

DAFTAR PUSTAKA

- Abidi, A., Aissani, N., Sebai, H., Serairi, R., Kourda, N., & Ben Khamsa, S. (2017). Protective Effect of Pistacia lentiscus Oil Against Bleomycin-Induced Lung Fibrosis and Oxidative Stress in Rat. *Nutrition and Cancer*, 69(3), 490–497. <https://doi.org/10.1080/01635581.2017.1283423>
- Arnold, M., Rajagukguk, Y. V., & Gramza-Michałowska, A. (2021). Functional food for elderly high in antioxidant and chicken eggshell calcium to reduce the risk of osteoporosis—a narrative review. In *Foods* (Vol. 10, Issue 3). MDPI AG. <https://doi.org/10.3390/foods10030656>
- Asghar Hemmati, A., Rezaie, A., Darabpour, P., Yang, P., Farmasi, S., Penelitian, P., Obat, T., & Alami, D. P. (2013). *Efek Pencegahan Ekstrak Biji Delima Terhadap Fibrosis Paru yang Diinduksi Bleomisin pada Tikus*. www.onlinedoctranslator.com
- Brochetti, R. A., Leal, M. P., Rodrigues, R., da Palma, R. K., de Oliveira, L. V. F., Horliana, A. C. R. T., Damazo, A. S., de Oliveira, A. P. L., Paula Vieira, R., & Lino-dos-Santos-Franco, A. (2017). Photobiomodulation therapy improves both inflammatory and fibrotic parameters in experimental model of lung fibrosis in mice. *Lasers in Medical Science*, 32(8), 1825–1834. <https://doi.org/10.1007/s10103-017-2281-z>
- Cardiovascular, P., & Pathology, R. (n.d.). *Gender-Based Differences in Bleomycin-Induced Pulmonary Fibrosis*.
- Chakraborty S, & Santa D. (2019). Kulit Telur: Sumber Alternatif, Murah, dan Tersedia Secara Hayati Kalsium dalam Diet Manusia. *Jurnal Sains Dan Teknologi Susu*.
- Chaudhary, N. I., Schnapp, A., & Park, J. E. (2006). Pharmacologic differentiation of inflammation and fibrosis in the rat bleomycin model. *American Journal of Respiratory and Critical Care Medicine*, 173(7), 769–776. <https://doi.org/10.1164/rccm.200505-717OC>
- Chu, H., Shi, Y., Jiang, S., Zhong, Q., Zhao, Y., Liu, Q., Ma, Y., Shi, X., Ding, W., Zhou, X., Cui, J., Jin, L., Guo, G., & Wang, J. (2017). Treatment effects of the traditional Chinese medicine Shenks in bleomycin-induced lung fibrosis through regulation of TGF-beta/Smad3 signaling and oxidative stress. *Scientific Reports*, 7(1). <https://doi.org/10.1038/s41598-017-02293-z>
- Day, B. J. (2008). Antioxidants as potential therapeutics for lung fibrosis. In *Antioxidants and Redox Signaling* (Vol. 10, Issue 2, pp. 355–370). <https://doi.org/10.1089/ars.2007.1916>
- Degryse, A. L., Tanjore, H., Xu, X. C., Polosukhin, V. V., Jones, B. R., McMahon, F. B., Gleaves, L. A., Blackwell, T. S., & Lawson, W. E. (2010). Repetitive

- intratracheal bleomycin models several features of idiopathic pulmonary fibrosis. *American Journal of Physiology - Lung Cellular and Molecular Physiology*, 299(4). <https://doi.org/10.1152/ajplung.00026.2010>
- Desdiani, Iris R, S. D. A. S., Mohamad S, Sri W A J, Nuryati C S, Suradi, & Putri C E. (2020). Ekstrak Teh Hijau Mengurangi Luas Area Fibrosis Paru Tikus. *Maj Patol Indonesia*, 15–24.
- El-Sayed, N. S., & Rizk, S. M. (2009). The protective effect of quercetin, green tea or malt extracts against experimentally-induced lung fibrosis in rats. *African Journal of Pharmacy and Pharmacology*, 3(5), 191–201. <http://www.academicjournals.org/ajpp>
- El-Tantawy, W. H., & Temraz, A. (2019). Anti-fibrotic activity of natural products, herbal extracts and nutritional components for prevention of liver fibrosis: review. In *Archives of Physiology and Biochemistry*. Taylor and Francis Ltd. <https://doi.org/10.1080/13813455.2019.1684952>
- El-Zeftawy, M., Ali, S. A. E. M., Salah, S., & Hafez, H. S. (2020). The functional nutritional and regulatory activities of calcium supplementation from eggshell for obesity disorders management. *Journal of Food Biochemistry*, 44(8). <https://doi.org/10.1111/jfbc.13313>
- Faria, S. S., Fernandes, P. C., Silva, M. J. B., Lima, V. C., Fontes, W., Freitas, R., Eterovic, A. K., & Forget, P. (2016). The neutrophil-to-lymphocyte ratio: A narrative review. In *ecancermedicalscience* (Vol. 10). Cancer Intelligence. <https://doi.org/10.3332/ecancer.2016.702>
- Febrianti, D. R., & Musiam, S. (2020). Aktivitas Anti-Inflamasi Eupatorium inulifolium dan Kalsium Karbonat Pada Tikus Jantan. *Jurnal Pharmascience*, 07(01), 92–98. <https://ppjp.ulm.ac.id/journal/index.php/pharmascience>
- Galvano, A., Peri, M., Guarini, A. A., Castiglia, M., Grassadonia, A., De Tursi, M., Irtelli, L., Rizzo, S., Bertani, A., Gristina, V., Barraco, N., Russo, A., Natoli, C., & Bazan, V. (2020). Analysis of systemic inflammatory biomarkers in neuroendocrine carcinomas of the lung: prognostic and predictive significance of NLR, LDH, ALI, and LIPI score. *Therapeutic Advances in Medical Oncology*, 12, 1–11. <https://doi.org/10.1177/1758835920942378>
- Gharagozloo, M., Gris, K. V., Mahvelati, T., Amrani, A., Lukens, J. R., & Gris, D. (2018). NLR-dependent regulation of inflammation in multiple sclerosis-Dependent regulation of inflammation in multiple sclerosis. *Frontiers in Immunology*, 8, 1–18. <https://doi.org/10.3389/fimmu.2017.02012>
- Gökmen, F., Akbal, A., Reşorlu, H., Gökmen, E., Güven, M., Aras, A. B., Erbağ, G., Kömürcü, E., Akbal, E., & Coşar, M. (2015). Neutrophil-Lymphocyte Ratio Connected to Treatment Options and Inflammation Markers of Ankylosing Spondylitis. *Journal of Clinical Laboratory Analysis*, 29(4), 294–298. <https://doi.org/10.1002/jcla.21768>
- Gurol, G., Ciftci, I. H., Terzi, H. A., Atasoy, A. R., Ozbek, A., & Koroglu, M. (2015).

Are There standardized cutoff values for neutrophil-lymphocyte ratios in bacteremia or sepsis? *Journal of Microbiology and Biotechnology*, 25(4), 521–525. <https://doi.org/10.4014/jmb.1408.08060>

Guyton, A.C. and Hall, J.E. 2006. *Textbook of Medical Physiology*. 11th ed. Elsevier Saunders. p 309. Available as PDF File.

Guyton AC & Hall, JE, 2014, Buku Ajar Fisiologi Kedokteran, Edisi 12, EGC, Jakarta.

Hardie, W. D., Glasser, S. W., & Hagood, J. S. (2009). Emerging concepts in the pathogenesis of lung fibrosis. In *American Journal of Pathology* (Vol. 175, Issue 1, pp. 3–16). American Society for Investigative Pathology Inc. <https://doi.org/10.2353/ajpath.2009.081170>

Hinz, B. (2012). Mechanical aspects of lung fibrosis: A spotlight on the myofibroblast. *Proceedings of the American Thoracic Society*, 9(3), 137–147. <https://doi.org/10.1513/pats.201202-017AW>

Jaya N M, Elisabeth A, Alycia M, & Made R S. (2021). Potensi Bubuk Kulit Telur sebagai Terapi Hiperparatiroid Sekunder. *Journal of Medicine and Health*.

Kermani M G, Kazuo H, Yasuhiro N, & Sem H P. (2005). Gender-Based Differences in Bleomycin-Induced Pulmonary Fibrosis. *American Journal of Pathology*.

Kilic, T., Parlakpınar, H., Polat, A., Taslidere, E., Vardi, N., Sarihan, E., Ermis, H., & Tanbag, K. (2014). Protective and therapeutic effect of molsidomine on bleomycin-induced lung fibrosis in rats. *Inflammation*, 37(4), 1167–1178. <https://doi.org/10.1007/s10753-014-9841-1>

Lakkakula, J. R., Kurapati, R., Tynga, I., Abrahamse, H., Raichur, A. M., & Maçedo Krause, R. W. (2016). Cyclodextrin grafted calcium carbonate vaterite particles: Efficient system for tailored release of hydrophobic anticancer or hormone drugs. *RSC Advances*, 6(106), 104537–104548. <https://doi.org/10.1039/c6ra12951j>

Lavelin, I., Meiri, N., & Pines, M. (2000). New insight in eggshell formation. *Poultry Science*, 79(7), 1014–1017. <https://doi.org/10.1093/ps/79.7.1014>

Li, L. C., & Kan, L. Di. (2017). Traditional Chinese medicine for pulmonary fibrosis therapy: Progress and future prospects. In *Journal of Ethnopharmacology* (Vol. 198, pp. 45–63). Elsevier Ireland Ltd. <https://doi.org/10.1016/j.jep.2016.12.042>

Lucarini, L., Durante, M., Sgambellone, S., Lanzi, C., Bigagli, E., Akgul, O., Masini, E., Supuran, C. T., & Carta, F. (2020). Effects of new nsaid-cai hybrid compounds in inflammation and lung fibrosis. *Biomolecules*, 10(9), 1–20. <https://doi.org/10.3390/biom10091307>

- M.M. Cordeiro, C., & T. Hincke, M. (2012). Recent Patents on Eggshell: Shell and Membrane Applications. *Recent Patents on Food, Nutrition & Agriculture*, 3(1), 1–8. <https://doi.org/10.2174/2212798411103010001>
- MacKinnon, A. C., Gibbons, M. A., Farnworth, S. L., Leffler, H., Nilsson, U. J., Delaine, T., Simpson, A. J., Forbes, S. J., Hirani, N., Gauldie, J., & Sethi, T. (2012). Regulation of transforming growth factor- β 1-driven lung fibrosis by galectin-3. *American Journal of Respiratory and Critical Care Medicine*, 185(5), 537–546. <https://doi.org/10.1164/rccm.201106-0965OC>
- Martins, E. C., Da Fe Silveira, L., Viegas, K., Beck, A. D., Júnior, G. F., Cremonese, R. V., & Lora, P. S. (2019). Neutrophil-lymphocyte ratio in the early diagnosis of sepsis in an intensive care unit: A case-control study. *Revista Brasileira de Terapia Intensiva*, 31(1), 63–70. <https://doi.org/10.5935/0103-507X.20190010>
- Misharin, A. V., Morales-Nebreda, L., Reyfman, P. A., Cuda, C. M., Walter, J. M., McQuattie-Pimentel, A. C., Chen, C. I., Anekalla, K. R., Joshi, N., Williams, K. J. N., Abdala-Valencia, H., Yacoub, T. J., Chi, M., Chiu, S., Gonzalez-Gonzalez, F. J., Gates, K., Lam, A. P., Nicholson, T. T., Homan, P. J., ... Perlman, H. (2017). Monocyte-derived alveolar macrophages drive lung fibrosis and persist in the lung over the life span. *Journal of Experimental Medicine*, 214(8), 2387–2404. <https://doi.org/10.1084/jem.20162152>
- Mouratis, M. A., & Aidinis, V. (2011). Modeling pulmonary fibrosis with bleomycin. In *Current Opinion in Pulmonary Medicine* (Vol. 17, Issue 5, pp. 355–361). <https://doi.org/10.1097/MCP.0b013e328349ac2b>
- N. Lekkerkerker, A., Aarbiou, J., van Es, T., & A.J. Janssen, R. (2012). Cellular Players in Lung Fibrosis. *Current Pharmaceutical Design*, 18(27), 4093–4102. <https://doi.org/10.2174/138161212802430396>
- Nakano T, Ikawa N I, & Ozimek L. (2003). Komposisi Kimia Kulit Telur Ayam dan Membran Cangkang. *Ilmu Unggas*.
- Nichols, D. P., Konstan, M. W., & Chmiel, J. F. (2008). Anti-inflammatory therapies for cystic fibrosis-related lung disease. In *Clinical reviews in allergy & immunology* (Vol. 35, Issue 3, pp. 135–153). <https://doi.org/10.1007/s12016-008-8081-2>
- Peng, Y., Li, Y., He, Y., Wei, Q., Xie, Q., Zhang, L., Xia, Y., Zhou, X., Zhang, L., Feng, X., Chen, K., Chen, S., Chen, W., Long, Q., & Chai, J. (2018). The role of neutrophil to lymphocyte ratio for the assessment of liver fibrosis and cirrhosis: a systematic review. In *Expert Review of Gastroenterology and Hepatology* (Vol. 12, Issue 5, pp. 503–513). Taylor and Francis Ltd. <https://doi.org/10.1080/17474124.2018.1463158>
- Pittas, A. G., Harris, S. S., Stark, P. C., & Dawson-Hughes, B. (2007). *The Effects of Calcium and Vitamin D Supplementation on Blood Glucose and Markers of Inflammation in Nondiabetic Adults*. <https://doi.org/10.2337/dc06>

- Rabolli, V., Lo Re, S., Uwambayinema, F., Yakoub, Y., Lison, D., & Huaux, F. (2011). Lung fibrosis induced by crystalline silica particles is uncoupled from lung inflammation in NMRI mice. *Toxicology Letters*, *203*(2), 127–134. <https://doi.org/10.1016/j.toxlet.2011.03.009>
- Raish, M., Ahmad, A., Ahmad Ansari, M., Ahad, A., Al-Jenoobi, F. I., Al-Mohizea, A. M., Khan, A., & Ali, N. (2018). Sinapic acid ameliorates bleomycin-induced lung fibrosis in rats. *Biomedicine and Pharmacotherapy*, *108*, 224–231. <https://doi.org/10.1016/j.biopha.2018.09.032>
- Ruff, K. J., & DeVore, D. P. (2014). Reduction of pro-inflammatory cytokines in rats following 7-day oral supplementation with a proprietary eggshell membrane-derived product. *Modern Research in Inflammation*, *03*(01), 19–25. <https://doi.org/10.4236/mri.2014.31003>
- Salem, M. Y., El-Azab, N. E.-E., & Faruk, E. M. (2014). Modulatory effects of green tea and aloe vera extracts on experimentally-induced lung fibrosis in rats: histological and immunohistochemical study. *Journal of Histology and Histopathology*, *1*(1), 6. <https://doi.org/10.7243/2055-091x-1-6>
- Soder, H. E., Berumen, A. M., Gomez, K. E., Green, C. E., Suchting, R., Wardle, M. C., Vincent, J., Teixeira, A. L., Schmitz, J. M., & Lane, S. D. (2020). Elevated neutrophil to lymphocyte ratio in older adults with cocaine use disorder as a marker of chronic inflammation. *Clinical Psychopharmacology and Neuroscience*, *18*(1), 32–40. <https://doi.org/10.9758/CPN.2020.18.1.32>
- Stapane, L., Le Roy, N., Ezagal, J., Rodriguez-Navarro, A. B., Labas, V., Combes-Soia, L., Hincke, M. T., & Gautron, J. (2020). Avian eggshell formation reveals a new paradigm for vertebrate mineralization via vesicular amorphous calcium carbonate. *Journal of Biological Chemistry*, *295*(47), 15853–15869. <https://doi.org/10.1074/jbc.RA120.014542>
- Sumardi E, Arif S, & Andriany Q. (2020). Korelasi Konsentrasi Kalsium Serum dengan Fungsi Paru pada Remaja di Makassar. *Jurnal Ilmiah Kesehatan*.
- Suppiah, A., Malde, D., Arab, T., Hamed, M., Allgar, V., Smith, A. M., & Morris-Stiff, G. (2013). The Prognostic Value of the Neutrophil-Lymphocyte Ratio (NLR) in Acute Pancreatitis: Identification of an Optimal NLR. *Journal of Gastrointestinal Surgery*, *17*(4), 675–681. <https://doi.org/10.1007/s11605-012-2121-1>
- Szymanska, P., Rozalski, M., Wilczynski, M., & Golanski, J. (2021). Systemic immune-inflammation index (SII) and neutrophil to lymphocyte ratio (NLR) are useful markers for assessing effects of anti-inflammatory diet in patients before coronary artery bypass grafting. *Roczniki Panstwowego Zakladu Higieny*, *72*(3), 327–335. <https://doi.org/10.32394/rpzh.2021.0170>
- Tanjore, H., Xu, X. C., Polosukhin, V. V., Degryse, A. L., Li, B., Han, W., Sherrill, T. P., Plieth, D., Neilson, E. G., Blackwell, T. S., & Lawson, W. E. (2009). Contribution of epithelial-derived fibroblasts to bleomycin-induced lung fibrosis. *American Journal of Respiratory and Critical Care Medicine*, *180*(7),

657–665. <https://doi.org/10.1164/rccm.200903-0322OC>

- Verma, A. H., Kumar, T. S. S., Madhumathi, K., Rubaiya, Y., Ramalingan, M., & Doble, M. (2019). Curcumin Releasing Eggshell Derived Carbonated Apatite Nanocarriers for Combined Anti-Cancer, Anti-Inflammatory and Bone Regenerative Therapy. *Journal of Nanoscience and Nanotechnology*, *19*(11), 6872–6880. <https://doi.org/10.1166/jnn.2019.16640>
- Vuong, T. T., Rønning, S. B., Suso, H. P., Schmidt, R., Prydz, K., Lundström, M., Moen, A., & Pedersen, M. E. (2017). The extracellular matrix of eggshell displays anti-inflammatory activities through NF- κ B in LPS-triggered human immune cells. *Journal of Inflammation Research*, *10*, 83–96. <https://doi.org/10.2147/JIR.S130974>
- Wollin, L., Maillet, I., Quesniaux, V., Holweg, A., & Ryffel, B. (2014). Antifibrotic and anti-inflammatory activity of the Tyrosine Kinase inhibitor Nintedanib in Experimental Models Of Lung Fibrosiss. *Journal of Pharmacology and Experimental Therapeutics*, *349*(2), 209–220. <https://doi.org/10.1124/jpet.113.208223>
- Zhao, X., Cao, Z., Wang, R., & Liu, S. (2020). Research Progress in Modeling Methods of Rat Lung Fibrosis. *Journal of Physics: Conference Series*, *1549*(4). <https://doi.org/10.1088/1742-6596/1549/4/042004>
- Zhu, H., & Cao, X. (2017). NLR members in inflammation-associated carcinogenesis. *Cellular and Molecular Immunology*, *14*(5), 403–405. <https://doi.org/10.1038/cmi.2017.14>

LAMPIRAN 1

DOKUMENTASI PENELITIAN



Penimbangan dan pengukuran bahan induksi bleomisin terhadap hewan coba



Proses pemberian induksi bleomisin secara intratracheal



Proses Pembuatan dan pemberian suspensi cangkang telur dengan sonde



Proses pengambilan darah untuk pemeriksaan nlr dan pengambilan organ untuk pemeriksaan histopatologi paru

LAMPIRAN 2

ANALISIS STATISTIK

HISTOLOGI

Rata-rata derajat fibrosis

Descriptive Statistics

	N	Mean	Std. Deviation
K1	5	1.0000	.00000
K2	5	6.4000	.54772
P1	5	4.8000	.83666
P2	5	4.4000	1.14018
P3	5	2.8000	.83666
Valid N (listwise)	5		

Uji normalitas

Tests of Normality

	kelompok	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
		Statistic	df	Sig.	Statistic	df	Sig.
Derajat fibrosis	K1	.	5	.	.	5	.
	K2	.367	5	.026	.684	5	.006
	P1	.231	5	.200*	.881	5	.314
	P2	.237	5	.200*	.961	5	.814
	P3	.231	5	.200*	.881	5	.314

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

a. Lilliefors Significance Correction

Nilai signifikansi < 0.05 (data tidak berdistribusi Normal) maka dari itu di lanjutkan dengan pengujian mann whitney

Uji Homogenitas

Test of Homogeneity of Variances

		Levene Statistic	df1	df2	Sig.
Derajat fibrosis	Based on Mean	3.733	4	20	.020
	Based on Median	1.438	4	20	.258
	Based on Median and with adjusted df	1.438	4	13.474	.275
	Based on trimmed mean	3.766	4	20	.019

Signifikansi $0.02 > 0.05$ yang berarti data tidak homogen maka dilanjutkan dengan uji pengujian mann whitney.

Uji mann whitney

Uji mann whitney K1 & K2

Ranks

	kelompok	N	Mean Rank	Sum of Ranks
Derajat fibrosis	K1	5	3.00	15.00
	K2	5	8.00	40.00
	Total	10		

Test Statistics^a

Derajat fibrosis

Mann-Whitney U	.000
Wilcoxon W	15.000
Z	-2.835
Asymp. Sig. (2-tailed)	.005
Exact Sig. [2*(1-tailed Sig.)]	.008 ^b

a. Grouping Variable: kelompok

b. Not corrected for ties.

Signifikansi $0.005 < 0.05$ (berpengaruh signifikan)

Uji mann whitney K1 & P1

Ranks				
	kelompok	N	Mean Rank	Sum of Ranks
Derajat fibrosis	K1	5	3.00	15.00
	P1	5	8.00	40.00
	Total	10		

Test Statistics^a

Derajat fibrosis	
Mann-Whitney U	.000
Wilcoxon W	15.000
Z	-2.805
Asymp. Sig. (2-tailed)	.005
Exact Sig. [2*(1-tailed Sig.)]	.008 ^b

a. Grouping Variable: kelompok

b. Not corrected for ties.

Signifikansi $0.005 < 0.05$ (berpengaruh signifikan)

Uji mann whitney K1 & P2

Ranks				
	kelompok	N	Mean Rank	Sum of Ranks
Derajat fibrosis	K1	5	3.00	15.00
	P2	5	8.00	40.00
	Total	10		

Test Statistics^a

Derajat fibrosis	
Mann-Whitney U	.000
Wilcoxon W	15.000
Z	-2.795
Asymp. Sig. (2-tailed)	.005
Exact Sig. [2*(1-tailed Sig.)]	.008 ^b

a. Grouping Variable: kelompok

b. Not corrected for ties.

Signifikansi $0.005 < 0.05$ (berpengaruh signifikan)

Uji mann whitney K1 & P3

Ranks				
	kelompok	N	Mean Rank	Sum of Ranks
Derajat fibrosis	K1	5	3.00	15.00
	P3	5	8.00	40.00
	Total	10		

Test Statistics^a

Derajat fibrosis	
Mann-Whitney U	.000
Wilcoxon W	15.000
Z	-2.805
Asymp. Sig. (2-tailed)	.005
Exact Sig. [2*(1-tailed Sig.)]	.008 ^b

a. Grouping Variable: kelompok

b. Not corrected for ties.

Signifikansi $0.005 < 0.05$ (berpengaruh signifikan)

Uji mann whitney K2 & P1

Ranks				
	kelompok	N	Mean Rank	Sum of Ranks
Derajat fibrosis	K2	5	7.70	38.50
	P1	5	3.30	16.50
	Total	10		

Test Statistics^a

Derajat fibrosis	
Mann-Whitney U	1.500
Wilcoxon W	16.500
Z	-2.394
Asymp. Sig. (2-tailed)	.017
Exact Sig. [2*(1-tailed Sig.)]	.016 ^b

a. Grouping Variable: kelompok

b. Not corrected for ties.

Signifikansi $0.017 < 0.05$ (berpengaruh signifikan)

Uji mann whitney K2 & P2

Ranks				
	kelompok	N	Mean Rank	Sum of Ranks
Derajat fibrosis	K2	5	7.70	38.50
	P2	5	3.30	16.50
	Total	10		

Test Statistics^a

Derajat fibrosis

Mann-Whitney U	1.500
Wilcoxon W	16.500
Z	-2.386
Asymp. Sig. (2-tailed)	.017
Exact Sig. [2*(1-tailed Sig.)]	.016 ^b

a. Grouping Variable: kelompok

b. Not corrected for ties.

Signifikansi $0.017 < 0.05$ (berpengaruh signifikan)**Uji mann whitney K2 & P3****Ranks**

	kelompok	N	Mean Rank	Sum of Ranks
Derajat fibrosis	K2	5	8.00	40.00
	P3	5	3.00	15.00
	Total	10		

Test Statistics^a

Derajat fibrosis

Mann-Whitney U	.000
Wilcoxon W	15.000
Z	-2.668
Asymp. Sig. (2-tailed)	.008
Exact Sig. [2*(1-tailed Sig.)]	.008 ^b

a. Grouping Variable: kelompok

b. Not corrected for ties.

Signifikansi $0.008 < 0.05$ (berpengaruh signifikan)

NLR (Neutrofil limfosit rasio)

Rata-rata NLR

Descriptive Statistics

	N	Mean	Std. Deviation
kontrol negatif	5	1.9460	.33269
kontrol positif	5	.3400	.01000
dosis rendah	5	.5740	.01342
dosis sedang	5	.5740	.02074
dosis tinggi	5	.5920	.09149
Valid N (listwise)	5		

Uji Normalitas

Tests of Normality

	Kelompok	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
		Statistic	df	Sig.	Statistic	df	Sig.
Neutrofil Limfosit Rasio	K1	.312	5	.126	.841	5	.167
	K2	.241	5	.200*	.821	5	.119
	P1	.273	5	.200*	.852	5	.201
	P2	.224	5	.200*	.842	5	.171
	P3	.420	5	.004	.681	5	.006

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

a. Lilliefors Significance Correction

$P > 0,05$ pada kelompok K1,K2,P1, dan P2, Sedangkan kelompok P3 $P < 0,05$ Maka data tidak terdistribusi normal. Maka di lanjutkan dengan uji homogenitas

Uji Homogenitas

Test of Homogeneity of Variances

		Levene Statistic	df1	df2	Sig.
Neutrofil Limfosit Rasio	Based on Mean	25.293	4	20	.000
	Based on Median	3.079	4	20	.040
	Based on Median and with adjusted df	3.079	4	4.695	.131
	Based on trimmed mean	21.785	4	20	.000

P 0.00 < 0,05 maka data tidak homogen maka dari itu dilanjutkan dengan Uji Mann whitney

UJI MANN WHITNEY

Kelompok K1 & K2

Ranks

	Kelompok	N	Mean Rank	Sum of Ranks
Neutrofil Limfosit Rasio	K1	5	8.00	40.00
	K2	5	3.00	15.00
	Total	10		

Test Statistics^a

Neutrofil Limfosit Rasio	
Mann-Whitney U	.000
Wilcoxon W	15.000

Z	-2.627
Asymp. Sig. (2-tailed)	.009
Exact Sig. [2*(1-tailed Sig.)]	.008 ^b

a. Grouping Variable: Kelompok

b. Not corrected for ties.

Signifikansi $0.009 < 0.05$ (berpengaruh signifikan)

Kelompok K1 & P1

Ranks

	Kelompok	N	Mean Rank	Sum of Ranks
Neutrofil Limfosit Rasio	K1	5	8.00	40.00
	P1	5	3.00	15.00
	Total	10		

Test Statistics^a

Neutrofil Limfosit
Rasio

Mann-Whitney U	.000
Wilcoxon W	15.000
Z	-2.627
Asymp. Sig. (2-tailed)	.009
Exact Sig. [2*(1-tailed Sig.)]	.008 ^b

a. Grouping Variable: Kelompok

b. Not corrected for ties.

Signifikansi $0.009 < 0.05$ (berpengaruh signifikan)

Kelompok K1 dan P2

Ranks

	Kelompok	N	Mean Rank	Sum of Ranks
Neutrofil Limfosit Rasio	K1	5	8.00	40.00

	P2	5	3.00	15.00
	Total	10		

Test Statistics^a

Neutrofil Limfosit Rasio

Mann-Whitney U	.000
Wilcoxon W	15.000
Z	-2.619
Asymp. Sig. (2-tailed)	.009
Exact Sig. [2*(1-tailed Sig.)]	.008 ^b

a. Grouping Variable: Kelompok

b. Not corrected for ties.

Signifikansi $0.009 < 0.05$ (berpengaruh signifikan)

Kelompok K1 dan P3

Ranks

	Kelompok	N	Mean Rank	Sum of Ranks
Neutrofil Limfosit Rasio	K1	5	8.00	40.00
	P3	5	3.00	15.00
	Total	10		

Test Statistics^a

Neutrofil Limfosit Rasio

Mann-Whitney U	.000
Wilcoxon W	15.000
Z	-2.619

Asymp. Sig. (2-tailed)	.009
Exact Sig. [2*(1-tailed Sig.)]	.008 ^b

a. Grouping Variable: Kelompok

b. Not corrected for ties.

Signifikansi $0.009 < 0.05$ (berpengaruh signifikan)

Kelompok K2 & P1

		Ranks		
	Kelompok	N	Mean Rank	Sum of Ranks
Neutrofil Limfosit Rasio	K2	5	3.00	15.00
	P1	5	8.00	40.00
	Total	10		

Test Statistics^a

Neutrofil Limfosit Rasio	
Mann-Whitney U	.000
Wilcoxon W	15.000
Z	-2.643
Asymp. Sig. (2-tailed)	.008
Exact Sig. [2*(1-tailed Sig.)]	.008 ^b

a. Grouping Variable: Kelompok

b. Not corrected for ties.

Signifikansi $0.008 < 0.05$ (berpengaruh signifikan)

Kelompok K2 & P2

		Ranks		
	Kelompok	N	Mean Rank	Sum of Ranks
Neutrofil Limfosit Rasio	K2	5	3.00	15.00

	P2	5	8.00	40.00
	Total	10		

Test Statistics^a

Neutrofil Limfosit Rasio	
Mann-Whitney U	.000
Wilcoxon W	15.000
Z	-2.635
Asymp. Sig. (2-tailed)	.008
Exact Sig. [2*(1-tailed Sig.)]	.008 ^b

a. Grouping Variable: Kelompok

b. Not corrected for ties.

Signifikansi $0.008 < 0.05$ (berpengaruh signifikan)

Kelompok K2 & P3

		Ranks		
	Kelompok	N	Mean Rank	Sum of Ranks
Neutrofil Limfosit Rasio	K2	5	3.00	15.00
	P3	5	8.00	40.00
	Total	10		

Test Statistics^a

Neutrofil Limfosit Rasio	
Mann-Whitney U	.000

Wilcoxon W	15.000
Z	-2.635
Asymp. Sig. (2-tailed)	.008
Exact Sig. [2*(1-tailed Sig.)]	.008 ^b

a. Grouping Variable: Kelompok

b. Not corrected for ties.

Signifikansi $0.008 < 0.05$ (berpengaruh signifikan)

Lampiran 3. Lembar Persetujuan Etik



KEMENTERIAN PENDIDIKAN, KEBUDAYAAN, RISET DAN TEKNOLOGI
 UNIVERSITAS HASANUDDIN FAKULTAS KEDOKTERAN
 KOMITE ETIK PENELITIAN UNIVERSITAS HASANUDDIN
 RSPTN 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.,M.Med.,Ph.D., SpGK TELP. 081241850858, 0411 5780103. Fax : 0411-581431



REKOMENDASI PERSETUJUAN ETIK

Nomor : 350/UN4.6.4.5.31/ PP36/ 2022

Tanggal: 15 Juli 2022

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

No Protokol	UH22050231	No Sponsor	
Peneliti Utama	Nur Amalia Alif, S.Si	Sponsor	
Judul Peneliti	EFEK PEMBERIAN SUSPENSI CANGKANG TELUR TERHADAP FIBROSIS PARU TIKUS PUTIH (RATTUS NORVEGICUS) YANG DIINDUKSI BLEOMISIN		
No Versi Protokol	1	Tanggal Versi	21 Juni 2022
No Versi PSP		Tanggal Versi	
Tempat Penelitian	Laboratorium Biologi Universitas Negeri Makassar		
Jenis Review	<input type="checkbox"/> Exempted <input checked="" type="checkbox"/> Expedited <input type="checkbox"/> Fullboard Tanggal	Masa Berlaku 15 Juli 2022 sampai 15 Juli 2023	Frekuensi review lanjutan
Ketua KEP Universitas Hasanuddin	Nama Prof.Dr.dr. Suryani As'ad, M.Sc.,Sp.GK (K)		
Sekretaris KEP Universitas Hasanuddin	Nama dr. Agussalim Bukhari, M.Med.,Ph.D.,Sp.GK (K)		

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