

## DAFTAR PUSTAKA

- Abdillah, R., Dita P., Elsa B., Fitri r., dan Lailaturrahmi M. 2020. Penuntun Praktikum Farmakologi. Padang : Universitas Andalas.
- Akmal, Y., Nisa, C., dan Novelina, S. 2019. Morfologi Kelenjar Aksesori Kelamin Jantan pada Trenggiling (*Manis javanica*)(Morphology Of The Male Sex Accessory Glands Of The Pangolin (*Manis javanica*)). *Jurnal Veteriner*, 20(36), 38-47.
- Awuy, F. D., Purwanto, D. S., dan Mewo, Y. M. 2021. Pengaruh Pemberian Vitamin C Terhadap Kualitas Spermatozoa Yang Terpapar Asap Rokok. *eBiomedik*. 9(2) : 240-247.
- Colville, T dan Joanna M Basert. 2016. *Clinical Anatomy and Physiology for Veterinary Technicians*. Canada : Elseiver.
- Crouch, M. L., Knowels, G., Stuppard, R., Ericson, N. G., Bielas, J. H., Marcinek, D. J., dan Syrjala, K. L. 2017. Cyclophosphamide leads to persistent deficits in physical performance and in vivo mitochondria function in a mouse model of chemotherapy late effects. *PLoS one*, 12(7), e0181086. <https://doi.org/10.1371/journal.pone.0181086>
- Dhumal, S. S., Naik, P., Dakshinamurthy, S., dan Sullia, K. 2021. Semen pH and its correlation with motility and count - A study in subfertile men. *JBRA assisted reproduction*, 25(2), 172–175. <https://doi.org/10.5935/1518-0557.20200080>
- Dju, F. 2020. Uji Aktivitas Analgesik Tunggal Dan Kombinasiekstrak Etanol Daun Jambu Biji (*Psidiumguajava L*) Dan Daun Sirsak (*Annonamuricata*) Pada Tikus Putih Jantan Yang Diinduksi Asam Asetat (Doctoral Dissertation, Universitas Citra Bangsa). *CHM-K Pharmaceutical Scientific Journal*. 4(1) : 228-235.
- Drumond, A. L., Weng, C. C., Wang, G., Chiarini-Garcia, H., Eras-Garcia, L., dan Meistrich, M. L. 2011. Effects of multiple doses of cyclophosphamide on mouse testes: accessing the germ cells lost, and the functional damage of stem cells. *Reproductive toxicology (Elmsford, N.Y.)*, 32(4), 395–406. <https://doi.org/10.1016/j.reprotox.2011.09.010>
- Edison. 2021. Perancangan Sepeda Air Untuk Kendaraan Wisata Alam Lembah Harau. *Rang Teknik Journal*. 4(2) : 342-347.
- El-Hak, H. N. G., ELaraby, E. E., Hassan, A. K., dan Abbas, O. A. 2019. Study of the toxic effect and safety of vitamin E supplement in male albino rats after 30 days of repeated treatment. *Heliyon*, 5(10), e02645. <https://doi.org/10.1016/j.heliyon.2019.e02645>
- Ferial, E. W., Muhtadin A., Asmin J. 2020. Quality of Spermatozoid Preclinical Analysis on Male Mice *Mus Musculus* .*Technology Reports of Kansai University*. 62(5) :1-7.
- Fitria, L., Mulyati, T. C., dan Budi, A. S. 2015. Profil reproduksi jantan tikus (*Rattus norvegicus* Berkenhout, 1769) galur wistar stadia muda, pradewasa, dan ol Papua. 7(1) : 29-36.
- A. T., Siracusa, R., D'Amico, R., Impellizzeri, D., Scuto, M., ..., Crea, R., Cordaro, M., Cuzzocrea, S., Di Paola, R., dan . 2021. Hidrox<sup>®</sup> Counteracts Cyclophosphamide-Induced Male ugh NRF2 Pathways in a Mouse Model. *Antioxidants (Basel)*, 10(5):778. <https://doi.org/10.3390/antiox10050778>



- Gunawan, P. P., Turalaki, G. L., dan Tendean, L. E. 2017. Pengaruh pemberian pasta tomat (*Solanum lycopersicum*) terhadap kualitas spermatozoa tikus Wistar (*Rattus Norvegicus*) yang terpapar asap rokok. *eBiomedik*. 5(2) : 1-6.
- Hartady, T., Arvia N. P., Nabila A. F., dan Rini W. 2019. Testes and body weight alteration related cardamom extract administration in mice. *ARSHI Vet Lett*. 3 (1): 7-8.
- Khamis, T., Hegazy, A. A., El-Fatah, S. S. A., Abdelfattah, E. R., Abdelfattah, M. M. M., Fericean, L. M., dan Arisha, A. H. 2023. Hesperidin Mitigates Cyclophosphamide-Induced Testicular Dysfunction via Altering the Hypothalamic Pituitary Gonadal Axis and Testicular Steroidogenesis, Inflammation, and Apoptosis in Male Rats. *Pharmaceuticals (Basel, Switzerland)*. 16(2), 301. <https://doi.org/10.3390/ph16020301>
- Khazaeel, K., Atashfaraz, A., Davoudi, Z., Jamshidian, J., Majd, N. E., dan Mohammadi, G. 2021. Reduction of Bisphenol A-induced Male Reproductive Toxicity by Bromelain in Mice. *Journal of Kermanshah University of Medical Sciences*. 25(3) : 1-8. <https://doi.org/10.5812/jkums.116172>
- Kim, C., Wouda, R. M., Borrego, J., dan Chon, E. 2021. Cyclophosphamide rescue therapy for relapsed low-grade alimentary lymphoma after chlorambucil treatment in cats. *Journal of feline medicine and surgery*, 23(10), 976–986. <https://doi.org/10.1177/1098612X21996498>
- Le, X. Y., Luo, P., Gu, Y. P., Tao, Y. X., dan Liu, H. Z. 2015. Interventional effects of squid ink polysaccharides on cyclophosphamide-associated testicular damage in mice. *Bratislavske lekarske listy*, 116(5), 334–339. [https://doi.org/10.4149/bl\\_2015\\_063](https://doi.org/10.4149/bl_2015_063)
- Lucio, R. A., Tlachi, J. L., López, A. A., Zempoalteca, R., dan Velázquez-Moctezuma, J. 2009. Analysis of the parameters of the ejaculate in the laboratory Wistar rat: technical description. *Veterinaria México*, 40(4), 405-415.
- Ludwig L, Dobromylskij M., Wood G. A., dan van der Weyden L. 2022. Feline Oncogenomics: What Do We Know about the Genetics of Cancer in Domestic Cats? *Veterinary Sciences*. 9(10):547. <https://doi.org/10.3390/vetsci9100547>
- Modlinska, K., dan Pisula, W. 2020. The Norway rat, from an obnoxious pest to a laboratory pet. *eLife*, 9, e50651. <https://doi.org/10.7554/eLife.50651>
- Montes-Garrido, R., Anel-Lopez, L., Riesco, M. F., Neila-Montero, M., Palacin-Martinez, C., Soriano-Úbeda, C., Boixo, J. C., de Paz, P., Anel, L., dan Alvarez, M. 2023. Does Size Matter? Testicular Volume and Its Predictive Ability of Sperm Production in Rams. *Animals : an open access journal from MDPI*, 13(20), 3204. <https://doi.org/10.3390/ani13203204>
- Musser, G.G. and Carleton, M.D. 2005. Superfamily Muroidea. In: Wilson, D.E. and Reeder, D.M., Eds., *Mammal Species of the World: A Taxonomic and Geographic Reference*, The Johns Hopkins University Press : Baltimore, 2142.
- Pratiwi, S. B., dan Dollah, M. A. 2014. Testicular morphology of male exposed to *Phaleria macrocarpa* (Mahkota dewa) aqueous extract in a journal of basic medical sciences. 17(5) : 384–390.
- Pratiwi, S. B., dan Nugraha, R. T. P. Reproductive Organ of Male Wistar Rat (*Paruromys dominator*). *Jurnal Sain Veteriner*. 31(1) :



- Plumb, Donald C. 2008. *Veterinary Drug Handbook*. Stocholkm: Blackwell Publishing.
- Putri, A.P. 2015. Efek Vitamin C Terhadap Kualitas Spermatozoa Yang Diberi Paparan Asap Rokok. *J Majority*. 4(1) : 1-4.
- Ramirez, D. A., Collins, K. P., Aradi, A. E., Conger, K. A., dan Gustafson, D. L. 2019. Kinetics of Cyclophosphamide Metabolism in Humans, Dogs, Cats, and Mice and Relationship to Cytotoxic Activity and Pharmacokinetics. *Drug metabolism and disposition: the biological fate of chemicals*, 47(3), 257–268. <https://doi.org/10.1124/dmd.118.083766>
- Rejeki, P.S., Eka A.C.P., dan Rizka E.P. 2018. *Ovariektomi Pada Tikus Dan Mencit*. Surabaya : Pusat Penerbitan dan Percetakan Universitas Airlangga (AUP).
- Rinaldi, V. D., Donnard, E., Gellatly, K., Rasmussen, M., Kucukural, A., Yukselen, O., Garber, M., Sharma, U., dan Rando, O. J. 2020. An atlas of cell types in the mouse epididymis and vas deferens. *eLife*, 9, e55474. <https://doi.org/10.7554/eLife.55474>
- Rosidah, I., Ningsih, S., Renggan, T. N., Agustini, K., dan Efendi, J. 2020. Profil hematologi tikus (*rattus norvegicus*) galur sprague-dawley jantan umur 7 dan 10 minggu. *Jurnal Bioteknologi dan Biosains Indonesia*. 7(1) : 136-145.
- Saptarini, N. M., Rahayu, D., dan Herawati, I. E. 2019. Antioxidant Activity of Crude Bromelain of Pineapple (*Ananas comosus* (L.) Merr) Crown from Subang District, Indonesia. *Journal of pharmacy & bioallied sciences*, 11(Suppl 4), S551–S555. [https://doi.org/10.4103/jpbs.JPBS\\_200\\_19](https://doi.org/10.4103/jpbs.JPBS_200_19)
- Shabanian, S., Farahbod, F., Rafieian, M., Ganji, F., dan Adib, A. 2017. The effects of Vitamin C on sperm quality parameters in laboratory rats following long-term exposure to cyclophosphamide. *Journal of advanced pharmaceutical technology & research*, 8(2), 73–79. [https://doi.org/10.4103/japtr.JAPTR\\_153\\_16](https://doi.org/10.4103/japtr.JAPTR_153_16)
- Silaban, Irfan, dan Soraya Rahmanisa. 2016. Pengaruh Enzim Bromelin Buah Nanas (*Ananas Comosus* L.) Terhadap Awal Kehamilan Effect of Bromelin in Pineapple (*Ananas Comosus* L.) on Early Pregnancy. *Majority*. 5(4): 80–85.
- Sudatri. N.W., Dwi A.Y., dan Ni M.S.2019. Penurunan Kualitas Sperma Tikus (*Rattus novergivus*) yang Diinjeksi Vitamin C Dosis Tinggi dalam Jangka Waktu Lama. *JURNAL METAMORFOSA*. 6 (1): 7-13.
- Susilawati, T. 2011. *Spermatologi*. Malang : UB Press.
- Van der Leij, W. J. R., Selman, L. D. A. M., Vernooij, J. C. M., dan Vinke, C. M. 2019. The effect of a hiding box on stress levels and body weight in Dutch shelter cats; a randomized controlled trial. *PloS one*. 14(10), e0223492. <https://doi.org/10.1371/journal.pone.0223492>
- Vijayprasad, S., Bb, G., dan Bb, N. 2014. Effect of vitamin C on male fertility in rats subjected to forced swimming stress. *Journal of clinical and diagnostic research* : *JCDR*, 8(7), HC05–HC8. <https://doi.org/10.7860/JCDR/2014/8432.4622>
- Ningsih, T., Khaldun, M. I., dan Adhiwirawan, M. F. 2020. Efek Vitamin C Terhadap Stres Oksidatif Testis dan Kualitas Sperma Pada Tikus (*Mus Musculus*) Setelah Diinduksi Cyclophosphamide. *Jurnal Biosasarjana*. 22(2) : 63-72.



## LAMPIRAN

### Lampiran 1. Pembagian Kelompok Perlakuan



Pembagian kelompok perlakuan, yang terbagi kedalam 5 kelompok kelompok kontrol (KKP), *cyclophosphamide* (KKN), *cyclophosphamide* + vitamin C (KP1), *cyclophosphamide* + enzim bromelin (KP2) ataupun pemberian *cyclophosphamide* dengan kombinasi pemberian enzim bromelin dan vitamin C (KP3).



## Lampiran 2. Perlakuan

	Euthanasia pada hewan percobaan
	Pemberian enzim bromelin dan vitamin C menggunakan sonde
	Penginjeksian <i>Cyclophosphamide</i>



**Lampiran 3. Pemeriksaan Sampel**

	<p>Pemeriksaan sampel testis tikus</p>
	<p>Pencacahan epididimis untuk melihat warna semen</p>
	<p>Pemeriksaan p H semen</p>



#### Lampiran 4. Berat Testis Kiri

Uji Normalitas Berat Testis Kiri							
		Kolmogorov-Smirnov <sup>a</sup>			Shapiro-Wilk		
	VAR00001	Statistic	df	Sig.	Statistic	df	Sig.
VAR00002	P0	.254	5	.200*	.935	5	.630
	P1	.253	5	.200*	.889	5	.351
	P2	.189	5	.200*	.963	5	.829
	P3	.184	5	.200*	.952	5	.751
	P4	.229	5	.200*	.881	5	.314

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

  

Uji Homogenitas Berat Testis Kiri					
		Levene			
	VAR00002	Statistic	df1	df2	Sig.
	Based on Mean	.566	4	20	.690
	Based on Median	.454	4	20	.769
	Based on Median and with adjusted df	.454	4	17.655	.768
	Based on trimmed mean	.569	4	20	.688



### Deskriptif Berat Testis Kiri

VAR00002

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
P0	5	1.18	.139	.062	1.01	1.36	1	1
P1	5	.98	.135	.060	.82	1.15	1	1
P2	5	1.10	.167	.075	.90	1.31	1	1
P3	5	1.01	.081	.036	.91	1.12	1	1
P4	5	1.11	.116	.052	.96	1.25	1	1
Total	25	1.08	.140	.028	1.02	1.14	1	1

### Uji Anova Berat Testis Kiri

VAR00002

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	.129	4	.032	1.880	.153
Within Groups	.342	20	.017		
Total	.471	24			



## Lampiran 5. Berat Testis Kanan

Uji Normalitas Berat Testis Kanan								
		Kolmogorov-Smirnov <sup>a</sup>			Shapiro-Wilk			
		PERLAKUAN	Statistic	df	Sig.	Statistic	df	Sig.
BERATESTISKANAN	P0		.182	5	.200 <sup>*</sup>	.986	5	.962
	P1		.253	5	.200 <sup>*</sup>	.889	5	.351
	P2		.223	5	.200 <sup>*</sup>	.923	5	.547
	P3		.181	5	.200 <sup>*</sup>	.983	5	.950
	P4		.256	5	.200 <sup>*</sup>	.892	5	.368

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

  

Uji Homogenitas Berat Testis Kanan					
		Levene			
		Statistic	df1	df2	Sig.
BERATESTISKANAN	Based on Mean	.364	4	20	.831
	Based on Median	.308	4	20	.869
	Based on Median and with adjusted df	.308	4	18.306	.869
	Based on trimmed mean	.372	4	20	.826



### Deskriptif Berat Testis Kanan

BERATESTISKANAN

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
P0	5	1.19	.133	.059	1.03	1.35	1	1
P1	5	.98	.135	.060	.82	1.15	1	1
P2	5	1.12	.149	.067	.93	1.30	1	1
P3	5	1.02	.086	.038	.91	1.12	1	1
P4	5	1.12	.115	.051	.97	1.26	1	1
Total	25	1.08	.138	.028	1.03	1.14	1	1

### ANOVA

BERATESTISKANAN

	Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	.140	4	.035	2.232	.102
Within Groups	.314	20	.016		
Total	.454	24			



### Lampiran 6. Uji Statistik Total Berat Testis

Uji Normalitas Total Berat Testis							
	VAR00002	Kolmogorov-Smirnov <sup>a</sup>			Shapiro-Wilk		
		Statistic	df	Sig.	Statistic	df	Sig.
VAR00003	1.00	.150	5	.200 <sup>*</sup>	.979	5	.931
	2.00	.253	5	.200 <sup>*</sup>	.889	5	.351
	3.00	.215	5	.200 <sup>*</sup>	.937	5	.645
	4.00	.182	5	.200 <sup>*</sup>	.971	5	.883
	5.00	.242	5	.200 <sup>*</sup>	.889	5	.354

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

a. Lilliefors Significance Correction

  

Uji Homogenitas Total Berat Testis					
		Levene Statistic	df1	df2	Sig.
	Based on Median	.430	4	20	.786
	Based on Median and with adjusted df	.430	4	18.350	.785
	Based on trimmed mean	.527	4	20	.717



### Uji Deskriptif Total Berat Testis

VAR00003

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
1.00	5	2.3400	.28601	.12791	1.9849	2.6951	2.01	2.76
2.00	5	1.9680	.27041	.12093	1.6322	2.3038	1.72	2.40
3.00	5	2.2220	.31483	.14080	1.8311	2.6129	1.89	2.64
4.00	5	2.0300	.16673	.07457	1.8230	2.2370	1.78	2.22
5.00	5	2.2240	.23028	.10299	1.9381	2.5099	2.02	2.59
Total	25	2.1568	.27460	.05492	2.0435	2.2701	1.72	2.76

### Uji Anova Total Berat Testis

VAR00003

	Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	.470	4	.118	1.755	.178
Within Groups	1.339	20	.067		
Total	1.810	24			



### Lampiran 7. Panjang Testis Kiri

Uji Normalitas Panjang Testis Kiri							
	VAR00002	Kolmogorov-Smirnov <sup>a</sup>			Shapiro-Wilk		
		Statistic	Df	Sig.	Statistic	df	Sig.
VAR00001	1.00	.219	5	.200*	.967	5	.859
	2.00	.252	5	.200*	.807	5	.093
	3.00	.252	5	.200*	.954	5	.765
	4.00	.188	5	.200*	.966	5	.851
	5.00	.237	5	.200*	.955	5	.770

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

a. Lilliefors Significance Correction

  

Uji Homogenitas Panjang Testis Kiri					
		Levene		df2	Sig.
		Statistic	df1		
VAR00001	Based on Mean	1.730	4	20	.183
	Based on Median	.921	4	20	.471
	Based on Median and with adjusted df	.921	4	13.542	.480
	Based on trimmed mean	1.710	4	20	.187



### Descriptives

VAR00001

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
1.00	5	17.5300	1.36363	.60984	15.8368	19.2232	15.60	19.40
2.00	5	15.2000	.83367	.37283	14.1649	16.2351	14.60	16.60
3.00	5	15.9960	1.63557	.73145	13.9652	18.0268	13.50	17.98
4.00	5	16.0800	1.69322	.75723	13.9776	18.1824	13.50	18.00
5.00	5	16.4860	2.60081	1.16312	13.2567	19.7153	13.00	19.55
Total	25	16.2584	1.75465	.35093	15.5341	16.9827	13.00	19.55

### Uji Anova Panjang Testis Kiri

VAR00001

	Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	14.448	4	3.612	1.215	.335
Within Groups	59.443	20	2.972		
Total	73.892	24			



### Lampiran 8. Panjang Testis Kanan

Uji Normalitas Panjang Testis Kanan							
		Kolmogorov-Smirnov <sup>a</sup>			Shapiro-Wilk		
		Statistic	df	Sig.	Statistic	df	Sig.
DIAMETERPAJANGKANAN	P0	.191	5	.200 <sup>*</sup>	.979	5	.931
	P1	.182	5	.200 <sup>*</sup>	.951	5	.742
	P2	.263	5	.200 <sup>*</sup>	.945	5	.702
	P3	.261	5	.200 <sup>*</sup>	.814	5	.106
	P4	.232	5	.200 <sup>*</sup>	.959	5	.798

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

  

Uji Homogenitas Panjang Testis Kanan					
		Levene			
		Statistic	df1	df2	Sig.
DIAMETERPAJANGKANAN	Based on Mean	2.063	4	20	.124
	Based on Median	1.080	4	20	.393
	Based on Median and with adjusted df	1.080	4	12.079	.409
	Based on trimmed mean	2.029	4	20	.129



### Uji Deskriptif Panjang Testis Kanan

DIAMETERPAJANGKANAN

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
P0	5	17.5200	1.37368	.61433	15.8143	19.2257	15.60	19.40
P1	5	14.7600	1.15239	.51536	13.3291	16.1909	13.20	16.00
P2	5	15.9600	1.71843	.76851	13.8263	18.0937	13.30	18.00
P3	5	15.2200	.81670	.36524	14.2059	16.2341	14.60	16.60
P4	5	16.5200	2.60998	1.16722	13.2793	19.7607	13.00	19.60
Total	25	15.9960	1.80543	.36109	15.2508	16.7412	13.00	19.60

### ANOVA

DIAMETERPAJANGKANAN

	Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	23.642	4	5.910	2.165	.110
Within Groups	54.588	20	2.729		
Total	78.230	24			



### Lampiran 9. Rata-Rata Panjang Testis

Uji Normalitas Rata-Rata Panjang Testis							
		Kolmogorov-Smirnov <sup>a</sup>			Shapiro-Wilk		
	VAR00002	Statistic	df	Sig.	Statistic	df	Sig.
VAR00003	P0	.200	5	.200*	.974	5	.900
	P1	.242	5	.200*	.879	5	.305
	P2	.259	5	.200*	.948	5	.720
	P3	.193	5	.200*	.958	5	.797
	P4	.234	5	.200*	.957	5	.787

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

  

Uji Homogenitas Rata-Rata Panjang Testis					
		Levene			
	VAR00003	Statistic	df1	df2	Sig.
Based on Mean		2.265	4	20	.098
Based on Median		1.161	4	20	.357
Based on Median and with adjusted df		1.161	4	10.932	.380
Based on trimmed mean		2.228	4	20	.102



### Deskriptif Rata-Rata Panjang Testis

VAR00003

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
P0	5	17.5260	1.36762	.61162	15.8279	19.2241	15.60	19.40
P1	5	14.9800	.82961	.37101	13.9499	16.0101	14.25	16.30
P2	5	15.9700	1.66493	.74458	13.9027	18.0373	13.40	17.95
P3	5	15.6500	.98107	.43875	14.4318	16.8682	14.40	16.80
P4	5	16.5060	2.60660	1.16571	13.2695	19.7425	13.00	19.58
Total	25	16.1264	1.71626	.34325	15.4180	16.8348	13.00	19.58

### ANOVA

VAR00003

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	18.343	4	4.586	1.752	.178
Within Groups	52.350	20	2.618		
Total	70.693	24			



### Lampiran 10. Lebar Testis Kiri

Uji Normalitas Lebar Testis Kiri							
	VAR00002	Kolmogorov-Smirnov <sup>a</sup>			Shapiro-Wilk		
		Statistic	df	Sig.	Statistic	df	Sig.
VAR00001	1.00	.208	5	.200*	.928	5	.584
	2.00	.196	5	.200*	.954	5	.767
	3.00	.212	5	.200*	.977	5	.915
	4.00	.263	5	.200*	.799	5	.079
	5.00	.249	5	.200*	.834	5	.149

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

  

Uji Homogenitas Lebar Testis Kiri					
		Levene			
		Statistic	df1	df2	Sig.
VAR00001	Based on Mean	.940	4	20	.461
	Based on Median	.359	4	20	.835
	Based on Median and with adjusted df	.359	4	10.571	.832
	Based on trimmed mean	.852	4	20	.509



### Deskriptif Lebar Testis Kiri

VAR00001

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
1.00	5	9.5400	.64265	.28740	8.7420	10.3380	8.80	10.30
2.00	5	8.8600	.98641	.44113	7.6352	10.0848	7.70	10.20
3.00	5	9.3200	.99348	.44430	8.0864	10.5536	7.90	10.60
4.00	5	9.0600	1.76437	.78905	6.8692	11.2508	6.10	10.30
5.00	5	9.8600	1.10136	.49254	8.4925	11.2275	9.00	11.70
Total	25	9.3280	1.11599	.22320	8.8673	9.7887	6.10	11.70

### Uji Anova Lebar Testis Kiri

VAR00001

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	3.094	4	.774	.577	.682
Within Groups	26.796	20	1.340		
Total	29.890	24			



### Lampiran 11. Lebar Testis Kanan

Uji Normalitas Lebar Testis Kanan							
	VAR00002	Kolmogorov-Smirnov <sup>a</sup>			Shapiro-Wilk		
		Statistic	Df	Sig.	Statistic	df	Sig.
VAR00003	1.00	.234	5	.200*	.928	5	.585
	2.00	.192	5	.200*	.944	5	.693
	3.00	.212	5	.200*	.977	5	.915
	4.00	.268	5	.200*	.807	5	.091
	5.00	.307	5	.138	.799	5	.079

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

a. Lilliefors Significance Correction

  

Uji Homogenitas Lebar Testis Kanan						
	VAR00003		Levene			
			Statistic	df1	df2	Sig.
		Based on Mean	.622	4	20	.652
		Based on Median	.224	4	20	.922
		Based on Median and with adjusted df	.224	4	11.790	.920
		Based on trimmed mean	.562	4	20	.693



### Deskriptif Lebar Testis Kanan

VAR00003

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
1.00	5	9.7000	.87464	.39115	8.6140	10.7860	8.80	10.90
2.00	5	8.8800	.95760	.42825	7.6910	10.0690	7.80	10.20
3.00	5	9.3200	.99348	.44430	8.0864	10.5536	7.90	10.60
4.00	5	9.0600	1.70529	.76263	6.9426	11.1774	6.20	10.30
5.00	5	9.8200	1.09864	.49132	8.4559	11.1841	9.00	11.70
<b>Total</b>	<b>25</b>	<b>9.3560</b>	<b>1.12512</b>	<b>.22502</b>	<b>8.8916</b>	<b>9.8204</b>	<b>6.20</b>	<b>11.70</b>

### Uji Anova Lebar Testis Kanan

VAR00003

	Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	3.246	4	.811	.598	.668
Within Groups	27.136	20	1.357		
<b>Total</b>	<b>30.382</b>	<b>24</b>			



## Lampiran 12. Total Lebar Testis

Uji normalitas rata-rata lebar testis							
		Kolmogorov-Smirnov <sup>a</sup>			Shapiro-Wilk		
	VAR00002	Statistic	df	Sig.	Statistic	df	Sig.
VAR00001	P0	.219	5	.200*	.904	5	.435
	P1	.194	5	.200*	.949	5	.733
	P2	.212	5	.200*	.977	5	.915
	P3	.265	5	.200*	.803	5	.085
	P4	.278	5	.200*	.818	5	.112

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

a. Lilliefors Significance Correction

  

Uji Homogenitas Rata-Rata Lebar Testis					
		Levene			
		Statistic	df1	df2	Sig.
VAR00001	Based on Mean	.758	4	20	.565
	Based on Median	.282	4	20	.886
	Based on Median and with adjusted df	.282	4	11.029	.884
	Based on trimmed mean	.685	4	20	.611



### Deskriptif rata-rata Lebar Testis

VAR00001

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
P0	5	9.6200	.74632	.33377	8.6933	10.5467	8.80	10.50
P1	5	8.8700	.97185	.43463	7.6633	10.0767	7.75	10.20
P2	5	9.3200	.99348	.44430	8.0864	10.5536	7.90	10.60
P3	5	9.0600	1.73472	.77579	6.9061	11.2139	6.15	10.30
P4	5	9.8400	1.09909	.49153	8.4753	11.2047	9.00	11.70
Total	25	9.3420	1.11735	.22347	8.8808	9.8032	6.15	11.70

### ANOVA

VAR00001

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	3.140	4	.785	.585	.677
Within Groups	26.823	20	1.341		
Total	29.963	24			



### Lampiran 13. Volume Testis Kiri Tikus

#### Uji Normalitas Volume Testis Kiri Tikus

	VAR00003	Kolmogorov-Smirnov <sup>a</sup>			Shapiro-Wilk		
		Statistic	df	Sig.	Statistic	df	Sig.
VAR00001	p0	.274	5	.200*	.912	5	.481
	p1	.218	5	.200*	.929	5	.591
	p2	.191	5	.200*	.929	5	.591
	p4	.206	5	.200*	.904	5	.433
	p5	.197	5	.200*	.946	5	.711

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

a. Lilliefors Significance Correction

#### Uji Homogenitas Volume Testis Kiri Tikus

	VAR00001		Levene			
			Statistic	df1	df2	Sig.
		Based on Mean	1.640	4	20	.203
		Based on Median	1.222	4	20	.333
		Based on Median and trimmed	1.222	4	13.943	.346
		Based on Mean, trimmed	1.568	4	20	.221



### Deskriptif Volume Testis Kiri Tikus

VAR00001

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
p0	5	835.1540	96.55777	43.18195	715.2617	955.0463	699.72	972.50
p1	5	633.1140	150.94930	67.50658	445.6857	820.5423	453.43	812.00
p2	5	742.6540	199.93355	89.41300	494.4037	990.9043	441.33	941.68
p4	5	730.8180	293.62032	131.31100	366.2402	1095.3958	263.13	1000.28
p5	5	859.9360	283.07932	126.59692	508.4466	1211.4254	563.90	1247.65
Tota	25	760.3352	215.84656	43.16931	671.2381	849.4323	263.13	1247.65

### ANOVA

VAR00001

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	164436.479	4	41109.120	.862	.503
Within Groups	953717.265	20	47685.863		
Total	1118153.744	24			





### Deskriptif Volume Testis Kanan

VAR00002

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
p0	5	862.5060	117.47677	52.53721	716.6393	1008.3727	693.64	978.05
p1	5	615.8000	143.91566	64.36104	437.1051	794.4949	446.16	817.46
p2	5	741.5480	202.60777	90.60895	489.9772	993.1188	434.79	941.68
p4	5	674.3000	234.79751	105.00464	382.7604	965.8396	308.07	904.65
p5	5	853.3940	277.40010	124.05710	508.9563	1197.8317	563.90	1247.65
Tota	2	749.5096	210.78858	42.15772	662.5003	836.5189	308.07	1247.65
l	5	68			3			

### Anova

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	235791.416	4	58947.854	1.419	.264
Within Groups	330572.419	20	41528.621		
Total	566363.835	24			



## Lampiran 15. Rata-rata Volume Testis

## Uji Normalitas Rata-rata Volume Testis

	VAR00003	Kolmogorov-Smirnov <sup>a</sup>			Shapiro-Wilk		
		Statistic	df	Sig.	Statistic	df	Sig.
VAR00002	p0	.222	5	.200*	.904	5	.432
	p1	.184	5	.200*	.980	5	.933
	p2	.191	5	.200*	.926	5	.573
	p4	.201	5	.200*	.928	5	.585
	p5	.192	5	.200*	.950	5	.740

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

a. Lilliefors Significance Correction

## Uji Homogenitas Rata-rata Volume Testis

	VAR00002		Levene			
			Statistic	df1	df2	Sig.
		Based on Mean	.986	4	20	.438
		Based on Median	.781	4	20	.551
		Based on Median and with adjusted df	.781	4	15.713	.554
		Based on trimmed mean	.941	4	20	.460



### Deskriptif Rata-rata Volume Testis

VAR00002

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
p0	5	862.50	117.4767	52.537	716.6393	1008.372	693.6	978.05
		60	7	21		7	4	
p1	5	615.80	143.9156	64.361	437.1051	794.4949	446.1	817.46
		00	6	04			6	
p2	5	741.54	202.6077	90.608	489.9772	993.1188	434.7	941.68
		80	7	95			9	
p4	5	674.30	234.7975	105.00	382.7604	965.8396	308.0	904.65
		00	1	464			7	
p5	5	853.39	277.4001	124.05	508.9563	1197.831	563.9	1247.6
		40	0	710		7	0	5
Total	25	749.50	210.7885	42.157	662.5003	836.5189	308.0	1247.6
al		96	8	72			7	5

### ANOVA

VAR00002

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	235791.416	4	58947.854	1.419	.264
Within Groups	830572.419	20	41528.621		
Total	1066363.835	24			





Optimized using  
trial version  
[www.balesio.com](http://www.balesio.com)