

DAFTAR PUSTAKA

- Andrew, W., Cauvi, D.M., Hawisher, D., Reyes, T., Coimbra, R., Bickler, S., de Maio, A., 2019. The Contribution of the Omentum to the Outcome from Sepsis: An Experimental Animal Study. *Shock* 52, 604–611. <https://doi.org/10.1097/SHK.0000000000001311>
- Almas A. 2020. The Effect of Honey in Second Degree Burn Healing on Wistar Rats (Overview of Angiogenesis and the Number of Fibroblasts). *Jurnal Unissula*, 11, 27-32
- Aoyagi, H., Yamashiro, K., Hirata-Yoshihara, C., Ideguchi, H., Yamasaki, M., Kawamura, M., Yamamoto, T., Kochi, S., Wake, H., Nishibori, M., Takashiba, S., 2018. HMGB1-induced inflammatory response promotes bone healing in murine tooth extraction socket. *Journal of Cellular Biochemistry* 119, 5481–5490. <https://doi.org/10.1002/jcb.26710>
- Apriasari, M.L., Dachlan, Y.P., Ernawati, D.S., 2016. Effect of musa acuminata stem by immunohistochemistry test in ulcer. *Asian Journal of Biochemistry* 11, 135–141. <https://doi.org/10.3923/ajb.2016.135.141>
- Brief Scholarly. 2011. Calcium-Binding Proteins: Advances in Research and Application. 11th ed. Scholarly Editions
- Catherine, C., Faccinnetto, C., Golovchenko, M., Dupiereux, I., van Lerberghe, P.-B., Dubois, S., Desmet, C., Elmoualij, B., Baron, F., Rudenko, N., Oury, C., Heinen, E., Couvreur, B., 2012. Neutrophil Extracellular Traps Entrap and Kill *Borrelia burgdorferi* Sensu Stricto Spirochetes and Are Not Affected by *Ixodes ricinus* Tick Saliva . *The Journal of Immunology* 189, 5393–5401. <https://doi.org/10.4049/jimmunol.1103771>
- Chen MQ, Luan JJ. 2018. HMGB-1 promotes bone fracture healing through activation of ERK signaling pathway in a rat tibial fracture model. *Medical science*, 10, 1- 9

- Chung, H., Lee, S.G., Kim, H., Hong, D., Chung, J., Stroncek, D., Lim, J.B., 2009. Serum high mobility group box-1 (HMGB1) is closely associated with the clinical and pathologic features of gastric cancer. *Journal of Translational Medicine* 7. <https://doi.org/10.1186/1479-5876-7-38>
- Cook, N.C., Samman, S., 1996. Flavonoids-Chemistry, metabolism, cardioprotective effects, and dietary sources, *Biochem.*
- Cule, I., Peric, M., Kucko, L., Grgurevic, L., Pecina, M., Vukicevic, S., 2018. Bone morphogenetic proteins in fracture repair. *International Orthopaedics*. <https://doi.org/10.1007/s00264-018-4153-y>
- Cuppett, SM, Schrepf dan Hall C. 1954. *Natural Antioxidant. Are They Reality Dalam Foreidoon Shahidi: Natural Antioxidants, Chemistry, Health Effect and Applications.* Champaign: AOCS Press
- Dahlan Sopiudin M. 2010. *Besar Sampel dan Cara Pengambilan Sampel dalam Penelitian Kedokteran dan Kesehatan.* Edisi 3. Jakarta: Salemba Medika
- Dahlan Sopiudin M. 2011. *Besar Sampel dan Cara Pengambilan Sampel dalam Penelitian Kedokteran dan Kesehatan.* Jakarta: Salemba Medika
- Deliberador, T.M., Giovanini, A.F., Lopes, T.R., Zielak, J.C., Moro, A., Filho, F.B., Santos, F.R., Mueller Storrer, C.L., 2014. Immunoexpression of PPAR- γ and Osteokalsin proteins for bone repair of critical-size defects treated with fragmented autogenous abdominal adipose tissue graft. *Brazilian Dental Journal* 25, 179–185. <https://doi.org/10.1590/0103-6440201302430>
- DEPKES RI. 2013. *Laporan Riset Kesehatan Dasar (RISKESDAS).* Jakarta: DEPKES RI
- Dinkes Provinsi Kalsel. 2007. *Laporan Hasil Riset Kesehatan Dasar Provinsi Kalimantan Selatan Tahun 2007.* Banjarmasin: Dinkes Provinsi Kalsel

- Dreyer, C.H., Kjaergaard, K., Ding, M., Qin, L., 2020. Vaskular endothelial growth factor for in vivo bone formation: A systematic review. *Journal of Orthopaedic Translation*. <https://doi.org/10.1016/j.jot.2020.05.005>
- Elsalanty, M.E., Genecov, D.G. 2009. Bonegrafts in craniofacial surgery. *Craniofacial Trauma & Reconstruction* 2, 125-34. <https://doi.org/10.1055/s-0029-1215875>
- Fajriani. N., Carabelly AN., Apriasari M.L., 2018. The Effect of Toman Fish Extract (*Channa micropeltes*) on Neutrophil in Diabetes Mellitus Wound Healing (In Vivo Study In The Back of Male Wistar Mice (*Rattus norvegicus*)). *Jurnal Kedokteran Gigi Dentino* 3,15-21. <http://dx.doi.org/10.20527/dentino.v3i1.4613>
- Fakhrozi, I., Hikmat.A., Widyatmoko,D., 2013. Konservasi Ex Situ *Mangifera casturi* Kosterm. Berbasis Masyarakat: Studi Kasus di Kabupaten Indragiri Hilir, Provinsi Riau (Ex situ Conservation of *Mangifera casturi* Kosterm based on community: A case study in Indragiri Hilir Regency of Riau Province). *Jurnal Biologi Indonesia* 9,141-151. <https://doi.org/10.14203/jbi.v9i1.155>
- Feng, L., Xue, D., Chen, E., Zhang, W., Gao, X., Yu, J., Feng, Y., & Pan, Z. 2016. HMGB1 promotes the secretion of multiple cytokines and potentiates the osteogenic differentiation of mesenchymal stem cells through the Ras/MAPK signaling pathway. *Experimental and Therapeutic Medicine*, 12(6), 3941–3947. <https://doi.org/10.3892/etm.2016.3857>
- Ferri, F.F., 2004. Osteoporosis in Ferri's Clinical Advisor Instant Diagnosis and Treatment. Philadelphia: Mosby 615–616
- Fitrian et al., 2018 Efek Angiogenesis Gel Ekstrak Daun Lamtoro (*Leucaena Leucocephala*) Pada Luka Insisi Tikus. *Jurnal biosain pascasarjana* 20, 22-32
- Fogelman, Ignac, Gnanasegaran, Gopinath, van der Wall, Hans (Eds.). 2012. Radionuclide and Hybrid Bone Imaging. Springer-Verlag Berlin Heidelberg: Springer, 29- 57

- Fragiskos, F.D., 2013. Oral Surgery: Springer Science & Business Media.
Hal.382
- Hapidin, H., 2012 The Potential Role of Quercus Infectoria Gall Extract on Osteoblas Function and Bone Metabolism. Open Journal of Endocrine and Metabolic Diseases 2, 82-88.
<http://dx.doi.org/10.20473/jbp.v20i1.2018.22-32>
- Hu. K, Olsen. B.R., 2016. Osteoblas derived VEGF Regulated Osteoblas Differentiaion and Bone Formation During Bone Repair. The Journal of clinical investigation 126,509-526 [10.1172/JCI82585DS1](http://dx.doi.org/10.1172/JCI82585DS1)
- Hou. S., Wang. F., Li., Y., Li., Y., 2012. Pharmacokinetic study of mangiferin in human plasma after oral administration. Food Chemistry 13, 289– 294.
<https://doi.org/10.1016/j.foodchem.2011.10.079>
- Igarashi.A, Yamaguchi.M., 2003. Great Increase in Bone 66 Kda Protein and Osteokalsin at Later Stages with Healing Rat Fractures: Effect of Zinc Treatment. International Journal Molecular Medicine 11, 223-228.
[10.3892/ijmm.11.2.223](http://dx.doi.org/10.3892/ijmm.11.2.223)
- Ishaq R.K., 2019 Flavonoids and Their Anti-Diabetic Effects: Cellular Mechanisms and Effects to Improve Blood Sugar Levels. Biomolecules 9, 1-35
<https://doi.org/10.3390/biom9090430>
- Jadhava, R.V., A. Kannana, R ., Bhara, O.P ., Sharmaa, A ., Gulatib, K ., 2016. Effect of tea (Camellia sinensis) seed saponins on in vitro rumen fermentation, methane production and true digestibility at different forage to concentrate ratios. Journal of Applied Animal Research 17,1-7.
<https://doi.org/10.1080/09712119.2016.1270823>
- Jerome, C., Hoch B. 2012. Comparative Anatomy and Histology A Mouse and Human Atlas. ScienceDirect. Hal 65
- Kiay, N.; Suryanto,E.; Mamahit, L., 2011. Efek Lama Perendaman Ekstrak Kalamansi (Citrus microcarpa) terhadap Aktivitas Antioksidan Tepung Pisang Gorocho (Musa Spp.). Chemistry Progress 4, 27- 33.
<https://doi.org/10.35799/cp.4.1.2011.26502>

- Kini, U ., Nandeesh, B.N ., 2012. Physiology of Bone Formation, Regenerasi, and Metabolism. In: Fogelman, I., Gnanasegaran, G. and Wall, H., Eds. Radionuclide and Hybrid Bone Imaging. Springer. Berlin: Heidelberg. Hal. 29-57
- Kresnodi, U., 2012 The increasing of fibroblast growth factor 2, osteokalsin, and osteoblas due to the induction of the combination of Aloe vera and 2% xenograft concelous bovine. Dental Journal Kedokteran gig 45, 228-233. <http://dx.doi.org/10.20473/j.djmkg.v45.i4.p228-233>
- Kuncoro, H., Farabi, K., Julaeha, E., Rijai, L., Supratman, U., 2015. Stigmast-5(6)-en-3-ol dari herba tumbuhan krokot (Lygodium microphyllum). Jurnal Kimia VALENSI 1, 50-54. <http://dx.doi.org/10.15408/jkv.v0i0.3152>
- Lieberman, J.R., Friedlaender,. 2007. Bone Regeneration and Repair: Biology & Clinical Applications. Totowa NJ: Humana Press Inc. Hal. 345-346
- Lin, F., Zhang, W., Xue,D ., Zhu, T., Li, J., 2016. Signaling pathways involved in the effects of HMGB-1 on mesenchymal stem cell migration and osteoblastic differentiation. International Journal of Molecular Medicine 37,789-797. <https://doi.org/10.3892/ijmm.2016.2479>
- Madhavi, D.L., Singhal,R.S., Kulkarni, P.R., 1985. Technological Aspects of Food Antioxidants dalam D.L. Madhavi, S.S. Deshpande dan D.K. Salunkhe: Food Antioxidant, Technological, Toxilogical and Health Perspectives. Hongkong: Marcel Dekker Inc. Hal. 161-265.
- Magna, M., Pisetsky, D.S., 2014. The Role of HMGB-1 in the Pathogenesis of Inflammatory and Autoimmune Disease. Molecular Medicine Journal 20, 138-140. [10.2119/molmed.2013.00164](http://dx.doi.org/10.2119/molmed.2013.00164)
- Mahyudin., 2017 Comparative Effectiveness of Bonegrafting Using Xenograft Freeze-Dried Cortical Bovine, Allograft Freeze-Dried Cortical New Zealand White Rabbit, Xenograft Hydroxyapatite

- Bovine, and Xenograft Demineralized Bone Matrix Bovine in Bone Defect of Femoral Diaphysis of White Rabbit: Experimental Study In Vivo. *International Journal of Biomaterials* 4, 1-9. [10.1155/2017/7571523](https://doi.org/10.1155/2017/7571523)
- Malangnia , Sangia, M ., Jessy, J., 2012. Penentuan Kandungan Tanin Dan Uji Aktivitas Antioksidan Ekstrak Biji Buah Alpukat (*Persea Americana* Mill.). *Jurnal Mipa Unsrat* 1,5-10. <https://doi.org/10.35799/jm.1.1.2012.423>
- Maslarova, NV. Yanishlieva. 2001. Inhibiting Oxidation dalam Jan Pokorny, Nedyalka Yanislieva dan Michael Gordon: Antioxidants in food, Practical Applications. Cambridge: Woodhead Publishing Limited. 22-70
- Mergoni, G., Vescovi, P., Sala, R., Merigo, E., Passerini, P., Maestri, R., Bianchi, M. G., 2015. The effect of laser therapy on the expression of osteokalsin and osteopontin after tooth extraction in rats treated with zoledronate and dexamethasone. *Supportive Care in Cancer* 4,807–813. [10.1007/s00520-015-2847-x](https://doi.org/10.1007/s00520-015-2847-x)
- Miloro, M., Ghali G.E., Larsen P.E., Waite P.D. 2016. Peterson’s Principle of Oral and Maxillofacial Surgery, second edition. BC Decker.
- Mizrahi., 2013. BMP-6 is more efficient in bone formation than BMP-2 when overexpressed in mesenchymal stem cells. *Gene therapy*. 20:370- 377. [10.1038/gt.2012.45](https://doi.org/10.1038/gt.2012.45)
- Moghadam,H.G., Sandor,GK., Holmes,H.I., Clokie, C.M., 2004. Histomorphometric Evaluation of Bone Regeneration Using Allogenic and Alloplastic Bone Substitutes. *Journal Oral Maxillofac Surgery* 62, 202-213. [10.1016/j.joms.2003.10.002](https://doi.org/10.1016/j.joms.2003.10.002)
- Narasimhan, R., Osawa, T., Namiki, M., Kawakishi, S., 1988. Chemical Studies on Novel Rice Hull Antioxidants. 1. Isolation, Fractination, and Partial Characterization. *Journal Agric. Food Chem* 37, 732-737. [10.1021/JF00082A014](https://doi.org/10.1021/JF00082A014)

- Nugroho, A.M., Elfiah, U., Normasar, i R., 2016. Pengaruh Gel Ekstrak dan Serbuk Mentimun (*Cucumis sativus*) terhadap Angiogenesis pada Penyembuhan Luka Bakar Derajat IIB pada Tikus Wistar. *E-jurnal Pustaka Kesehatan* 4, 443- 448
- Oryan., 2015. Bone Injury and Fracture Healing Biology. *Bimoed Environ Sci.* 28, 57-71. [10.3967/bes2015.006](https://doi.org/10.3967/bes2015.006)
- Ott, S.M., 1999. Osteoporosis and Osteomalacia in Principles of Geriatric Medicine and Gerontology. 4th Ed. New York: Mc Graw Hill. Hal. 1057–1083
- Planell, J.A., Best, SM,. Lacroix, D,. Merolli, A., 2009. Bone Repair Biomaterials. Elsevier. Hal. 89-92
- Plotkin. 2019. RAGE signaling in Skeletal Biology. *Curr Osteoporos Rep.* 2019. 17, 16–25. [10.1007/s11914-019-00499-w](https://doi.org/10.1007/s11914-019-00499-w)
- Rajalakshmi, D., Narasimhan, S., 1985. Food Antioxidants: Sources and Methods of Evaluation dalam D.L. Madhavi: Food Antioxidant, Technological, Toxilogical and Health Perspectives. Hongkong: Marcel Dekker Inc. Hal. 76-77
- Ramadhan, H., Rezky, P.D., Susiani, E.F., 2021 Penetapan Kandungan Total Fenolik-Flavonoid pada Ekstrak Etil Asetat Kulit Batang Kasturi (*Mangifera casturi* Kosterman) 8, 58-67. <http://dx.doi.org/10.20473/jfiki.v8i12021.58-67>
- Rizal, B., Munadzirroh, E., Kriswandini, I.L., 2018. The Increase of VEGF Expressions and New Blood Vessels Formation in Wistar Rats Induced with Post-Tooth Extraction Sponge Amnion. *Dental Journal, Majalah Kedokteran Gigi* 51, 1. <http://dx.doi.org/10.20473/j.djmkg.v51.i1.p1-4>
- Roche Diagnostics. 2004. N-MID Osteocalcin, Cat. No. 12149133 122. No. Lot 169091, Elecsys 1010/2010/Modular Analytics E170 Rockville., 2004. Bone Health and Osteoporosis: A Report of the Surgeon General. US: Office of the Surgeon General

- Sandor, G.K.B, Carmichael, R.P., Ylikontiola, L.P., Jan, A., DuVal, M.G., Clokie C.M.L., 2012. Chapter 15 Healing of Large Dentofacial Defects. Oral Wound Healing: Cell Biology and Clinical Management. Edited by Hannu Larjava. John Wiley & Sons.Inc. Hal. 347-392
- Santi, N., Prahatamaputra, A., Ajizah, A., 2016. Uji Antibakteri Infusa Kulit Batang Kasturi (*Mangifera casturi* Kosterm) Terhadap Bakteri *Escherichia Coli* Secara In Vitro. *Jurnal Wahana-Bio* 16, 36-42
- Sari, S.G., 2014. Kelimpahan Dan Penyebaran Populasi *Mangifera casturi* Sebagai Usaha Konservasi Dan Pemanfaatan Tumbuhan Langka Khas Kalimantan Selatan. *Enviro Scienceae* 10, 41-48.
<http://dx.doi.org/10.20527/es.v10i1.1963>
- Sathyendra, V., Darowish, M., 2013. Basic Science of Bone Healing. National Center for Biotechnology Information. Hal. 473-479
- Sayuti, A.N., 2015. Formulasi dan Uji Stabilitas Fisik Sediaan Gel Ekstrak Daun Ketepeng Cina (*Cassia alata* L.). *Jurnal Kefarmasian Indonesia* 5, 74-82.
[10.22435/jki.v5i2.4401.74-82](http://dx.doi.org/10.22435/jki.v5i2.4401.74-82)
- Seibel, M.J., 2005. Biochemical markers of bone turnover part I: Biochemistry and variability. *Clin Biochem. Rev* 26, 97-123
- Sennang, A.N., 2006. Analisis Kadar Osteokalsin Serum Osteopenia dan Osteoporosis. *Majalah Patologi Klinik Indonesia dan Laboratorium Medik* 12, 49-52. <http://dx.doi.org/10.24293/ijcpml.v12i2.841>
- Sheikh, Z., Javaid, M.A., Hamdan, N., Hashmi, R., 2015. Review Bone Regeneration Using Bone Morphogenetic Proteins and Various Biomaterial Carriers. *Journal Materials* 8, 1778-1816. [10.3390/ma8041778](http://dx.doi.org/10.3390/ma8041778)
- Sinder B.P., Pettit., McCauley., 2015. Macrophages: Their Emerging Roles in Bone. *Journal of Bone and Mineral Research* 30,12.
[10.1002/jbmr.2735](http://dx.doi.org/10.1002/jbmr.2735)
- Singh, A. K., Raj, V., Keshari, A. K., Rai, A., Kumar, P., Rawat, A., Maity, B., Kumar, D., Prakash, A., De, A., Samanta, A., Bhattacharya, B., & Saha, S. 2018. Isolated mangiferin and naringenin exert antidiabetic

- effect via PPAR γ /GLUT4 dual agonistic action with strong metabolic regulation. *Chemico-Biological Interactions*, 280, 33–44. <https://doi.org/10.1016/j.cbi.2017.12.007>
- Suen P.K., He, Y.X., Chou D.H.K., Huang, L., Li, C., Ke, H.Z, Michael, Ominsky, Qin, L., 2014. Sclerostin Monoclonal Antibody Enhanced Bone Fracture Healing in an Open Osteotomy Model in Rats. *Journal of Orthopaedic Research* 8,997-105. [10.1002/jor.22636](https://doi.org/10.1002/jor.22636)
- Suhono. 2011. Effect of soybean extract after tooth extraction on osteoblast numbers. *Dental Journal Majalah Kedokteran Gigi* 44, 111-116. <http://dx.doi.org/10.20473/j.djmk.v44.i2.p111-116>
- Sukmana, B.I, Budhy, T.I, Ardani, I.G.J.W., 2017 The potentiation of *Mangifera casturi* bark extract on interleukin- 1 β and bone morphogenic protein-2 expressions during bone remodeling after tooth extraction. *Dental Journal kedokteran gigi* 50,36-42. <http://dx.doi.org/10.20473/j.djmk.v50.i1.p36-42>
- Sutomo, S., 2014. Antioxidant Activity of Extracts and Active Fractions of *Kasturi* (*Mangifera casturi* Kosterm.) using 1,1-diphenyl-2-picrylhydrazyl Method. *Journal of Natural Products* 7,124-127
- Sutomo., 2017. Studi Farmakognostik dan Uji Parameter Nonspesifik Ekstrak Metanol Kulit Batang *Kasturi* (*Mangifera casturi* Kosterm.). *Jurnal Pharmascience* 4, 94–101. <http://dx.doi.org/10.20527/jps.v4i1.5761>
- Sutomo., Rafi.M., Arnid., 2019. Pengaruh Pemberian Ekstrak Etil Asetat Buah *Kasturi* (*Mangifera casturi* Kosterm.) terhadap Gambaran Makroskopis-Mikroskopis Organ Hati Tikus Putih Jantan. *Jurnal Pharmascience* 6, 106-113. <http://dx.doi.org/10.20527/jps.v6i1.6082>
- Torre, E., 2017 Molecular signaling mechanisms behind polyphenol- induced bone anabolism. *Phytochem Rev* 16, 1183–1226. [10.1007/s11101-017-9529-x](https://doi.org/10.1007/s11101-017-9529-x)
- Wang, X., Schröder, H.C., Feng, Q., Draenert, F., Muller, W.E.G., 2013. Review: The Deep-Sea Natural Products, Biogenic Polyphosphate

- (Bio-PolyP) and Biogenic Silica (Bio-Silica), as Biomimetic Scaffolds for Bone Tissue Engineering: Fabrication of a Morphogenetically- Active Polymer. *Marine Drugs* 11, 718-746. [10.3390/md11030718](https://doi.org/10.3390/md11030718)
- Wang, X., Schröder, H.C., Muller, W.E.G ., 2014. Biocalcite a multifunctional inorganic polymer: Building block for calcareous sponge spicules and bioseed for the synthesis of calcium phosphate-based bone. *Beilstein Journal Nanotechnol* 5, 610-621. [10.3762/bjnano.5.72](https://doi.org/10.3762/bjnano.5.72)
- White, P.J., Xing, Y., 1954. Antioxidants from Cereals and Legumes dalam Foreidoon Shahidi: Natural Antioxidants, Chemistry, Health Effect and Applications. Champaign: AOCS Press. Hal. 25-63.
- Xu, L., Sharkey, D., Cantley, L. G., 2019. Tubular GM-CSF promotes late MCP-1/CCR2-mediated fibrosis and inflammation after ischemia/reperfusion injury. *Journal of the American Society of Nephrology*, 30, 1825–1840. <https://doi.org/10.1681/ASN.2019010068>
- Yang., 2014. Bone morphogenetic proteins: Relationship between molecular structure and their osteogenic activity. *Food Science and Human Wellness* 3, 127-135
<https://doi.org/10.1016/j.fshw.2014.12.002>
- Yang, H., Antonie D.J ., Andersson, U., 2013. The Many Faces of HMGB- 1: Molecular Structure-Functional Activity in Inflammation, Apoptosis, and Chemotaxis. *Journal Leukoc Biology* 93,865-873. [10.1189/jlb.1212662](https://doi.org/10.1189/jlb.1212662)
- Yang, H., Wang, H., Czura, C.J., Tracey, K.J., 2002. HMGB-1 as A Cytokine and Therapeutic Target. *Journal of Endotoxin Research*. 8, 469-472. [10.1179/096805102125001091](https://doi.org/10.1179/096805102125001091)
- Yang, Y., Chai, L., Liao, C., Qu, J.Y., 2014. Effects of on Bone Cells Metabolism and Activity. *Dentistry an Open Access Journal* 4,247. [10.4172/2161-1122.1000247](https://doi.org/10.4172/2161-1122.1000247)

- Yang, Y., Tan, Y., Wong, R., Wenden, A., Zhang, L., Rabie, A.B.M., 2012. Review The role of vaskular endothelial growth factor in ossification. *International Journal of Oral Science* 4,64-68. [10.1038/ijos.2012.33](https://doi.org/10.1038/ijos.2012.33)
- Yanuartono., Purnamaningsih, H., Nururrozi, A., Indarjulianto, S., 2017. Saponin: Dampak terhadap Ternak (Ulasan) Saponin: Impact on Livestock (A Review). *Jurnal Peternakan Sriwijaya* 6, 79-90.
- Zachos., 2006 Gene-Mediated Osteogenic Differentiation of Stem Cells by Bone Morphogenetic Proteins-2 or -6. *JOURNAL OF ORTHOPAEDIC RESEARCH* 10, 1279-1291. [10.1371/journal.pone.0169123](https://doi.org/10.1371/journal.pone.0169123)
- Zhang, Y., Ideguchi, H., Aoyagi, H., Yamashiro, K., Yamamoto, T., Nishibori, M., Takashiba, S., 2021. Malnutrition delayed wound healing after tooth extraction by HMGB1-related prolonged inflammation. *International Immunopharmacology* 96. <https://doi.org/10.1016/j.intimp.2021.107772>
- Zhou, Q., Tu, T., Tai, S., Tang, L., Yang, H., Zhu, Z., 2021. Endothelial specific deletion of HMGB1 increases blood pressure and retards ischemia recovery through eNOS and ROS pathway in mice. *Redox Biology* 41. <https://doi.org/10.1016/j.redox.2021.101890>
- Zindel, J., & Kubes, P. 2019. *DAMPs, PAMPs, and LAMPs in Immunity and Sterile Inflammation*. <https://doi.org/10.1146/annurev-pathmechdis>
- Zoch, M.L., Clemens, T.L., Riddle, R.C., 2016. New insights into the biology of osteokalsin. *Bone*. <https://doi.org/10.1016/j.bone.2015.05.046>

LAMPIRAN GAMBAR PENELITIAN

1. Pembuatan gel ekstrak kulit batang *Mangifera casturi*



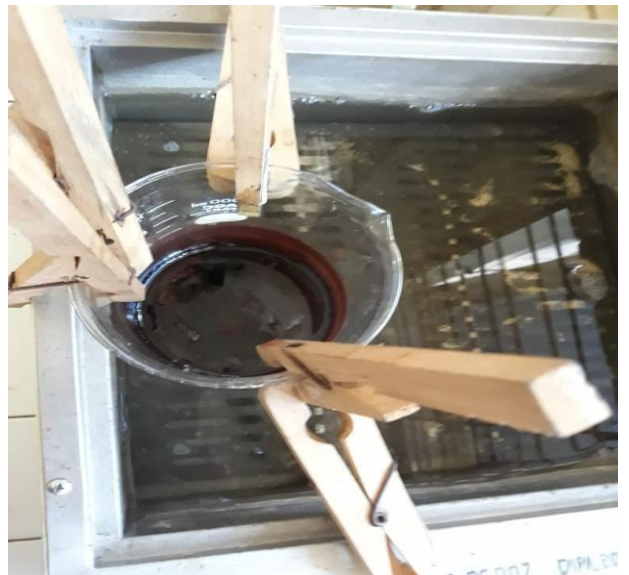
Gambar 1. *Mangifera casturi*



Gambar 2. Serbuk *Mangifera casturi* setelah dioven dan diayak



Gambar 3. Ekstrak *Mangifera casturi* yang direndam cairan



Gambar 4. Gel ekstrak *Mangifera*

2. Persiapan dan pengeburan tulang femur tikus



Gambar 5. Adaptasi hewan



Gambar 6. Anastesi ketamin

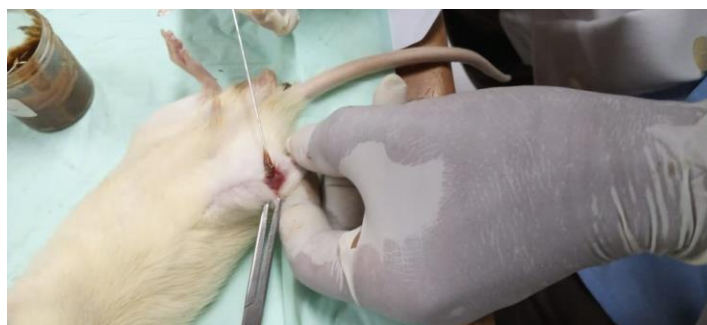


Gambar 7. Patela dan ligamen diangkat ke medial dan dilakukan pengeboran tulang



Gambar 8. Dibuat sayatan sekitar 2 cm di kaki sisi belakang kanan tikus menuju lateral tikus

3. Pemberian ekstrak kulit batang *Mangifera casturi*



Gambar 9. Diberikan gel ekstrak kulit batang mangga kasturi sebanyak 0,2 ml pada daerah pengeburan

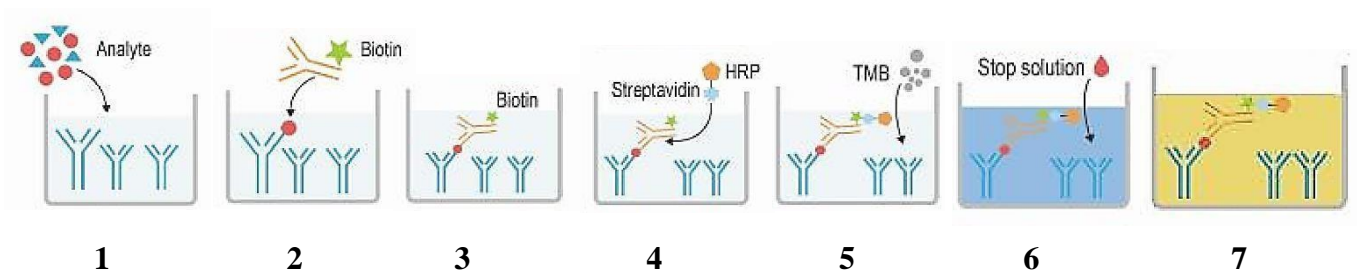


Gambar 10. Diberikan bonegraft pada daerah pengeburan



Gambar 11. Pengambilan darah tikus pada vena ekor

4. Prosedur pengujian HMGB-1, VEGF, BMP-6, osteokalsin



Keterangan:

1. Tambahkan 50 μ l standar dan 40 μ l ke wadah
2. Tambahkan 10 μ l antibodi (anti-HMGB-1, anti-SVEGFR-3/SFLT-4, anti-BMP-6, dan anti-osteokalsin)
3. Cuci plate tiga kali
4. Tambahkan 50 μ l streptavidin-HRP, inkubasi 60 menit, suhu 37⁰C, cuci plate 5 kali
5. Tambahkan reagen larutan substrat 50 μ l A dan 50 μ l B
6. Tambahkan 50 μ l *stop solution*, warna biru akan berubah menjadi kuning
7. Tentukan kerapatan optik (nilai OD) dengan lempeng mikro, 450 nm selama 10 menit

DAFTAR SINGKATAN

BMP-6	: <i>Bone Morphogenetic Protein-6</i>
BPOM	: Badan Pengawas Obat dan Makanan
DAMPs	: <i>Damage-Associate Molecular Patterns</i>
GLUT4	: Glucose Transporter Type 4
HMGB-1	: <i>High Mobility Group Box-1</i>
MSC	: <i>Mesenchymal Stem Cell</i>
Na-CMC	: Natrium Karboksimetil Selulosa
NF- κ B	: Nuclear Factor kappa-light-chain-enhancer of Activated B cells
PAMPs	: <i>Pathogen-Associated Molecular Patterns</i>
PPAR γ	: <i>Peroxisome Proliferator Activated Receptor Gamma</i>
TNF α	: <i>Tumour Necrosis Factor alpha</i>
VEGF	: <i>Vascular Endothelial Growth Factor</i>

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