`

DAFTAR PUSTAKA

1. Kour, Prabhdeep., dkk. Comparative Evaluation of Antimicrobial Efficacy of Platelet-rich Plasma, Platelet-rich Fibrin, and Injectabel Platelet-rich Fibrin on the Standard Starins of Porphyromonas gingivalis and Aggregaribacter actinomycetemcomitans. Contemp Clin Dent. 2018 Sep;9(Suppl 2):S325-S330. India. doi: 10.4103/ccd.ccd_367_18.
2. Siswanto,dr., MHO., DTM. Laporan Nasional RISKESDAS. Kementrian Kesehatan RI. Badan Penelitian dan Pengembangan Kesehatan, 2018. Indonesia
3. Fiona Q. Bui., dkk. Association Between Periodontal Pathogens And Systemic Disease. Biomed J. 2019; 27-35. USA. doi: 10.1016/j.bj.2018.12.001
4. Gil, Tal Maymon-Gil., Weinberg, Evgeny., Nemcovsky, Carlos., dan Weinreb, Miron. Enamel Matrix Derivative Promotes Healing of a Surgical Wound in the Rat Oral Mucosa. J Periodontol. 87(5):1-16 · January 2016. doi: 10.1902/jop.2016.150567
5. Chandrasekaran, Kavita., Salman, Mohammed., dan Chavan, Sunil Kumar D. *Aloe vera*- A Herbal Panacea for Periodontal Disease?". EC Dental Science 17.10 (2018): 1749-1758. India
6. Hudwekar, Anuja D., Beldar, Amol., Murkute, Supriya., Shankarrao Lendhey, Shruti ., and Thamke, Mitali. *Aloe vera* On Wound Healing After Periodontal Flap Surgery In Chronic Periodontitis Patient: A

Randomized Control Trial. J Oral Res Rev 2019;11:72-6. India. doi: 10.4103/jorr.jorr_14_19

7. Kim, Jong-JinKim.,etc. Immunomodulatory and Antidiabetic Effects of a New Herbal Preparation (HemoHIM) on Streptozotocin-Induced Diabetic Mice. Volume 2014, Article ID 461685, 8 pages. Korea. doi: 10.1155/2014/461685
8. Grado, Gabriel Fernandez de., etc. Bone Substitutes: A Review Of Their Characteristics, Clinical Use, And Perspectives For Large Bone Defects Management. J of Tissue Engineering. Volume 9: 1 –18. 2018. doi: 10.1177/2041731418776819
9. Abdelatty Eid Abdelmagyda, Hossam., Ram Shettyc, Dr Shishir., and Musa Musleh Al-Ahmarid, Dr Manea. Herbal Medicine As Adjunct In Periodontal Therapies- A Review Of Clinical Trials In Past Decade. J of Oral Bio and Craniofacial Research. 2019. Egypt. doi: 10.1016/j.jobcr.2019.05.001
10. Venkatesan, Jayachandran., Bhatnagar, Ira., and Kim, Se-Kwon. Chitosan-Alginate Biocomposite Containing Fucoidan for Bone Tissue Engineering. Mar. Drugs 2014, 12, 300-316. South Korea. doi:10.3390/md12010300
11. Villa, Oscar., etc. A Proline-Rich Peptide Mimic Effects of EMD in Rat Oral Mucosal Incisional Wound Healing. J of Periodontology. 2015.Oslo.doi: 10.1902/jop.2015.150207
12. Pozharitskaya, Olga N., N. Shikov, Alexander ., Obluchinskaya, Ekaterina D., and Vuorela, Heikki. The Pharmacokinetics of Fucoidan

after Topical Application to Rats Mar. Drugs 2019, 17, 687. Rusia. doi:10.3390/md17120687

13. Fitton, J. Helen., etc. Topical Benefits of Two Fucoidan-Rich Extracts from Marine Macroalgae. Cosmetics 2015, 2, 66-81. Australia. doi:10.3390/cosmetics2020066
14. Suhaila Mohamed, Siti Nadia Hashim, dan Hafeedza Abdul Rahman. Seaweed: A sustainable functional food for complementary and alternative therapy. Trends in Food Science and Technology 23 (2012) 83-96. Malaysia
15. Chalvyn S. Pakidi dan Hidayat Suryanto Suwoyo. Potensi Dan Pemanfaatan Bahan Aktif Alga Cokelat *Sargassum* Sp. Jurusan Manajemen Sumberdaya Perairan, Fakultas Pertanian,Universitas Musamus, Merauke, Papua. Volume 5 Nomer 2, Juni 2016
16. Shamim, Rohina., etc. Efficacy of Fresh *Aloe vera* Extract in Postoperative Healing Following Periodontal Surgery in Patients with Chronic Periodontitis: A Randomized Clinical Trial. J Dent Allied Sci 2016;5:70-3. India. doi: 10.4103/2277-4696.192972
17. Wenqing Xue, Jinhua Yu , and Wu Chen. Plants and Their Bioactive Constituents in Mesenchymal Stem Cell-Based Periodontal Regeneration: A Novel Prospective. BioMed Research International. Vol.2018. Cina. doi: 10.1155/2018/7571363

18. Yu Wang., dkk. Biological Activities of Fucoidan and the Factors Mediating Its Therapeutic Effects: A Review of Recent Studies. China. Mar. Drugs 2019, 17, 183; doi:10.3390/md17030183
19. Atiba, Ayman., Ueno, Hiroshi., and Uzuka, Yuji. The effectof *aloe vera* oral administration on cutaneous wound healing in type 2 diabetic rats. J Vet Med Sci. 73(5): 583-589, May 2011. Japan. doi: 10.1292/jvms.10-0438
20. Hai, Zhiwen., etc. Evaluation of the Treatment Effect of *Aloe vera* Fermentation in Burn Injury Healing Using a Rat Model. Vol 2019, China. doi.org/10.1155/2019/2020858
21. Kresnoadi, Utari., and Pudji rahayu, Retno. Stimulation of osteoblast activity by induction of *Aloe vera* and xenograft combination. Dental Journal. Majalah Kedokteran Gigi. Vol. 44. No. 4 December 2011. Surabaya
22. Simon RP, Patel HV, Kiran K. Hepatoprotective Activity of Some Plants Extract Against Parasetamol Induced Hepatoxicity in Rats. J Herb Med Toxic. 2010; 4 (2); 101-106
23. Shekh Rahman, Princeton Carter and Narayan Bhattarai. Aloe Vera for Tissue Engineering Applications. US. J. Funct. Biomater. 2017, 8, 6; doi:10.3390/jfb8010006
24. Josias H. Hamman. Composition and Applications of Aloe vera Leaf Gel. Afrika Utara. Molecules 2008, 13, 1599-1616; DOI: 10.3390/molecules13081599

25. Xiaoqing Guo and Nan Mei . Aloe vera: A review of toxicity and adverse clinical effects. J Environ Sci Health C Environ Carcinog Ecotoxicol Rev . USA. 2016 April 02; 34(2): 77–96. doi: 10.1080/10590501.2016.1166826.
26. Sularsih, Soetjipto, dan Retno Pudji Rahayu. The Fabrication and Characterization of Chitosan-Ethanol Extracted Aloe vera Scaffold for Alveolar Bone Healing Application. Indonesia. 2019. Journal of International Dental and Medical Research ISSN 1309-100X
27. Kresnoadi, Utari., and Pudji rahayu, Retno. Stimulation of osteoblast activity by induction of *Aloe vera* and xenograft combination. Dental Journal. Majalah Kedokteran Gigi. Vol. 44. No. 4 December 2011. Surabaya
28. Al-Hijazi, Athraa Yahya ., Al-Mahammadawy, Abdul Karim Abed Ali., Eman Issa Altememe. Expression Of Bmp7 In Bone Tissue Treated With Aloe Vera. Baghdad. International Research Journal of Natural Sciences Vol.3, No.2, pp.39-48, June 2015.
29. Xu, Xin-Yue., etc. Concise Review: Periodontal Tissue Regeneration Using Stem Cells: Strategies and Translational Considerations. Stem Cells Translational Medicine 2019 ;8:392–403. doi: 10.1002/sctm.18-0181
30. Hagi, Tobias., etc. Regenerative Periodontal Therapy. Quintessence Int. 2014 Mar;45(3):185-92. Switzerland.doi: 10.3290/j.qi.a31203.
31. Sihombing, Iknes.,Wangko, Sunny ., dan Kalangi, Sonny J. R. Peran Estrogen Pada Remodeling Tulang. Jurnal Biomedik, Volume 4, Nomor 3, Suplemen, November 2012, hlm. S18-28

32. Crockett,Julie C., etc. Bone Remodeling At A Glance. J of Cell Sci 124, 2011. UK. doi:10.1242/jcs.063032
33. Dent-wiki.com. Alveolar Bone: Structure. [Diakses hari Rabu 24 Juni 2020]. Tersedia dari: http://www.dent-wiki.com/dental_technology/alveolar-bone-structure/
34. Djais, Arni Irawaty., Thahir, Hasanuddin., Hatta, Muchammad., Achmad, Harun ., and Sari, Melyanti. Effect of Moringa Leaf Extract (Moringa Oleifera) on Increasing the Number of Osteoblas as a Marker of Bone Remodeling. Indian Journal of Public Health Research & Development, September 2019, Vol.10, No. 9. Makassar.
35. Swastini, Gusti Agung Ayu Putu.,Mahadewa2, Tjokorda Gde Bagus., Widyadharma, I Putu Eka. Alveolar Bone Osteoclast Profile in the Periodontitis Wistar Rats Model with the Snail Slime (Achatina Fulica) Application. J of Med Sci. 2019 May 31; 7(10):1680-1684. Bali. doi.org/10.3889/oamjms.2019.451
36. Belibasakis, Georgios N. Molecular Mechanisms Of Bone Resorption In Periodontitis. Zurich. 2011
37. Lib.ui.ac.id Fakultas Kedokteran Gigi Universitas Indonesia. [Diakses hari Rabu 24 Juni 2020]. Tersedia dari: http://lib.ui.ac.id/file?file=digital/126385-R20-OB-450%20Analisis%20produksi-Literatur.pdf

38. Yaqin, Khusunul., Burhanuddin, Ikbal., dan Samad, Wasir. Biodiversity of seaweed and their metal contents from littoral zone of South Sulawesi. Makassar.
39. M Idata. Kiat Sukses Budidaya Rumput Laut. Yogyakarta. Lily Publisher. 2011
40. Rini Pramesti., dkk. Struktur Komunitas dan Anatomi Rumput Laut di Perairan Teluk Awur, Jepara dan Pantai Krakal, Yogyakarta. Jurnal Kelautan Tropis November 2016 Vol. 19(2):81–94. Indonesia
41. Gazali1,Mohamad., Nurjanah, Zamani, Neviaty P.Eksplorasi Senyawa Bioaktif Alga Cokelat Sargassum Sp. Agardh Sebagai Antioksidan Dari Pesisir Barat Aceh. JPHPI 2018, Volume 21 Nomor 1. Bogor. doi: 10.17844/jphpi.v21i1.21543
42. Agrofarm. Alga Hijau. 2018. [Diakses hari Rabu 24 Juni 2020]. Tersedia dari: https://www.agrofarm.co.id/2018/07/7884-2/algae-hijau/
43. Bioearthworm. Manfaat dan Contoh Phaeophyta (Alga Cokelat). 7 Januari 2019. [Diakses hari Rabu 24 Juni 2020]. https://bioearthworm.wordpress.com/2019/01/07/manfaat-dan-contoh-phaeophyta-alga-coklat/
44. Pesisi Pantai Desa Punaga, Kecamatan Puntondo, Kabupaten Takalar. [gambar di ambil pada tanggal 6 Juni 2020].
45. Abdul Kadir, Muhammad Ismail., etc. Investigation on the cytotoxicity, neurotoxity and dyeing performances of Natural Dye Extracted from

Caulerpa Lentillifera and Sargassum sp. Sci Publisihing Group. November 2016;1(3):46-52. doi: 10.11648/j.aas.20160103.11

46. Talha Bin Saleem Ahmad . Methods For Quantification And Extraction Of *Fucoidan*, And Quantification Of The Release Of Total Carbohydrate And *Fucoidan* From The Brown *Algae* Laminaria Hyperborean. Juni 2015. Norwegia
47. Lu Hsien-Tsung, Lu Tzu-Wei, Chen Chien-Ho Chen, Mi Fwu-Long. Development Of Genipin-Crosslinked And *Fucoidan*-Adsorbed Nano-Hydroxyapatite/Hydroxypropyl Chitosan Composite Scaffolds For Bone Tissue Engineering. International Journal Of Biological Macromolecules 128 (2019) 973–984, 2019
48. Pathum Chandika and Won-Kyo Jung. Marine algae Based Biomaterials for Osteoblast Differentiation and Tissue Regeneration. Chp 29. 2015. doi: org/10.1002/9783527679577.ch29
49. Fletcher, H.R., Biller, P., Ross, A.B., Adams, J.M.M. The Seasonal Variation Of Fucoidan Within Three Species Of Brown Macroalgae. Alga Reasearch 22 (2017) 79-86. UK. Doi: org/10.1016/j.algal.2016.10.015
50. Dobrinc˘ic´, Ana. Advanced Technologies for the Extraction of Marine Brown Algal Polysaccharides. Mar. Drugs 2020, 18, 168. doi:10.3390/md18030168
51. Junaidi, Lukman. Simple Extraction And Molecular Weight Characterization Of Fucoidan From Indonesian Sargassum sp. Biopropal Industri Vol. 4 No. 2, Desember 2013: 49-57. Bogor

52. Sinurat, Ellya., Saepudin, Endang., and Alfita Qosthalani, Fildzah. Effect Of Hydrolyzed Fucoidan From The Brown Seaweed Sargassum Binderi Sonder Towards Human Breast Cancer T47d Cell Lines. Doi: Squalen Bull Of Mar And Fish Postharvest and Biotech. 12 (2) 2017, 49-55. doi: org/10.15578/squalen.v12i2.275
53. Zadeh, Jalal Bayati., and Kor, Nasroallah Moradi. Component and Application *Aloe vera* Plant in medicine. Int J Adv Biol Biom Res. 2014; 2(5):1876-1882. Iran
54. Wancket, L. M. Animal Models for Evaluation of Bone Implants and Devices: Comparative Bone Structure and Common Model Uses. Veterinary Pathology July 10, 2015. USA.doi: 10.1177/0300985815593124
55. Yurista, Salva Reverentia., Ferdian, Rafi Andika., dan Sargowo, Djanggan. Principles of the 3Rs and ARRIVE Guidelines in Animal Research. J Kardiol Indones. 2016;37:156-63. Malang
56. Malole, M.B.M., Pramono C.S.U., 1989. Penggunaan Hewan-hewan Percobaan di Laboratorium. Bogor : PAU Pangan dan Gizi, IPB.
57. P. Lőw *et al.* Dissection of the rat (Rattus Novergicus). *Atlas of Animal Anatomy and Histology*, Springer International Publishing Switzerland 2016. doi: 10.1007/978-3-319-25172-1_1
58. Panduan Perawatan Dan Penggunaan Hewan Untuk Tujuan Pendidikan dan Penelitian. S*chool Of Life Sciences And Technology* Institut Teknologi Bandung. 2014

59. Melanie M. Beasley., Eric J. Bartelink., Lacy Taylor., and Randy M. Miller. Comparison Of Transmission FTIR, ATR, And DRIFT Spectra: Implications For Assessment Of Bone Bioapatite Diagenesis. Journal of Archaeological Science 46 (2014). doi.org/10.1016/j.jas.2014.03.008
60. Musfiroh, Ida., dkk. Modification of Extraction Methods on Determining Simeticone Suspension Using FTIR Method. IJPST. 6(3), 2019; 125-133. Bandung
61. Petr K. Krivoshein, Dmitry S. Volkov, Olga B. Rogova, Mikhail A. Proskurnin. FTIR Photoacoustic Spectroscopy for Identification and Assessment of Soil Components: Chernozems and their Size Fractions. PACS. 2019. Rusia. doi: doi.org/10.1016/j.pacs.2020.100162
62. Ichwana., Zulkifli Nasution., dan Agus A. Munawar. The Application Of Fourier Transform Infrared Photoacoustics Spectroscopy (FTIRPAS) For Rapid Soil Quality Evaluation. *Rona Teknik Pertanian, 10(1) April 2017*. Medan
63. Martin Sulistyani. Spektroskopi Fourier Transform Infra Red Dengan Metode Reflektansi (Atr-FTIR) Pada Optimasi Pengukuran Spektrum Vibrasi Vitamin C. Vol.1 No. 2, Nov 2018. Semarang
64. Ceyda BİLGİÇ and Şafak BİLGİÇ. Application of Fourier Transform Infrared (FTIR) Spectroscopy to Analysis of Clays. TURKEY IMSMATEC'19. June 21-23 2019
65. Mohamad Muntiha. Teknik Pembuatan Preparat Histopatologi Dari Jaringan Hewan Dengan Pewarnaan Hematoksilin Dan Eosin (H&E).

Temu Teknis Fungsional Non Peneliti 1001. Balai Penelitian Veteriner. Bogor

66. Hendra Stevani. Modul Bahan Ajar Cetak Farmasi. Praktikum Farmakologi. Pusdik SDM Kesehatan. Jakarta Selatan. 2016
67. Agustina, Novia., Hasbullah, Irnamanda Dwipura., dan Arta, Fransiska Uli. The Effect Of Hydoxyapatite Xenograft Of Haruan Fish (Channa Striata) Bone On The Number Of Osteoblast And Osteoclast. (In Vivo Study On Mandibular Bone Of Male Guinea Pigs). Banjarmasin Dent J Kedokteran Gigi Vol Iii. No 1. September 2018
68. Park, Jun-Hyeong., dkk. Promoting Wound Healing Using Low Molecular Weight Fucoidan in a Full-Thickness Dermal Excision Rat Model. Korea. Mar. Drugs 2017, 15, 112; doi:10.3390/md15040112
69. Stefan A.Hienz, Sweta Paliwal, and SasoIvanovski. Mechanisms of Bone Resorption in Periodontitis. Australia. Journal of Immunology Research Volume 2015, http://dx.doi.org/10.1155/2015/615486
70. Robling, Alexander G., Castillo, Alesha B., and Turner, Charles H. Biomechanical and Molecular Regulation of Bone Remodeling. New York. Annu. Rev. Biomed. Eng. 2006. 8:455–98; doi: 10.1146/ annurev.bioeng.8.061505.095721
71. Y.S Cho dkk. Beneficial effects of fucoidan on osteoblastic MG-63 cell differentiation. Korea. Elsevier. 2009. doi:10.1016/j.foodchem.2009.03.051
72. Soares, Isadora Mello Vilarinho. The influence of Aloe vera with mesenchymal stem cells from dental pulp on bone regeneration:

characterization and treatment of non-critical defects of the tibia in rats. Brasil. 2019. J Appl Oral Sci. http://dx.doi.org/10.1590/1678-7757-2018-0103

73. Yagi, Akira., dkk. Nutraceutical Aloe Vera Gel Scaffolds for Supporting a Healthy Muscle Movement. Japan. Vol.7 No. 6 (2018)
74. Pereira, Jessica., dkk. The In Vitro and In Vivo Effects of a Low-MolecularWeight Fucoidan on the Osteogenic Capacity of Human Adipose-Derived Stromal Cells. France. Volume 20, Numbers 1 and 2, 2013; Mary Ann Liebert, Inc. DOI: 10.1089/ten.tea.2013.0028

`

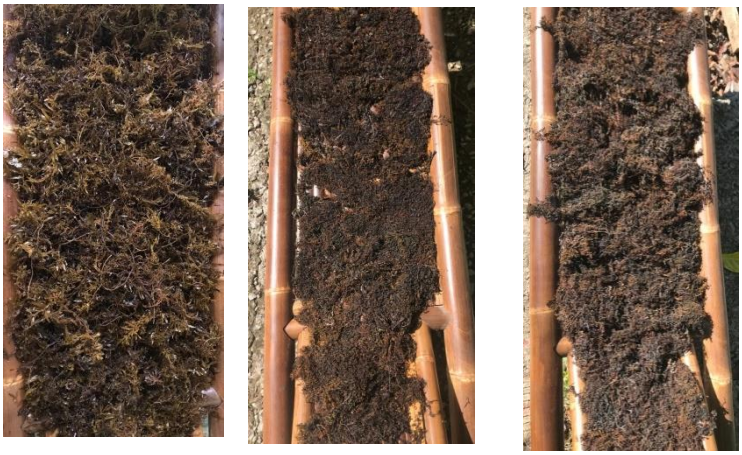
LAMPIRAN

FOTO PENELITIAN

Persiapan & proses pembuatan fucoidan

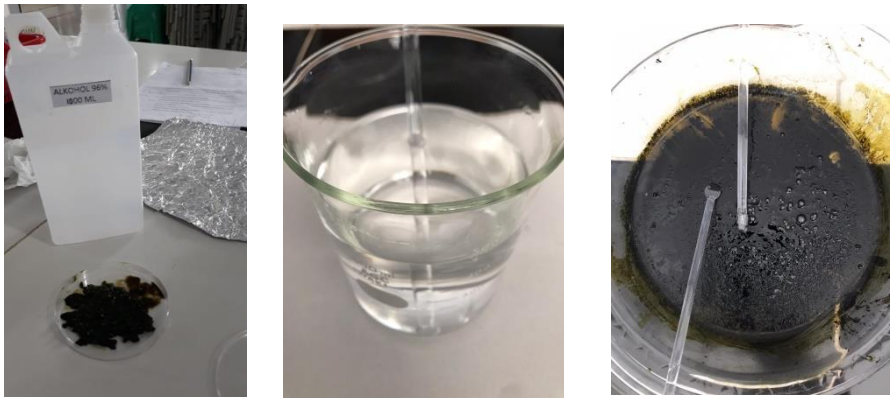
Gambar 19. Pengambilan alga cokelat.

Gambar 20. Proses pencucian & pemotongan alga cokelat.



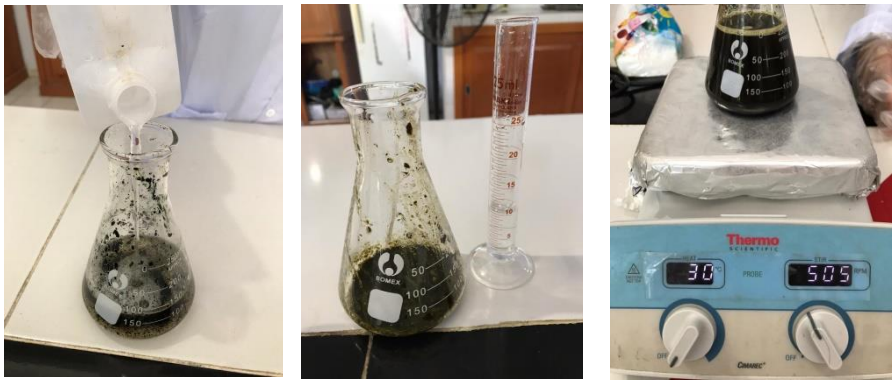
Gambar 21. Proses penjemuran hari ke 1 hingga hari ke 3.

Gambar 22. Penimbangan & proses blender alga kering.



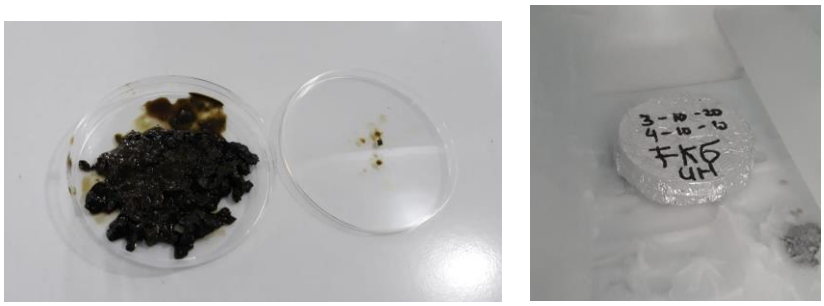
Gambar 23. Ditambah larutan etanol & diuapkan menghasilkan endapan.

`



Gambar 24. Pencampuran dengan larutan methanol selama 3 jam, lalu di stir (aduk) selama 6 jam.

Gambar 25. Penyaringan filtrate dilanjutkan dengan teknik sentrifugasi.



Gambar 26. Filtrat setelah di sentrifugasi & di simpan di dalam freezer untuk dimasukkan di mesin *freeze dried*.

Gambar 27. Mesin *freeze dried.*

Gambar 28. Hasil *freeze dried* ditambahkan dengan PGE menghasilkan gel fucoidan.

Gambar 29. Hasil ekstrak gel fucoidan.

`

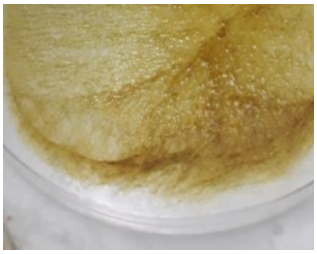
Proses Pembuatan Ekstrak *Aloe vera*

Gambar 30. Penimbangan & proses blender *aloe vera*.

Gambar 31. Penyaringan menggunakan vacuum.

Gambar 32. Ekstrak *aloe vera* disentrifugasi

Gambar 33. Hasil sentrifugasi dimasukkan ke mesin *freeze dried*



Gambar 34. *Aloe vera freeze dried.*

Proses Implantasi Bahan PadaTikus Wistar

Gambar 35. Proses pembiusan menggunakan anestetikum ketamine 100 HCL.


Gambar 36. Proses Pengeburan tulang femur.

Gambar 37. Ekstrak *aloe vera* yang telah dimasukkan ke dalam mesin *freeze dried*.


Gambar 38. Proses aplikasi ekstrak *aloe vera* + ekstrak gel fucoidan.

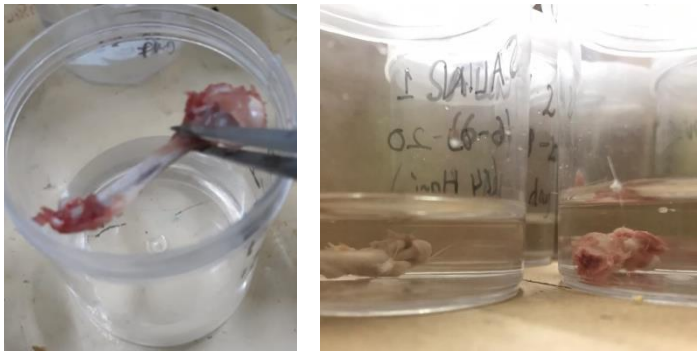
Gambar 39. Suturing dan perban luka.

Proses Sacrifised & Pengambilan Preparat Tulang

Gambar 40. Dimasukkan ke dalam eter hingga pingsan lalu di dislokasi.

`

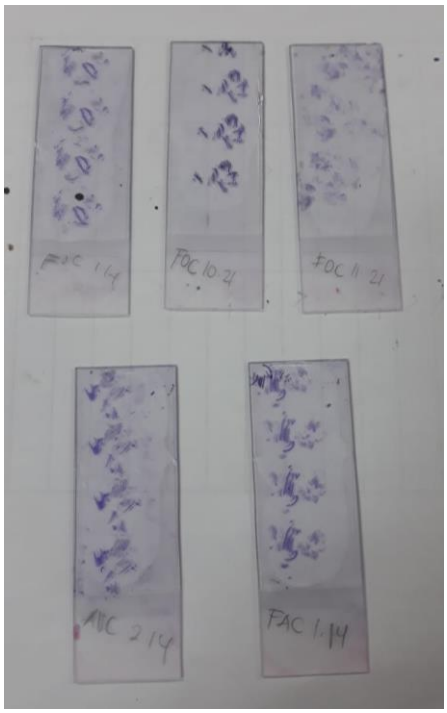
Gambar. 41. Pemotongan paha atas kanan; pembersihan daging & otot pada femur tikus wistar.



Gambar 42. Perendaman di dalam larutan formalin 10%.

`

Pemeriksaan Histopatologi



Gambar 43. Slide histo hasil pewarnaan sampel.

KEMENTERIAN RISET, TEKNOLOGI DAN PENDIDIKAN TINGGI
UNIVERSITAS HASANUDDIN
FAKULTAS KEDOKTERAN GIGI
RUMAH SAKIT GIGI DAN MULUT
KOMITE ETIK PENELITIAN KESEHATAN
Sekretariat : Lantai 2, Gedung Lama RSGM Unhas
JL.Kandea No. 5 Makassar
Contact Person: drg. Muhammad Ikbal, Sp.Pros/Nur Aedah AR TELP. 081342971011/08114919191

REKOMENDASI PERSETUJUAN ETIK

Nomor: 0071/PL.09/KEPK FKG-RSGM UNHAS/2020

Tanggal: 07 Agustus 2020

Dengan ini menyatakan bahwa protokol dan dokumen yang berhubungan dengan protokol berikut ini telah mendapatkan persetujuan etik:

No. Protokol	UH 17120352	No Protokol Sponsor	
Peneliti Utama	drg. Hardianti Maulidita Haryo	Sponsor	Pribadi
Judul Peneliti	Evaluasi Ekstrak Fucoidan Alga Cokelat (Phaeophyta) dan Gel Aloe Vera terhadap Pembentukan Osteoblas pada Defek Tulang Tikus Wistar (Rattus Novergicus)		
No. Versi Protokol	1	Tanggal Versi	03 Agustus 2020
No. Versi Protokol		Tanggal Versi	
Tempat Penelitian	1. Laboratorium Biofarmaka PKP Unhas 2. Laboratorium Biologi dan Penelitian STIFA Makassar 3. Laboratorium Histopatologi RSWS Unhas 4. Laboratorium Biofarmasi Fakultas Farmasi Unhas		
Dokumen Lain			
Jenis Review -	[ ] Exempted [x] Expedited [ ] Fullboard	Masa Berlaku 07 Agustus 2020-07 Agustus 2021	Frekuensi Review Lanjutan
Ketua Komisi Etik Penelitian	Nama: Dr. drg. Marhamah, M.Kes	Tanda Tangan	Tanggal
Sekretaris Komisi Etik Penelitian	Nama: drg. Muhammad Ikbal, Sp.Pros	Tanda Tangan	Tanggal

Kewajiban peneliti utama:

- Menyerahkan Amandemen Protokol untuk persetujuan sebelum diimplementasikan
- Menyerahkan laporan SAE ke Komisi Etik dalam 24 Jam dan dilengkapi dalam 7 hari dan lapor 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 protokol yang disetujui (*protocol deviation/violation)*
- Mematuhi semua aturan yang berlaku.

Lampiran Output SPSSExplore

Tests of Normality

		Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Kelompok Perlakuan	Statistic	df	Sig.	Statistic	df	Sig.
Jumlah Osteoblast	Overview	,250	7	,200*	,782	7	,027
	Salin	,271	5	,200*	,882	5	,321
	Fucoidan	,384	5	,015	,697	5	,009
	Fucoidan+Aloevera	,247	6	,200*	,905	6	,405

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

a. Lilliefors Significance Correction

Tests of Normality

		Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Kelompok Perlakuan	Statistic	df	Sig.	Statistic	df	Sig.
Jumlah Osteoblast	Overview	,205	7	,200*	,907	7	,377
	Salin	,190	5	,200*	,980	5	,934
	Fucoidan	,428	5	,003	,642	5	,002
	Fucoidan+Aloevera	,220	5	,200*	,930	5	,599

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

a. Lilliefors Significance Correction

T-Test (Salin)

Group Statistics

	waktu perlakuan	N	Mean	Std. Deviation	Std. Error Mean
Jumlah Osteoblast	Hari ke 14	5	44,3800	7,49213	3,35058
	Hari ke 21	5	47,7400	8,94025	3,99820

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Jumlah Osteoblast	Equal variances assumed	,261	,623	-,644	8	,538	-3,36000	5,21651	-15,38930	8,66930
	Equal variances not assumed			-,644	7,763	,538	-3,36000	5,21651	-15,45365	8,73365

T-Test (Fucoidan)

Group Statistics

	waktu perlakuan	N	Mean	Std. Deviation	Std. Error Mean
Jumlah Osteoblast	Hari ke 14	5	51,3400	15,67396	7,00961
	Hari ke 21	5	64,2600	21,35610	9,55074

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Jumlah Osteoblast	Equal variances assumed	,332	,580	-1,091	8	,307	-12,92000	11,84699	-40,23921	14,39921
	Equal variances not assumed			-1,091	7,340	,310	-12,92000	11,84699	-40,67267	14,83267

T-Test (Fucoidan Aloevera)

Group Statistics

	waktu perlakuan	N	Mean	Std. Deviation	Std. Error Mean
Jumlah Osteoblast	Hari ke 14	6	76,5500	42,35954	17,29321
	Hari ke 21	5	42,6200	9,56750	4,27871

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Jumlah Osteoblast	Equal variances assumed	7,791	,021	1,740	9	,116	33,93000	19,50459	-10,19245	78,05245
	Equal variances not assumed			1,905	5,605	,109	33,93000	17,81467	-10,41724	78,27724

Oneway (Hari ke-14)

Descriptives

Jumlah Osteoblast

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
Overview	7	40,3714	13,36659	5,05210	28,0094	52,7335	27,00	55,30
Salin	5	44,3800	7,49213	3,35058	35,0773	53,6827	32,30	51,30
Fucoidan	5	51,3400	15,67396	7,00961	31,8782	70,8018	41,70	79,00
Fucoidan+Aloevera	6	76,5500	42,35954	17,29321	32,0964	121,0036	34,30	145,30
Total	23	53,0652	27,03537	5,63727	41,3742	64,7562	27,00	145,30

ANOVA

Jumlah Osteoblast

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	4829,183	3	1609,728	2,718	,073
Within Groups	11250,869	19	592,151		
Total	16080,052	22			

Oneway (Hari ke-21)

Descriptives

Jumlah Osteoblast

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
Overview	7	48,1286	18,21325	6,88396	31,2841	64,9730	27,00	72,30
Salin	5	47,7400	8,94025	3,99820	36,6392	58,8408	36,70	59,70
Fucoidan	5	64,2600	21,35610	9,55074	37,7429	90,7771	52,00	102,30
Fucoidan+Aloevera	5	42,6200	9,56750	4,27871	30,7404	54,4996	32,00	57,70
Total	22	50,4545	16,66918	3,55388	43,0638	57,8452	27,00	102,30

ANOVA

Jumlah Osteoblast

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	1334,568	3	444,856	1,779	,187
Within Groups	4500,526	18	250,029		
Total	5835,095	21			

```
ONEWAY Osteoblast BY Pengamatan
  /MISSING ANALYSIS
  /POSTHOC=LSD ALPHA(0.05).
```

Oneway

Notes

Output Created		20-NOV-2020 13:14:16
Comments		
Input	Data	D:\Office\SPSS\Data drg. Ira Dita.sav
	Active Dataset	DataSet31
	Filter	Pengamatan = 3 (FILTER)
	Weight	<none>
	Split File	<none>
	N of Rows in Working Data File	108
Missing Value Handling	Definition of Missing	User-defined missing values are treated as missing.
	Cases Used	Statistics for each analysis are based on cases with no missing data for any variable in the analysis.
Syntax		ONEWAY Osteoblast BY Pengamatan /MISSING ANALYSIS /POSTHOC=LSD ALPHA(0.05).
Resources	Processor Time	00:00:00.02
	Elapsed Time	00:00:00.03

ANOVA

Osteoblast

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	8612.867	2	4306.433	9.730	.000
Within Groups	46472.050	105	442.591		
Total	55084.917	107			

Post Hoc Tests

Multiple Comparisons

Dependent Variable: Osteoblast
LSD

(I) Pengamatan	(J) Pengamatan	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval Lower Bound	95% Confidence Interval Upper Bound
Pre	Hari 14	-11.62500	6.22308	.065	-23.9642	.7142
	Hari 21	-25.26667*	6.27227	.000	-37.7034	-12.8299
Hari 14	Pre	11.62500	6.22308	.065	-.7142	23.9642
	Hari 21	-13.64167*	4.36532	.002	-22.2973	-4.9860
Hari 21	Pre	25.26667*	6.27227	.000	12.8299	37.7034
	Hari 14	13.64167*	4.36532	.002	4.9860	22.2973

*. The mean difference is significant at the 0.05 level.

```
ONEWAY Osteoblast BY Kelompok
  /MISSING ANALYSIS
  /POSTHOC=LSD ALPHA(0.05).
```

Oneway

Notes

Output Created		20-NOV-2020 13:14:39
Comments		
Input	Data	D:\Office\SPSS\Data drg. Ira Dita.sav
	Active Dataset	DataSet31
	Filter	Pengamatan = 3 (FILTER)
	Weight	<none>
	Split File	<none>
	N of Rows in Working Data File	108
Missing Value Handling	Definition of Missing	User-defined missing values are treated as missing.

	Cases Used	Statistics for each analysis are based on cases with no missing data for any variable in the analysis.
Syntax		ONEWAY Osteoblast BY Kelompok /MISSING ANALYSIS /POSTHOC=LSD ALPHA(0.05).
Resources	Processor Time	00:00:00.03
	Elapsed Time	00:00:00.03

ANOVA

Osteoblast

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	11950.771	2	5975.386	14.546	.000
Within Groups	43134.145	105	410.801		
Total	55084.917	107			

Post Hoc Tests

Multiple Comparisons

Dependent Variable: Osteoblast

LSD

(I) Kelompok	(J) Kelompok	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval Lower Bound	95% Confidence Interval Upper Bound
Saline	Fucoidan 2%	-13.86667*	4.77727	.005	-23.3391	-4.3942
	Fucoidan 2% + Xenograft	-24.79394*	4.64515	.000	-34.0044	-15.5835
Fucoidan 2%	Saline	13.86667*	4.77727	.005	4.3942	23.3391
	Fucoidan 2% + Xenograft	-10.92727*	5.11292	.035	-21.0652	-.7893
Fucoidan 2% + Xenograft	Saline	24.79394*	4.64515	.000	15.5835	34.0044
	Fucoidan 2%	10.92727*	5.11292	.035	.7893	21.0652

*. The mean difference is significant at the 0.05 level.

```
USE ALL.
COMPUTE filter_$=(Kelompok = 1).
VARIABLE LABELS filter_$ 'Kelompok = 1 (FILTER)'.
VALUE LABELS filter_$ 0 'Not Selected' 1 'Selected'.
FORMATS filter_$ (f1.0).
FILTER BY filter_$.
EXECUTE.
ONEWAY Osteoblast BY Pengamatan
  /MISSING ANALYSIS
  /POSTHOC=LSD ALPHA(0.05).
```

Oneway

Notes

Output Created		20-NOV-2020 13:15:27
Comments		
Input	Data	D:\Office\SPSS\Data drg. Ira Dita.sav
	Active Dataset	DataSet31
	Filter	Kelompok = 1 (FILTER)
	Weight	<none>
	Split File	<none>
	N of Rows in Working Data File	45
Missing Value Handling	Definition of Missing	User-defined missing values are treated as missing.
	Cases Used	Statistics for each analysis are based on cases with no missing data for any variable in the analysis.
Syntax		ONEWAY Osteoblast BY Pengamatan /MISSING ANALYSIS /POSTHOC=LSD ALPHA(0.05).
Resources	Processor Time	00:00:00.05
	Elapsed Time	00:00:00.03

ANOVA

Osteoblast

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	492.933	2	246.467	1.420	.253
Within Groups	7289.867	42	173.568		
Total	7782.800	44			

Post Hoc Tests

Multiple Comparisons

Dependent Variable: Osteoblast

LSD

(I) Pengamatan	(J) Pengamatan	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
Pre	Hari 14	-4.73333	4.81066	.331	-14.4416	4.9750
	Hari 21	-8.06667	4.81066	.101	-17.7750	1.6416
Hari 14	Pre	4.73333	4.81066	.331	-4.9750	14.4416
	Hari 21	-3.33333	4.81066	.492	-13.0416	6.3750
Hari 21	Pre	8.06667	4.81066	.101	-1.6416	17.7750
	Hari 14	3.33333	4.81066	.492	-6.3750	13.0416

```
USE ALL.
COMPUTE filter_$=(Kelompok = 2).
VARIABLE LABELS filter_$ 'Kelompok = 2 (FILTER)'.
VALUE LABELS filter_$ 0 'Not Selected' 1 'Selected'.
FORMATS filter_$ (f1.0).
FILTER BY filter_$.
EXECUTE.
ONEWAY Osteoblast BY Pengamatan
  /MISSING ANALYSIS
  /POSTHOC=LSD ALPHA(0.05).
```

Oneway

Notes

Output Created		20-NOV-2020 13:16:03
Comments		
Input	Data	D:\Office\SPSS\Data drg. Ira Dita.sav
	Active Dataset	DataSet31
	Filter	Kelompok = 2 (FILTER)
	Weight	<none>
	Split File	<none>
	N of Rows in Working Data File	45
Missing Value Handling	Definition of Missing	User-defined missing values are treated as missing.
	Cases Used	Statistics for each analysis are based on cases with no missing data for any variable in the analysis.
Syntax		ONEWAY Osteoblast BY Pengamatan /MISSING ANALYSIS /POSTHOC=LSD ALPHA(0.05).
Resources	Processor Time	00:00:00.05
	Elapsed Time	00:00:00.05

ANOVA

Osteoblast

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	4542.711	2	2271.356	6.256	.004
Within Groups	15249.600	42	363.086		
Total	19792.311	44			

Post Hoc Tests

Multiple Comparisons

Dependent Variable: Osteoblast
LSD

(I) Pengamatan	(J) Pengamatan	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval Lower Bound	95% Confidence Interval Upper Bound
Pre	Hari 14	-11.66667	6.95783	.101	-25.7081	2.3748
	Hari 21	-24.60000*	6.95783	.001	-38.6415	-10.5585
Hari 14	Pre	11.66667	6.95783	.101	-2.3748	25.7081
	Hari 21	-12.93333	6.95783	.070	-26.9748	1.1081
Hari 21	Pre	24.60000*	6.95783	.001	10.5585	38.6415
	Hari 14	12.93333	6.95783	.070	-1.1081	26.9748

*. The mean difference is significant at the 0.05 level.

```
USE ALL.
COMPUTE filter_$=(Kelompok = 3).
VARIABLE LABELS filter_$ 'Kelompok = 3 (FILTER)'.
VALUE LABELS filter_$ 0 'Not Selected' 1 'Selected'.
FORMATS filter_$ (f1.0).
FILTER BY filter_$.
EXECUTE.
ONEWAY Osteoblast BY Pengamatan
  /MISSING ANALYSIS
  /POSTHOC=LSD ALPHA(0.05).
```

Oneway

Notes

Output Created		20-NOV-2020 13:16:44
Comments		
Input	Data	D:\Office\SPSS\Data drg. Ira Dita.sav
	Active Dataset	DataSet31
	Filter	Kelompok = 3 (FILTER)
	Weight	<none>
	Split File	<none>
	N of Rows in Working Data File	48