

DAFTAR PUSTAKA

- Abka-khajouei, R., Tounsi, L., Shahabi, N., Patel, A.K., Abdelkafi, S., and Michaud, P. 2022. Structures, properties, and applications of alginates. *Mar Drugs*. 20(364). DOI:10.3390/md20060364
- Aderibigbe, B.A., and Buyana, B. 2018. Alginate in wound dressings. *Pharmaceutics*. 10(42). DOI:10.3390/pharmaceutics10020042
- Alonso, C., Martí, M., Ramos, A., Calpena, A.C., Clares-Naveros, B., and Coderch, L. 2023. A synthetic model of the mucosa for oral penetration studies. *Membranes*. 13:905. DOI:10.3390/membranes13120905
- Avhad, A.B., and Bhangale, C.B. 2023. Marine natural products and derivatives. *RPS Pharmacy and Pharmacology Reports*. 2(2);1-6. DOI:10.1093/rpsppr/rqad008
- Barrons, R.W. 2001. Treatment strategies for recurrent oral aphthous ulcers. *Am J Health-Syst Pharm*. 58:41-53. DOI:10.1093/ajhp/58.1.41
- Basyuni, M., Puspita, M., Rahmania, R., Albasri, H., Pratama, I., Purbani, D., et al. 2024. Current biodiversity status, distribution, and prospects of seaweed in Indonesia: A systematic review. *Heliyon*. 10:e31073. DOI:10.1016/j.heliyon.2024.e31073
- Bruce, A.J., Dabade, T.S., and Burkemper, N.M. 2015. Diagnosing oral ulcers. *Journal of the American Academy of Physician Assistants*. 28:1-10. DOI:10.1097/01.JAA.0000459826.63026.67
- Cavalcante, G.M., de Paula, R.J.S., de Souza, L.P., Sousa, F.B., Mota, M.R.L., and Alves, A.P.N.N. 2011. Experimental model of traumatic ulcer in the cheek mucosa of rats. *Acta Cirúrgica Brasileira*. 26(3):227-234. DOI:10.1590/S0102-86502011000300012
- Cokrowati, N., Junaidi, M., Affandi, R.I., Sumsanto, M., Muahiddah, N., Anggraini, I.D., et al. 2024. The distribution, habitat characteristics, and bioenergy potential of *Sargassum sp* in Indonesia. *International Journal of Design & Nature and Ecodynamics*. 19(6):2049-2062. DOI:10.18280/ijdne.190621
- D'Amario, M., Foffo, G., Grilli, F., Capogreco, M., Pizzolante, T., and Rastelli, S. 2025. Treatments for recurrent aphthous stomatitis: A literature review. *Dent J*. 13(66). DOI:10.3390/dj13020066
- Dong, N., Zhang, C., Zhang, Q., Bao, S., Hu, Y., Xu, H., et al. 2025. A cell-free SHED lysate-hydrogel system for oral ulcer healing with anti-inflammatory and pro-angiogenic effects. *Biotechnology*. 23(1). DOI:10.1186/s12951-025-03597-3
- Wannemann, M.T. 2003. Marine natural products and their potential applications as cytotoxic agents. *Lancet Infect Dis*. 3:338-48. DOI:10.1016/s1473-0558(03)00000-0



- Fani, M.M., Ebrahimi, H., Pourshahidi, S., Aflaki, E., and Shafiee, S. 2012. Comparing the effect of phenytoin syrup and triamcinolone acetonide ointment on aphthous ulcers in patients with Behçet syndrome. *Iran Red Crescent Med J.* 14(2):75-78. PMID: 22737559, PMCID: PMC3372045.
- Farshidfar, N., Irvani, S., and Varna, R.S. 2023. Alginate-based biomaterials in tissue engineering and regenerative medicine. *Mar Drugs.* 21(189). DOI:10.3390/md21030189
- Febry, M., Asri, A., and Isona, L. 2017. Pengaruh pemberian kortikosteroid terhadap proses penyembuhan luka pada mencit (*Mus musculus*). *MPI.* 25(1);15-21.
- Fitzpatrick, S.G., Cohen, D.M., and Clark, A.N. 2019. Ulcerated lesions of the oral mucosa: Clinical and histologic review. *Head and Neck Pathology.* 13:91-102. DOI:10.1007/s12105-018-0981-8.
- Fourie, J., and Boy, S.C. 2016. Oral mucosal ulceration – a clinician’s guide to diagnosis and treatment. *South African Dental Journal.* 71(10):500-508
- Gasmi Benahmed, A., Noor, S., Menzel, A., and Gasmi, A. 2021. Oral aphthous: Pathophysiology, clinical aspects and medical treatment. Archives of Razi Institute. 76(5):1155-1163. DOI: 10.22092/ari.2021.356055.1767
- Gholizadeh, N., Sadrzadeh-Afshar, M-S., and Sheykhbani, N. 2020. Intralesional corticosteroid injection as an effective treatment method for oral lesions: A meta-analysis. *Braz J Pharm Sci.* 56:e18077. DOI:10.1590/s2175-97902019000418077
- Gupta, A., and Kumar, P. 2015. Assessment of the histological state of the healing wound. *Plast Aesth Res.* 2;239-242. DOI:10.4103/2347-9246.158862.
- Hamrun, N., Herdianto, N., Gustiono, D., Oktawati, S., Kamil, K., Marlina, E., et al. 2025. Synthesis, physical characteristics, and biocompatibility test of chitosan-alginate-fucoidan scaffold as an alternative material for alveolar bone substitution. *BMC Oral Health.* 25(1199). DOI:10.1186/s12903-025-06591-1
- Handa, H., Khare, P., and Shrivastava, K. 2021. A brief review on classification of oral ulcerative lesions. *J Oral Med, Oral Surg, Oral Pathol, Oral Radiol.* 7(1):3-9. DOI:10.18231/j.jjoo.2021.002
- Hein, R., Mauch, C., Hatamochi, A., and Krieg, Th. 1988. Influence of corticosteroids on chemotactic response and collagen metabolism of human skin fibroblasts. *Biochemical Pharmacology.* 37(14):2723-2729. DOI:10.1016/0006-2952(88)90034
- Katayama, S., Ohshita, J., Sugaya, K., Hirano, M., Momose, Y., and Yamamura, S.1998. Medical treatment for severe gingivostomatitis. *International Journal of Molecular* 8;2:675-679. DOI:10.3892/ijmm.2.6.675
- Alfoor, F., and Khan, A.A. 2006. Pathogenesis of recurrent aphthous A review of literature. *Proceeding S.Z.PG.M.I.* 20(2):113-118. DOI:10.1007/s12105-018-0981-8
- 4/MEDINFORM.202071.1065



- Kokova, V., Lukova, P., Baldzhieva, A., Katsarov, P., Delattre, C., Molinié, R., et al. 2023. Extraction, structural characterization, and in vivo anti-inflammatory effect of alginate from *Cystoseira crinita* (Desf.) borry harvested in the Bulgarian Black Sea. *Mar Drugs*. 21(245). DOI:10.3390/md21040245
- Lee, H.G., and Eun, H.C. 1999. Differences between fibroblasts cultured from oral mucosa and normal skin: implication to wound healing. *Journal of Dermatological Science*. 21:176-182. DOI:10.1016/S0923-1811(99)00037-7
- Lee, K.Y., and Mooney, D.J. 2012. Alginate: properties and biomedical applications. *Prog Polym Sci*. 37(1):106-126. DOI:10.1016/j.progpolymsci.2011.06.003
- Lehman, J.S., and Rogers III, R.S. 2016. Acute oral ulcers. *Clinics in Dermatology*. DOI:10.1016/j.clinderamatol.2016.02.019.
- Li, C.Q., Ma, Q.Y., Gao, X.Z., Wang, X., and Zhang, B.L. 2023. Research progress in anti-inflammatory bioactive substance derived from marine microorganisms, sponges, algae, and corals. *Mar Drugs*. 2021;19(10):572. DOI:10.3390/md19100572
- Mazzinelli, E., Favuzzi, I., Arcovito, A., Castagnola, R., Fratocchi, G., Mordente, A., and Nocca, G. 2023. Oral mucosa models to evaluate drug permeability. *Pharmaceutics*. 15(5):1559. DOI:10.3390/pharmaceutics15051559
- Mortazavi, M., Safi, S., Baharvand, M., and Rahmani, S. 2016 Diagnostic features of common oral ulcerative lesions: An updated decision tree. *International Journal of Dentistry*. DOI:10.1155/2016/7278925
- Muñoz-Corcuera, M., Esparza-Gómez, G., González-Moles, M.A, and Bascones-Martínez, A. 2009. Oral ulcers: clinical aspects. A tool for dermatologists. Part I. Acute ulcers. *Clinical and Experimental Dermatology*. 34(3):289-294. DOI:10.1111/j.1365-2230.2009.03220.x
- Muñoz-Corcuera, M., Esparza-Gómez, G., González-Moles, M.A, and Bascones-Martínez, A. 2009. Oral ulcers: clinical aspects. A tool for dermatologists. Part II. Chronic ulcers. *Clinical and Experimental Dermatology*. 34(4):456-461. DOI:10.1111/j.1365-2230.2009.03219.x
- Mutiarahmi, C.N., Hartady, T., and Lesmana, R. 2021. Kajian pustaka: Penggunaan mencit sebagai hewan coba di laboratorium yang mengacu pada prinsip kesejahteraan hewan. *Indonesia Medicus Veterinus*. 10(1);134-145. DOI:10.19087/imv.2020.10.1.134.
- Novrinda, H., Azhara, C.S., Rahardjo, A., Ramadhani, A., and Han, D.H. 2023. Determinants of the prevalence and severity of recurrent aphthous stomatitis in an Indonesian population: A cross-sectional study. *BMC Oral Health*. 23:1024. DOI:10.1186/s12903-023-03683-8
- Novrinda, H., Mutiarahmi, S.A., Ubanako, P., Ndinteh, D.T., Kumar, P., Choonara, Y.E., et al. 2023. Wound healing potential of sodium alginate-based topical gels loaded with a



- combination of essential oils, iron oxide nanoparticles and tranexamic acid. *Polymer Bulletin*. 81:3459-3478. DOI:10.1007/s00289-023-04879-2
- Okoh, M., and Ikechukwu, O. 2019. Presentation of recurrent aphthous ulcer among patients in a tertiary hospital. *African Journal of Oral Health*. 8(2):8-12. DOI:10.4314/ajoh.v8i2.185719
- Pakidil, C.S., and Hidayat, S.S. 2016. Potensi dan pemanfaatan bahan aktif alga coklat *Sargassum* sp. *Octopus J*. 2(5):551-562. DOI:10.26618/octopus.v5i2.720
- Pan, Z., Zhang, X., Xie, W., Cui, J., Wang, Y., Zhang, B., et al. 2024. Revisited and innovative perspective of oral ulcer: from biological specificity to local treatment. *Front Bioeng Biotechnol*. 12:1335377. DOI:10.3389/fbioe.2024.1335377
- Parra-Moreno, F.J., Egido-Moreno, S., Schemel-Suárez, M., González-Navarro, B., Estrugo-Devesa, A., and López-López, J. 2023. Treatment of recurrent aphthous stomatitis: A systematic review. *Med Oral Patol Oral Cir Bucal*. 28(1):e87-98. DOI:10.4317/medoral.25604
- Patil, S., Reddy, S.N., Maheshwari, S., Khandelwal, S., Shruthi, D., and Doni, B. 2014. Prevalence of recurrent aphthous ulceration in the Indian population. *J Clin Exp Dent*. 6(1):e36-40. DOI:10.4317/jced.51227
- Pereira, D., and Sequeira, I. 2021. A scarless healing tale: Comparing homeostasis and wound healing of oral mucosa with skin and oesophagus. *Front. Cell Dev. Biol*. 9:682143. DOI:10.3389/fcell.2021.682143
- Pilkus, M.V., Wang, X., Sinha, S., Forte, E., Thompson, S.M., and Herzog, E.L. 2021. Fibroblasts: Origins, definitions, and functions in health and disease. *Cell*. 184:3852-3872. DOI:10.1016/j.cell.2021.06.024
- Porter, S. 2017. The role of the fibroblast in wound contraction and healing. *Wounds UK*. 3(1):33-40.
- Puspita, M., Setyawidati, N.A.R., Stiger-Pouvreau, V., Vardanjon, L., Widowati, I., Radjasa, O.K., et al. 2020. Indonesian *Sargassum* species bioprospecting: potential applications of bioactive compounds and challenge for sustainable development. In: Bourgougnon N (eds). *Advances in Botanical Research*. Elsevier Ltd. DOI:10.1016/bs.abr.2019.12.002
- Putriyana, R.S., Abdulah, I., Purwaningsih, I., and Silvia, L. 2018. Sintesis natrium alginat dari *Sargassum* sp dengan proses *leaching*. In: *Proceedings of the Industrial Research Workshop and National Seminar*. Politeknik Negeri Bandung. 12;9:89-93. DOI:10.25013/irwns.v9i0.1046
- Rahid, M.A., Hossain, M.T., Sheikh, M.S., Rahman, M.S., Uddin, N., et al. 2023. Algae, extractions, and applications of alginate: a review. *Discover Applied Sciences*. 5(143). DOI:10.1007/s42452-024-06151-2



- Ranggang, B.M., Ihsan, M., Nafiu, W.H.N.S., Ainayyah, A.A., Putra, M.R.A., Pratiwi, R.A., et al. 2022. Utilization of brown algae (*Sargassum* sp) as dental impression material. *Makassar Dental Journal*. 11(2):138-142. DOI:10.35856/mdj.v11i2.575
- Rivera, C. 2019. Essentials of recurrent aphthous stomatitis (Review). *Biomedical Reports*. 11:47-50. DOI:10.3892/br.2019.1221
- Sarker, B., Singh, R., Silva, R., Roether, J.A., Kaschta, J., Detsch, R., et al. 2014. Evaluation of fibroblasts adhesion and proliferation on alginate-gelatin crosslinked hydrogel. *PLoS ONE*. 2014;9(9):e107952. DOI:10.1371/journal.pone.0107952
- Song, H., Tan, J., Fu, Q., Huang, L., Ao, M. 2019. Comparative efficacy of intralesional triamcinolone acetonide injection during early and static stage of pathological scarring. *Journal of Cosmetic Dermatology*. 18(3):874-878. DOI:10.1111/jocd.12690.
- Sultana, J., Molla, M.R., Kamal, M., Shahidullah, M., Begum, F., and Bashar, M.A. 2009. Histological differences in wound healing in maxillofacial region in patients with or without risk factors. *Bangladesh J Pathol*. 24(1):3-8. DOI:10.3329/bpath.v24i1.2874.
- Szekalska, M., Puciłowska, A., Szymańska, E., Ciosek, P., and Winnicka, K. 2016. Alginate: Current use and future perspectives in pharmaceutical and biomedical applications. *International Journal of Polymer Science*. DOI:10.1155/2016/7697031
- Talbott, H.E., Mascharak, S., Griffin, M., Wan, D.C., and Longaker, M.T. 2022. Wound healing, fibroblast heterogeneity, and fibrosis. *Cell Stem Cell*. 29:1161-1180. DOI:10.1016/j.stem.2022.07.006
- Tarakji, B., Gazal, G., Al-Maweri, S.A., Azzeghaiby, S.N., and AlAizari, N.A. 2015. Guideline for the diagnosis and treatment of recurrent aphthous stomatitis for dental practitioners. *J Int Oral Health*. 7(5):74-80. PMID:26028911; PMCID:PMC4441245
- Tiwari, P., Pandey, R., Singh, R., and Sharma, B. 2020. Role of Natural Products as Alternative of Synthetic Steroidal Drugs. In: Patra, J.K. et al (eds). *Advances in Pharmacological Biotechnology*. Springer Nature Singapore Pte. Ltd. DOI:10.1007/978-981-15-2195-9_7
- Toma, A.I., Fuller, J.M., and Willett, N.J., and Goudy, S.L. 2021. Oral wound healing models and emerging regenerative therapies. *Translational Research*. 236:17-34. DOI:10.1016/j.trsl.2021.06.003
- Velnar, T., Bailey, T., and Smrkolj, V. 2009. The wound healing process: An overview of the cellular and molecular mechanisms. *J Int Med Res*. 37:1528-1542. DOI:10.1177/147323000903700531
- and Sivapathasundharam, B. 2022. The diverse role of oral fibroblasts in disease. *J Oral Maxillofa Pathol*. 26:6-13. DOI:10.4103/jomfp.jomfp_48_22



- Waasdorp, M., Krom, B.P., Bikker, F.J., van Zuijlen, P.P.M., Niessen, F.B., and Gibbs, S. 2021. The bigger picture: Why oral mucosa heals better than skin. *Biomolecules*. 11(8):1165. DOI:10.3390/biom11081165
- Winarni, D., Husna, F.N., Syadzha, M.F., Susilo, R.J.K., Hayaza, S., Ansori, A.N.M., et al. 2022. Topical administration effect of sargassum duplicatum and garcinia mangostana extracts combination on open wound healing process in diabetic mice. *Scientifica*. 9700794. DOI:10.1155/2022/9700794
- Zeng, X., Jin, X., Zhong, L., Zhou, G., Zhong, M., Wang, W., et al. 2022. Difficult and complicated oral ulceration: an expert consensus guideline for diagnosis. *International Journal of Oral Science*. 14:28. DOI:10.1038/s41368-022-00178-0

