----|------|
| 1.299 | 4 | 15 | .315 |

ANOVA

| | Sum of Squares | df | Mean Square | F | Sig. |
|----------------|----------------|----|-------------|-------|------|
| Between Groups | 2691.683 | 4 | 672.921 | 3.818 | .025 |
| Within Groups | 2643.623 | 15 | 176.242 | | |
| Total | 5335.306 | 19 | | | |

Lampiran 6.3.2 Data Hasil Analisis Statistika Kadar AST Setelah Induksi Siklofosamid

Lampiran 6.3.2.1 Kelompok 1

Uji Normalitas

| | Kolmogorov-Smirnov ^a | | | Shapiro-Wilk | | |
|-------|---------------------------------|----|------|--------------|----|------|
| | Statistic | df | Sig. | Statistic | df | Sig. |
| Awal | .292 | 4 | . | .853 | 4 | .235 |
| Akhir | .279 | 4 | . | .852 | 4 | .232 |

a. Lilliefors Significance Correction

Paired Sample Test

| | Paired Differences | | | | | t | df | Sig. (2-tailed) |
|---------------------------|--------------------|----------------|-----------------|---|----------|-------|----|-----------------|
| | Mean | Std. Deviation | Std. Error Mean | 95% Confidence Interval of the Difference | | | | |
| | | | | Lower | Upper | | | |
| Pair 1 Awal - Akhir | -1.49250 | 16.67837 | 8.33918 | -25.04651 | 28.03151 | -.179 | 3 | .869 |

Lampiran 6.3.2.2 Kelompok 2

Uji Normalitas

| | Kolmogorov-Smirnov ^a | | | Shapiro-Wilk | | |
|-------|---------------------------------|----|------|--------------|----|------|
| | Statistic | df | Sig. | Statistic | df | Sig. |
| Awal | .295 | 4 | . | .791 | 4 | .087 |
| Akhir | .374 | 4 | . | .757 | 4 | .045 |

a. Lilliefors Significance Correction

Wilcoxon Signed Ranks Test

Test Statistics^a

| | Akhir - Awal |
|------------------------|---------------------|
| Z | -1.826 ^b |
| Asymp. Sig. (2-tailed) | .068 |

a. Wilcoxon Signed Ranks Test

b. Based on negative ranks.

Lampiran 6.3.2.3 Kelompok 3

Uji Normalitas

Tests of Normality

| | Kolmogorov-Smirnov ^a | | | Shapiro-Wilk | | |
|-------|---------------------------------|----|------|--------------|----|------|
| | Statistic | df | Sig. | Statistic | df | Sig. |
| Awal | .219 | 4 | . | .956 | 4 | .752 |
| Akhir | .245 | 4 | . | .933 | 4 | .613 |

a. Lilliefors Significance Correction

Paired Sample Test

Paired Samples Test

| | Paired Differences | | | | | t | df | Sig. (2-tailed) |
|------------------------|--------------------|----------------|-----------------|---|----------|--------|----|-----------------|
| | Mean | Std. Deviation | Std. Error Mean | 95% Confidence Interval of the Difference | | | | |
| | | | | Lower | Upper | | | |
| Pair 1 Awal - Akhir | -69.43500 | 37.06754 | 18.53377 | -128.41773 | 10.45227 | -3.746 | 3 | .033 |

Lampiran 6.3.2.4 Kelompok 4

Uji Normalitas

Tests of Normality

| | Kolmogorov-Smirnov ^a | | | Shapiro-Wilk | | |
|-------|---------------------------------|----|------|--------------|----|------|
| | Statistic | df | Sig. | Statistic | df | Sig. |
| Awal | .244 | 4 | . | .947 | 4 | .699 |
| Akhir | .260 | 4 | . | .907 | 4 | .465 |

a. Lilliefors Significance Correction

Paired Sample Test

Paired Samples Test

| | Paired Differences | | | | | t | df | Sig. (2-tailed) |
|------------------------|--------------------|----------------|-----------------|---|----------|--------|----|-----------------|
| | Mean | Std. Deviation | Std. Error Mean | 95% Confidence Interval of the Difference | | | | |
| | | | | Lower | Upper | | | |
| Pair 1 Awal - Akhir | -51.50500 | 27.41000 | 13.70500 | -95.12043 | -7.88957 | -3.758 | 3 | .033 |

Lampiran 6.3.2.5 Kelompok 5

Uji Normalitas

Tests of Normality

| | Kolmogorov-Smirnov ^a | | | Shapiro-Wilk | | |
|-------|---------------------------------|----|------|--------------|----|------|
| | Statistic | df | Sig. | Statistic | df | Sig. |
| Awal | .276 | 4 | . | .885 | 4 | .361 |
| Akhir | .271 | 4 | . | .888 | 4 | .373 |

a. Lilliefors Significance Correction

Paired Sample Test

Paired Samples Test

| | Paired Differences | | | | | t | df | Sig. (2-tailed) |
|------------------------|--------------------|----------------|-----------------|---|---------|--------|----|-----------------|
| | Mean | Std. Deviation | Std. Error Mean | 95% Confidence Interval of the Difference | | | | |
| | | | | Lower | Upper | | | |
| Pair 1 Awal - Akhir | -45.35750 | 29.04962 | 14.52481 | -91.58193 | -8.6693 | -3.123 | 3 | .052 |

Lampiran 6.3.2.6 Perbandingan hasil uji AST antar kelompok uji

Uji Normalitas

| | | Tests of Normality | | | | | |
|-----------|--|---------------------------------|----|------|--------------|----|------|
| Perlakuan | | Kolmogorov-Smirnov ^a | | | Shapiro-Wilk | | |
| | | Statistic | df | Sig. | Statistic | df | Sig. |
| AST | Kontrol sehat | .309 | 4 | . | .889 | 4 | .376 |
| | Kontrol negatif | .167 | 4 | . | .989 | 4 | .954 |
| | Vit C 125 mg/kgBB + Siklofosfamid 250 mg/kgBB | .202 | 4 | . | .955 | 4 | .745 |
| | Vit C 250 mg/kgBB + Siklofosfamid 250 mg/kgBB | .410 | 4 | . | .700 | 4 | .012 |
| | Vit C 500 mg/kgBB + Siklofosfamid 250 mg/kgBB | .231 | 4 | . | .973 | 4 | .861 |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |

a. Lilliefors Significance Correction

Kruskal-Wallis Test

| | | Ranks | |
|-----------|--|-------|-----------|
| Perlakuan | | N | Mean Rank |
| ALT | Kontrol sehat | 4 | 2.50 |
| | Kontrol negatif | 4 | 16.25 |
| | Vit C 125 mg/kgBB + Siklofosfamid 250 mg/kgBB | 4 | 13.50 |
| | Vit C 250 mg/kgBB + Siklofosfamid 250 mg/kgBB | 4 | 12.50 |
| | Vit C 500 mg/kgBB + Siklofosfamid 250 mg/kgBB | 4 | 7.75 |
| | | | |
| | | | |
| | Total | 20 | |

Test Statistics^{a,b}

| | | AST |
|-------------|--|--------|
| Chi-Square | | 13.443 |
| df | | 4 |
| Asymp. Sig. | | .009 |

a. Kruskal Wallis Test

b. Grouping Variable:

Perlakuan

**Lampiran 6.3.3 Data Hasil Analisis Statistika Selisih Persentase Kadar
AST Antarkelompok Sebelum dan Setelah Induksi Siklofosfamid**

Lampiran 6.3.3.1 Selisih kelompok 1 dan 2

Tests of Normality

| | Kelompok | Kolmogorov-Smirnov ^a | | | Shapiro-Wilk | | |
|------------------------|--------------------|---------------------------------|----|------|--------------|----|------|
| | | Statistic | df | Sig. | Statistic | df | Sig. |
| Selisih_AST_tiga_empat | Kontrol sehat | .297 | 4 | . | .869 | 4 | .292 |
| | Kontrol negatif | .239 | 4 | . | .917 | 4 | .522 |

a. Lilliefors Significance Correction

T-Test

Independent Samples Test

| | Levene's Test for Equality of Variance s | t-test for Equality of Means | | | | | | | | |
|----------------------------|---|------------------------------|-----------|----------------|-----------|----------------------------|------------------------|---------------------------------|---|------------------|
| | | F | Sig. . | t | df | Sig. (2- taile d) | Mean Differen ce | Std. Error Differen ce | 95% Confidence Interval of the Difference | |
| | | | | | | | | | Lower | Upper |
| Selisih_AST_tiga_e mpat | Equal varianc es assum ed | 2.3 57 | .17 6 | - 2.4 64 | 6 | .049 | - 46.477 50 | 18.861 53 | - 92.6300 1 | - .3249 9 |
| | Equal varianc es not assum ed | | | - 2.4 64 | 3.7 47 | .074 | - 46.477 50 | 18.861 53 | - 100.270 40 | - 7.315 40 |

Lampiran 6.3.3.2 Selisih kelompok 1 dan 3

| Tests of Normality | | | | | | | |
|-----------------------|----------------------|---------------------------------|----|------|--------------|----|------|
| | Kelompok | Kolmogorov-Smirnov ^a | | | Shapiro-Wilk | | |
| | | Statistic | df | Sig. | Statistic | df | Sig. |
| | Kontrol sehat | .297 | 4 | . | .869 | 4 | .292 |
| Selisih_AST_satu_tiga | Vit C 125 mg/kgBB | .229 | 4 | . | .944 | 4 | .677 |

a. Lilliefors Significance Correction

T-Test

| Independent Samples Test | | | | | | | | | | |
|--------------------------|-----------------------------|---|------|------------------------------|----|-----------------|-----------------|-----------------------|---|---------|
| | | Levene's Test for Equality of Variances | | t-test for Equality of Means | | | | | | |
| | | F | Sig. | t | df | Sig. (2-tailed) | Mean Difference | Std. Error Difference | 95% Confidence Interval of the Difference | |
| | | | | | | | | | Lower | Upper |
| Selisih_AST_satu_tiga | Equal variances assumed | 1.069 | .341 | -2.577 | 6 | .042 | -51.40000 | 19.94186 | -100.19598 | 2.60402 |
| | Equal variances not assumed | | | -2.577 | 7 | .055 | -51.40000 | 19.94186 | -104.59729 | 1.79729 |

Lampiran 6.3.3.3 Selisih kelompok 1 dan 4

Tests of Normality

| | Kelompok | Kolmogorov-Smirnov ^a | | | Shapiro-Wilk | | |
|------------------------|----------------------|---------------------------------|----|------|--------------|----|------|
| | | Statistic | df | Sig. | Statistic | df | Sig. |
| | Kontrol sehat | .297 | 4 | . | .869 | 4 | .292 |
| Selisih_AST_satu_empat | Vit C 250 mg/kgBB | .236 | 4 | . | .881 | 4 | .342 |

a. Lilliefors Significance Correction

T-Test

Independent Samples Test

| | Levene's Test for Equality of Variances | t-test for Equality of Means | | | | | | | | |
|------------------------|---|------------------------------|------|--------|----|-----------------|-----------------|-----------------------|---|----------|
| | | F | Sig. | t | df | Sig. (2-tailed) | Mean Difference | Std. Error Difference | 95% Confidence Interval of the Difference | |
| | | | | | | | | | Lower | Upper |
| Selisih_AST_satu_empat | Equal variances assumed | 1.279 | .301 | -1.965 | 6 | .097 | -39.15250 | 19.92577 | -9.60410 | 9.60410 |
| | Equal variances not assumed | | | -1.965 | 47 | .114 | -39.15250 | 19.92577 | -92.34817 | 14.04317 |

Lampiran 6.3.3.4 Selisih kelompok 1 dan 5

Tests of Normality

| | Kelompok | Kolmogorov-Smirnov ^a | | | Shapiro-Wilk | | |
|-----------------------|---------------|---------------------------------|----|------|--------------|----|------|
| | | Statistic | df | Sig. | Statistic | df | Sig. |
| Selisih AST satu lima | Kontrol sehat | .297 | 4 | . | .869 | 4 | .292 |

| | | | | | | |
|-------------------|------|---|---|------|---|------|
| Vit C 500 mg/kgBB | .374 | 4 | . | .778 | 4 | .068 |
|-------------------|------|---|---|------|---|------|

a. Lilliefors Significance Correction

T-Test

Independent Samples Test

| | Levene's Test for Equality of Variances | t-test for Equality of Means | | | | | | | | |
|----------------------------|---|------------------------------|------|--------|-------|-----------------|-----------------|-----------------------|---|---------|
| | | F | Sig. | t | df | Sig. (2-tailed) | Mean Difference | Std. Error Difference | 95% Confidence Interval of the Difference | |
| | | | | | | | | | Lower | Upper |
| Selisih_AST_satu_d lima | Equal variances assumed | .306 | .600 | -2.058 | 6 | .085 | -45.0700 | 21.89561 | -98.64663 | 8.50663 |
| | Equal variances not assumed | | | -2.058 | 5.451 | .090 | -45.07000 | 21.89561 | -99.98336 | 9.84336 |

Lampiran 6.3.5.5 Selisih kelompok 2 dan 3

Tests of Normality

| | Kelompok | Kolmogorov-Smirnov ^a | | | Shapiro-Wilk | | |
|---------------------------------|-----------------|---------------------------------|----|------|--------------|----|------|
| | | Statistic | df | Sig. | Statistic | df | Sig. |
| Selisih_AST_dua_tiga mg/kgBB | Kontrol negatif | .239 | 4 | . | .917 | 4 | .522 |
| | Vit C 125 | .229 | 4 | . | .944 | 4 | .677 |

a. Lilliefors Significance Correction

Independent Samples Test

| | Levene's Test for Equality of Variances | t-test for Equality of Means | | | | | | | | |
|----------------------|---|------------------------------|------|-------|-------|-----------------|-----------------|-----------------------|---|----------|
| | | F | Sig. | t | df | Sig. (2-tailed) | Mean Difference | Std. Error Difference | 95% Confidence Interval of the Difference | |
| | | | | | | | | | Lower | Upper |
| Selisih_AST_dua_tiga | Equal variances assumed | 1.571 | .257 | -.446 | 6 | .671 | -4.92250 | 11.03665 | -31.92821 | 22.08321 |
| | Equal variances not assumed | | | -.446 | 5.366 | .673 | -4.92250 | 11.03665 | -32.72284 | 22.87784 |

Lampiran 6.3.3.6 Selisih kelompok 2 dan 4

Tests of Normality

| | Kelompok | Kolmogorov-Smirnov ^a | | | Shapiro-Wilk | | |
|----------------------|-------------------|---------------------------------|----|------|--------------|----|------|
| | | Statistic | df | Sig. | Statistic | df | Sig. |
| Selisih_AST_dua_tiga | Kontrol negatif | .239 | 4 | . | .917 | 4 | .522 |
| | Vit C 250 mg/kgBB | .236 | 4 | . | .881 | 4 | .342 |

a. Lilliefors Significance Correction

Independent Samples Test

| | Levene's Test for Equality of Variances | t-test for Equality of Means | | | | | | | | |
|----------------------|---|------------------------------|------|------|-------|-----------------|-----------------|-----------------------|---|----------|
| | | F | Sig. | t | df | Sig. (2-tailed) | Mean Difference | Std. Error Difference | 95% Confidence Interval of the Difference | |
| | | | | | | | | | Lower | Upper |
| Selisih_AST_dua_tiga | Equal variances assumed | .326 | .589 | .665 | 6 | .530 | 7.32500 | 11.00754 | -19.60949 | 34.25949 |
| | Equal variances not assumed | | | .665 | 5.376 | .533 | 7.32500 | 11.00754 | -20.38572 | 35.03572 |

Lampiran 6.3.3.7 Selisih kelompok 2 dan 5

| Tests of Normality | | | | | | | |
|------------------------------|-----------------|---------------------------------|----|------|--------------|----|------|
| | Kelompok | Kolmogorov-Smirnov ^a | | | Shapiro-Wilk | | |
| | | Statistic | df | Sig. | Statistic | df | Sig. |
| Selisih_AST_dua_lima mg/kgBB | Kontrol negatif | .239 | 4 | . | .917 | 4 | .522 |
| | Vit C 500 | .374 | 4 | . | .778 | 4 | .068 |

a. Lilliefors Significance Correction

Independent Samples Test

| | Levene's Test for Equality of Variances | t-test for Equality of Means | | | | | | | | |
|----------------------|---|------------------------------|------|------|-------|-----------------|-----------------|-----------------------|---|----------|
| | | F | Sig. | t | df | Sig. (2-tailed) | Mean Difference | Std. Error Difference | 95% Confidence Interval of the Difference | |
| | | | | | | | | | Lower | Upper |
| Selisih_AST_dua_tiga | Equal variances assumed | 1.630 | .249 | .099 | 6 | .925 | 1.40750 | 14.26701 | -33.50261 | 36.31761 |
| | Equal variances not assumed | | | .099 | 4.382 | .926 | 1.40750 | 14.26701 | -36.87720 | 39.69220 |

Lampiran 6.3.5.8 Selisih kelompok 3 dan 4

Tests of Normality

| | Kelompok | Kolmogorov-Smirnov ^a | | | Shapiro-Wilk | | |
|------------------------|-------------------|---------------------------------|----|------|--------------|----|------|
| | | Statistic | df | Sig. | Statistic | df | Sig. |
| Selisih_AST_tiga_empat | Vit C 125 mg/kgBB | .229 | 4 | . | .944 | 4 | .677 |
| | Vit C 250 mg/kgBB | .236 | 4 | . | .881 | 4 | .342 |

a. Lilliefors Significance Correction

Independent Samples Test

| | | Levene's Test for Equality of Variances | | t-test for Equality of Means | | | | | | |
|------------------------|-----------------------------|---|------|------------------------------|-------|-----------------|-----------------|-----------------------|---|----------|
| | | F | Sig. | t | df | Sig. (2-tailed) | Mean Difference | Std. Error Difference | 95% Confidence Interval of the Difference | |
| | | | | | | | | | Lower | Upper |
| Selisih_AST_tiga_empat | Equal variances assumed | .107 | .755 | .959 | 6 | .375 | 12.24750 | 12.77053 | -19.00086 | 43.49586 |
| | Equal variances not assumed | | | .959 | 6.000 | .375 | 12.24750 | 12.77053 | -19.00098 | 43.49598 |

Lampiran 6.3.3.9 Selisih kelompok 3 dan 5

Tests of Normality

| | Kelompok | Kolmogorov-Smirnov ^a | | | Shapiro-Wilk | | |
|-----------------------|-------------------|---------------------------------|----|------|--------------|----|------|
| | | Statistic | df | Sig. | Statistic | df | Sig. |
| Selisih_AST_tiga_lima | Vit C 125 mg/kgBB | .229 | 4 | . | .944 | 4 | .677 |
| | Vit C 500 mg/kgBB | .374 | 4 | . | .778 | 4 | .068 |

a. Lilliefors Significance Correction

Independent Samples Test

| | Levene's Test for Equality of Variances | t-test for Equality of Means | | | | | | | | |
|------------------------|---|------------------------------|------|------|-------|-----------------|-----------------|-----------------------|---|----------|
| | | F | Sig. | t | df | Sig. (2-tailed) | Mean Difference | Std. Error Difference | 95% Confidence Interval of the Difference | |
| | | | | | | | | | Lower | Upper |
| Selisih_AST_tiga_empat | Equal variances assumed | .317 | .594 | .404 | 6 | .700 | 6.33000 | 15.66742 | -32.00679 | 44.66679 |
| | Equal variances not assumed | | | .404 | 5.401 | .702 | 6.33000 | 15.66742 | -33.06122 | 45.72122 |

Lampiran 6.3.3.10 Selisih kelompok 4 dan 5

Tests of Normality

| | Kelompok | Kolmogorov-Smirnov ^a | | | Shapiro-Wilk | | |
|------------------------|-------------------|---------------------------------|----|------|--------------|----|------|
| | | Statistic | df | Sig. | Statistic | df | Sig. |
| Selisih_AST_tiga_empat | Vit C 250 mg/kgBB | .236 | 4 | . | .881 | 4 | .342 |
| | Vit C 500 mg/kgBB | .374 | 4 | . | .778 | 4 | .068 |

a. Lilliefors Significance Correction

Independent Samples Test

| | | Levene's Test for Equality of Variances | | t-test for Equality of Means | | | | | | |
|------------------------|-----------------------------|---|------|------------------------------|-------|-----------------|-----------------|-----------------------|---|----------|
| | | F | Sig. | t | df | Sig. (2-tailed) | Mean Difference | Std. Error Difference | 95% Confidence Interval of the Difference | |
| | | | | | | | | | Lower | Upper |
| Selisih_AST_tiga_empat | Equal variances assumed | .514 | .500 | -.378 | 6 | .718 | -5.91750 | 15.64693 | -44.20415 | 32.36915 |
| | Equal variances not assumed | | | -.378 | 5.390 | .720 | -5.91750 | 15.64693 | -45.27993 | 33.44493 |

Lampiran 7. Dokumentasi Penelitian



Gambar 6. Proses penyesuaian lingkungan pada hewan uji



Gambar 7. Pembuatan larutan oral vitamin C



Gambar 8. Pemberian larutan vitamin C selama 6 hari secara peroral



Gambar 9. Pembuatan larutan injeksi siklofosfamid 250 mg/kgBB



Gambar 10. Proses injeksi siklofosfamid



Gambar 11. Pembiusan hewan coba

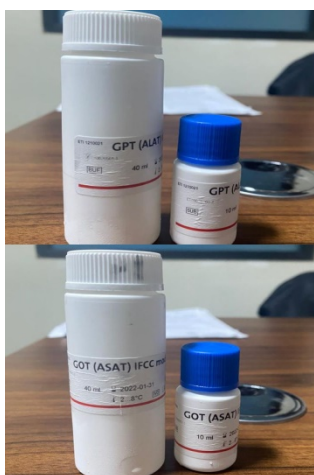
Gambar 10. Proses injeksi siklofosfamid



Gambar 12. Pengambilan darah melalui vena lateral pada ekor tikus



Gambar 13. Pengambilan darah melalui sinus orbitalis pada mata tikus



Gambar 13. Reagen untuk pengukuran serum ALT dan AST



Gambar 14. Proses pengukuran serum ALT dan AST dengan humalyzer

Lampiran 8. Rekomendasi Persetujuan etik


 KEMENTERIAN PENDIDIKAN, KEBUDAYAAN, RISET DAN TEKNOLOGI
 UNIVERSITAS HASANUDDIN FAKULTAS KEDOKTERAN
 KOMITE ETIK PENELITIAN KESEHATAN
 RSPN UNIVERSITAS HASANUDDIN
 RSUP Dr. WAHIDIN SUDIROHUSODO MAKASSAR
 Sekretariat : Lantai 2 Gedung Laboratorium Terpadu
 JL.PERINTIS KEMERDEKAAN KAMPUS TAMALANREA KM.10 MAKASSAR 90245.
 Contact Person: dr. Agussalim Bukhari.,MMed,PhD., SpGK TELP. 081241850858, 0411 5780103, Fax : 0411-581431





REKOMENDASI PERSETUJUAN ETIK

Nomor : 29/UN4.6.4.5.31/ PP36/ 2022

Tanggal: 18 Januari 2022

Dengan ini Menyatakan bahwa Protokol dan Dokumen yang Berhubungan Dengan Protokol berikut ini telah mendapatkan Persetujuan Etik :

| | | | |
|------------------------------------|--|---|------------------------------|
| No Protokol | UH21120791 | No Sponsor | |
| Peneliti Utama | Sri Murti D | Sponsor | |
| Judul Peneliti | Uji Efek Hepatoprotektif Vitamin C Terhadap Toksisitas Siklofosamid Pada Tikus (<i>Rattus norvegicus</i>) | | |
| No Versi Protokol | 2 | Tanggal Versi | 4 Januari 2022 |
| No Versi PSP | | Tanggal Versi | |
| Tempat Penelitian | Fakultas Farmasi Universitas Hasanuddin Makassar | | |
| Jenis Review | <input type="checkbox"/> Exempted <input checked="" type="checkbox"/> Expedited <input type="checkbox"/> Fullboard Tanggal | Masa Berlaku 18 Januari 2022 sampai 18 Januari 2023 | Frekuensi review lanjutan |
| Ketua KEPK FKUH RSUH dan RSWS | Nama Prof.Dr.dr. Suryani As'ad, M.Sc.,Sp.GK (K) | Tanda tangan  | |
| Sekretaris KEPK FKUH RSUH dan RSWS | Nama dr. Agussalim Bukhari, M.Med.,Ph.D.,Sp.GK (K) | Tanda tangan  | |

Kewajiban Peneliti Utama:

- Menyerahkan Amandemen Protokol untuk persetujuan sebelum di implementasikan
- Menyerahkan Laporan SAE ke Komisi Etik dalam 24 Jam dan dilengkapi dalam 7 hari dan Laporan SUSAR dalam 72 Jam setelah Peneliti Utama menerima laporan
- Menyerahkan Laporan Kemajuan (progress report) setiap 6 bulan untuk penelitian resiko tinggi dan setiap setahun untuk penelitian resiko rendah
- Menyerahkan laporan akhir setelah Penelitian berakhir
- Melaporkan penyimpangan dari prokol yang disetujui (protocol deviation / violation)
- Mematuhi semua peraturan yang ditentukan