



DAFTAR PUSTAKA

- Abatangelo G, Vindigni V, Avruscio G, Pandis L, Brun P., (2020). Hyaluronic Acid: Redefining Its Role. *Cells*. 21;9(7).
- Adnyasari, N.L., Syahriel, D., Haryani, I.G.,(2023). Plaque Control in Periodontal Disease, Interdental Jurnal Kedokteran Gigi., ISSN 1979-9144 (print), ISSN 2685-5208.
- Agarwal, Shweta & Mehrotra, Ranjana., (2016). Mini Review _ An overview of Molecular Docking. *JSM Chemistry*. 2. 1024
- Amsia, Hidayatil., (2021). Efek Asam Hialuronat pada Berbagai Jenis Luka. *Jurnal Penelitian Perawat Profesional*. 3. 269-278
- Asparuhova, M. B., Chappuis, V., Stahli, A., Buser, D., Sculean.,(2020). Role of hyaluronan in regulating self-renewal and osteogenic differentiation of mesenchymal stromal cells and pre-osteoblasts, *Clin. Oral Investig.*, 24: 3923-3937.
- Auerkari, Elza & Andriawan, Samantha & Auerkari, Pertti., (2023). Molecular Docking Analysis of Flavonoid Compounds from Glycyrrhiza glabra on the Interleukin – 1 Receptor (IL-1R) as a Candidate for Anti-Inflammatory Drug in Periodontitis.
- Bai, X., Gao, M., Syed, S., Xu, X., Zhang, X., (2018). Bioactive hydrogels for bone regeneration, *Bioact. Mater.* 3, 401-417.
- Baek, M., McHugh, R., Anishchenko, I. et al., (2024). Accurate prediction of protein–nucleic acid complexes using RoseTTAFoldNA. *Nat Methods* 21, 117–121.
- Blair HC, Larrouture QC, Li Y, Lin H, Beer-Stoltz D, Liu L, Tuan RS, Robinson LJ, Schlesinger PH, Nelson DJ., (2017). Osteoblast Differentiation and Bone Matrix Formation In Vivo and In Vitro. *Tissue Eng Part B Rev*:268-280.
- Bolamperti, Simona & Villa, Isabella & Rubinacci, Alessandro., (2022). Bone remodeling: an operational process ensuring survival and bone mechanical competence. *Bone Research*. 10-48.
- Brown's R. (1993) Bee Hive Product Bible. Pennsylvania: Paragon.
- Buonocore M, Grimaldi M, Santoro A, Covelli V, Marino C, Napolitano E, Novi S, Tecce MF, Ciaglia E, Montella F, et al., (2023). Exploiting the Features of Short Peptides to Recognize Specific Cell Surface Markers. *International Journal of Molecular Sciences*; 24(21):15610.
- Cannarile MA, Weisser M, Jacob W, Jegg AM, Ries CH, Rüttinger D., (2017). Colony-stimulating factor 1 receptor (CSF1R) inhibitors in cancer therapy. *J Immunother Cancer*. Jul 18;5(1):53.
- Cawley, Keisha & Bustamante-Gomez, Nancy & Guha, Anveshi & MacLeod, Ryan & Xiong, Jinhu & Gubrij, Igor & Liu, Yu & Mulkey, Robin & Palmieri, Michela & Thostenson, Jeff & Goellner, Joseph & OBrien, Charles. (2020). Local Production of Osteoprotegerin by Osteoblasts Suppresses Bone Resorption. *Cell reports*
- Chen, J., Lan, Y., He, Y., He, C., Xu, F., Zhang, Y., Zhao, Y., and Liu, Y., (2017). Tc-MDP-induced human osteoblast proliferation, differentiation and expression of osteoprotegerin, *Mol. Med. Rep.*, 16: 1801-1809.
- Chen, Xiao., Zhongqiu, Wang., Na, Duan., Guoying, Zhu., Edward, Schwarz., Chao Xie, (2017) Osteoblast–osteoclast interactions, *Connective Tissue Research*,



Duda, G. N., Geissler, S., Checa, S., Tsitsilonis, S., Petersen, A., Schmidt-Bleek, K., (2023). The decisive early phase of bone regeneration, *Nat. Rev. Rheumatol.*, 19: 78-95.

Edache EI, Uzairu A, Mamza PA, Shallangwa GA, Yagin FH, Abdel Samee N and Mahmoud NF (2023) Combining docking, molecular dynamics simulations, AD-MET pharmacokinetics properties, and MMGBSA calculations to create specialized protocols for running effective virtual screening campaigns on the autoimmune disorder and SARS-CoV-2 main protease. *Front. Mol. Biosci.*

Ekeuku, S. O., Chin, K., (2021), Application of Propolis in Protecting Skeletal and Periodontal Health – A Systematic Review, *Molecules*, 26: 3156.

Eroschenko, V.P., (2010). Atlas Histologi Difiore: Dengan Korelasi Fungsional, 11 th. ed. EGC Penerbit Buku Kedokteran, Jakarta.

El-Sakhawy, Mohamed & Salama, Ahmed & Sarhan, Hebat-Allah., (2023). Applications of propolis-based materials in wound healing. *Archives of Dermatological Research*

Gaffney-Stomberg, Erin & Macarthur, Mike & McClung, James. (2017). Parathyroid Hormone (PTH) and the Relationship Between PTH and Bone Health: Structure, Physiology, Actions, and Ethnicity.

Grimaud E, Soubigou L, Couillaud S, Coipeau P, Moreau A, Passuti N, Gouin F, Redini F, Heymann D. (2023). Receptor activator of nuclear factor kappaB ligand (RANKL)/osteoprotegerin (OPG) ratio is increased in severe osteolysis. *Am J Pathol.*

Hajishengallis, G., Chavakis, T., Lambris, J. D., (2020). Current understanding of periodontal disease pathogenesis and targets for host-modulation therapy, *Periodontol. 2000*, 84(1): 14-34.

Handini A,dkk, (2021). Regenerasi sel ligament periodontal dengan kolagen sisik Ikan nila (*Oreochromisniloticus*). *MEDALI Journal*. Volume 3. Nomor 1.

Hossain, R., Quispe, C., Khan, R.A., (2022). Propolis: An update on its chemistry and pharmacological applications. *Chin Med* 17, 100. <https://doi.org/10.1186/s13020-022-00651-2>

Kaboosaya B, Wulansari LK, Nguyen T., (2017). Ligation period required to induce periodontitis in Mice: Analysis with Micro-computed tomography. *J Oral Tissue Engin*;15: 25-34.

Khaerunnisa S, Suhartati, Awaluddin R., (2020). Penelitian in silico untuk pemula.

Surabaya: Airlangga University Press p. 112.Kononen, E., Gursoy, M., Gursoy, U. K., (2019). Periodontitis: A Multifaceted Disease of Tooth- Supporting Tissues, *J. Clin. Med.*, 8: 1135.

Kurkinen ST, Niinivehmas S, Ahinko M, Lätti S, Pentikäinen OT and Postila PA (2018) Improving Docking Performance Using Negative Image-Based Rescoring. *Front. Pharmacol.* 9:260. doi: 10.3389/fphar.2018.00260.

Kurniawati, A., Wahyukundari, M., A., Astuti, S., D., (2020). Potensi Ekstrak Daun Ungu dalam Menurunkan Jumlah Sel Osteoklas Tikus yang Diinduksi Porphyromonas Gingivalis. *Cakradonya Dent. J.* 12, 75–82.

Lademann F, Hofbauer LC, Rauner M., (2020). The Bone Morphogenetic Protein Pathway: The Osteoclastic Perspective. *Front Cell Dev Biol*

Lasserre, J. F., Brecx, M. C., Toma, S., (2018). Oral Microbes, Biofilms and Their Role in



Lee, H., Byun, S., Cho, S., Yang, B., (2019). Past, Present, and Future of Regeneration Therapy in Oral and Periodontal Tissue: A Review, *Appl. Sci.*, 9, 1046.

Luo X, Wan Q, Cheng L and Xu R., (2022). Mechanisms of bone remodeling and therapeutic strategies in chronic apical periodontitis. *Front. Cell. Infect. Microbiol.* 12:908859. doi: 10.3389/fcimb.2022.908859.

Mamajiwala, A. S., Sethi, K. S., Raut, C. P., Karde, P. A., Mamajiwala, B. S., (2021). Clinical and radiographic evaluation of 0,8% hyaluronic acid as an adjunct to open flap debridement in the treatment of periodontal intrabony defects: randomized controlled clinical trial, *Clin. Oral Investig.*, 25: 5257-5271.

Manurung, N.R.M., Sumiwi, S.A., (2016). Aktivitas Antiinflamasi Berbagai Tanaman Diduga Berasal dari Flavonoid. *Farmaka* 14, 111–123.

Masurkar, Deepika & Jaiswal, Priyanka & Kale, Bhairavi & Rathod, Aishwarya. (2023). Hyaluronic Acid in Periodontal Regeneration and Implant Dentistry-A Review. *JOURNAL OF CLINICAL AND DIAGNOSTIC RESEARCH*.

Maveyraud, Laurent, and Lionel Mourey., (2020). "Protein X-ray Crystallography and Drug Discovery" *Molecules* 25, no. 5: 1030.

Meimandi-Parizi, A., Oryan, A., Sayahi, E., Bigham-Sadegh, A., (2018). Propolis extract a newreinforcement material in improving bone healing: An in vivo study, *Int. J. Surg.*, 56-94-101.

Mulki, M.A., Pratama, R., (2022). Literature Review: Senyawa Bioaktif dan Efek FarmakologisSecara Molekuler dari Propolis, *Journal of Pharmacopolium*, Vol 5, No. 3 (2022).

Newman, M. G., Takei, H., Klokkevold, P. R., Carranza, F. A., (2018). Newman and Carranza'sClinical Periodontology, 13th Ed., Elsevier, Inc., Philadelphia.

Ochoa, J.A. and Lira, R., (2020). Docking and Scoring in Virtual Screening, *Current Topics inMedicinal Chemistry*, 20(2), pp. 105-117.

Ochoa, O.M.G. and A.A., (2021). Understanding RMSD and Its Applications in Structural Biology, *Journal of Molecular Biology*, 433(11), p. 167929.

Paula, Lucas & Cândido, Ana & Santos, Mario & Caffrey, Conor & Bastos, Jairo & Ambrosio, Sergio & Magalhaes, Lizandra., (2021). Antiparasitic properties of propolis extracts and their compounds: a review. *Chemistry & Biodiversity*.

Preshaw PM. (2014) Periodontal Disease Pathogenesis, dalam Newman and Carranza's Carranza ClinicalPeriodontology.Ed 13th. Philadelphia: Elsevier; p. 89-92.

Przybylek, I., Karpinski, T. M., (2019). Antibacterial Properties of Propolis, *Molecules*, 24, 2047. Ravindranath PA, Forli S, Goodsell DS, Olson AJ, Sanner MF (2015) *AutoDockFR: Advances in Protein-Ligand Docking with Explicitly Specified Binding Site Flexibility*. *PLoS Comput Biol* 11(12).Rutkovskiy, A., Stenslokken, K., Vaage, I., 2016, osteoblas Differentiation at a Glance, *Med. Sci. Monit. Basic Res.*, 22: 95-106.

Qu, Fang., (2021). "The protective role of Ephrin-B2/EphB4 signaling in osteogenic differentiation under inflammatory environment." *Experimental cell research*

Sani, I.A., Cahyani, S.M., Fariha, S., Oliresianela, Diah.,(2021). Bioinformatic approach of propolis as an inhibitor of peptidoglycan glycosyltransferase to improve antibacterial agent:



Setiawan, B., & Ernawati. (2024). Peran Nutrasetikal dalam Mitigasi Inflamasi Kronis: Tinjauan Pustaka. *Calvaria Medical Journal*.

Shah SA, Vijayakar HN, Rodrigues SV, et al., (2016). To comp are the effect of the local delivery of hyaluronan as an adjunct to scaling and root planning versus scaling and root planing alone in the treatment of chronic periodontitis. *J. Indian Soc. Periodontol*; 20(5): 549–56.

Sinha, S., Pande, A. and Pande, S., (2020), Understanding RMSD and Its Applications in Structural Bioinformatics, *Journal of Molecular Graphics and Modelling*, 98.

Soleha, T.U., Yudistira P., M.A., (2016). Blueberry (*Vaccinium Corymbosum*) dalam Menghambat Proses Inflamasi. *Med. J. Lampung Univ.* 5, 63–67.

Song, B., Zhang, Y., Chen, L., Zhou, T., Huang, W., Zhou, X., & Shao, L. (2016). The role of Toll-like receptors in periodontitis. *Oral Diseases*, 23(2)

Sun, X., Zheng, Y., Tian, L., Miao, Y., Zeng, T., Jiang, Y., Pei, J., Ahmad, B., & Huang, L. (2021). Metabolome profiling and molecular docking analysis revealed the metabolic differences and potential pharmacological mechanisms of the inflorescence and succulent stem of *Cistanche deserticola*. *RSC advances*, 11(44), 27226–27245.

Suryono, Wijayanti, P., Lastianny, S. P., (2023). The Effect of Carbonated Hidroxyapatite-10% Propolis Application on Open Flap Debridement Towards Transforming Growth Factor B1 Expression, *Mal. J. Med. Health Sci.*, 19(SUPP4): 45-51.

Valachová K, Šoltés L., (2021).Hyaluronan as a Prominent Biomolecule with Numerous Applications in Medicine. *Int J Mol Sci.* ;22(13)

Ward, E., (2022). A Review of Tissue Engineering for Periodontal Tissue Regeneration, *J. Vet. Dent.*, 39(1).

Wu X, Ma Y, Su N, Shen J, Zhang H, Wang H., (2019). Lysophosphatidic acid: Its role in bone cell biology and potential for use in bone regeneration. *Prostaglandins Other Lipid Mediat.*

Yasin, A., Ren, Y., Li, J., Sheng, Y., Cao, C., Zhang, K., (2022). Advances in Hyaluronic Acid for Biomedical Applications, *Front. Bioeng. Biotechnol.*, 10: 910290.

Zulkiflee, Nadzirah, Hussein Taha, and Anwar Usman. (2022). "Propolis: Its Role and Efficacy in Human Health and Diseases" *Molecules* 27, no. 18: 6120.

Zulhendri, Felix, Ronny Lesmana, Steven Tandean, Andreas Christoper, Kavita Chandrasekaran, Ilham Irsyam, Auliya A. Suwantika, Rizky Abdulah, and Nasrul Wathon. (2022). "Recent Update on the Anti-Inflammatory Activities of Propolis" *Molecules* 27, no. 23: 8473