

## DAFTAR PUSTAKA

- Abdulghani, M. A., Hamid, I., Al-Naggar, R. A., & Osman, M. T. 2014. Potential antidiabetic activity of plantago major leaves extract in streptozocin-induced diabetic rats. *Research Journal of Pharmaceutical: Biological and Chemical Sciences*, **5**(2), 896-902.
- Adom, M., Taher, M., Mutalabisin, M., Amri, M., Kudus, M., Sulaiman, M., Sengupta, P., & Susanti, D. 2017. Chemical constituents and medical benefits of Plantago major. *Biomedicine & Pharmacotherapy*, **96**, 348-360.
- Alavi, A., Sibbald, R., Mayer, D., Goodman, L., Botros, M. Armstrong, D., Boeni, T., Ayello, E. & Kirsner, R. 2014. Diabetic foot ulcers Part I. Pathophysiology and prevention. *Journal of the American Academy of Dermatology*. **70**(1), 1-18.
- Amalia, L. 2024. Uji Aktivitas Angiogenesis Ekstrak Daun Sendok (Plantago Major L.) Secara In Vitro Pada Human Umbilical Vein Endothelial Cells (HUVEC). *Tesis*. Fakultas Farmasi Universitas Gadjah Mada, Yogyakarta.
- Agbaje, M., Rutland, C. S., Maboni, G., Blanchard, A., Bexon, M., Stewart, C., Jones, M. A., & Totemeyer, S. 2018. Novel inflammatory cell infiltration scoring system to investigate healthy and footrot affected ovine interdigital skin. *PeerJ*, **6**, e5097.
- Armstrong, D. G., & Lavery, L. A. 1998. Diabetic foot ulcers: prevention, diagnosis and classification. *Am Fam Phys*, **57**(6), 1337-1338.
- Armstrong, D. G., Cohen, K., Courric, S., Bharara, M., & Marston, W. 2011. Diabetic foot ulcers and vascular insufficiency: our population has changed, but our methods have not. *J Diabetes Sci Technol*, **5**, 1591-1595.
- Bandyk, D. F. 2018. The diabetic foot: Pathophysiology, evaluation, and treatment. *Seminars in Vascular Surgery*, **31**, 43-48.
- Bardill, J. R., Laughter, M. R., Stager, M., Liechty, K. W., Krebs, M. D., & Zgheib, C. 2022. Topical gell-based biomaterials for the treatment of diabetic foot ulcer. *Acta Biomaterialia*, **138**, 73-91.
- Bhushan, M., Young, H. S., Brenchley, P. E., & Griffiths, C. E. 2002. Recent advances in cutaneous angiogenesis. *Br J Dermatol*, **147**, 418-425.
- Black, J. M., & Hawks, J. H. 2014. *Keperawatan Medikal Bedah*, 8<sup>th</sup> Ed. Singapore: Elsevier.

- Boniakowski, A. E., Kimball, A. S., Jacobs, B. N., Kunkel, S. L., Gallagher, K. A. 2017. Macrophage-mediated inflammation in normal and diabetic wound healing. *J Immunol*, **199**(01), 17–24.
- Bowering, C. K. 2001. Diabetic foot ulcers: pathophysiology, assessment, and therapy. *Can Fam Phys*, **47**, 1007-1016.
- BPOM RI. 2021. *Peraturan Badan Pengawas Obat Dan Makanan Nomor 18 Tahun 2021 tentang Pedoman Uji Farmakodinamik Praktek Obat Tradisional*. Badan Pengawas Obat dan Makanan Republik Indonesia, Jakarta.
- Buchberger, B., Follmann, M., Freyer, D., & Huppertz, H. 2010. The importance of growth factors for the treatment of chronic wounds in the case of diabetic foot ulcers. *GMS Health Technology Assess*, **6**, Doc12.
- Calvo-Ochoa, E., Hernández-Ortega, K., Ferrera, P., Morimoto, S., & Arias, C. 2014. Short-Term High-Fat-and-Fructose Feeding Produces Insulin Signaling Alterations Accompanied by Neurite and Synaptic Reduction and Astroglial Activation in the Rat Hippocampus. *Journal of Cerebral Blood Flow & Metabolism*, **34**, 1001-1008.
- Candra, S., Susilawati, E., & Adnyana, I. K. 2018. Pengaruh gel ekstrak daun kerehau (*Callicarpa longifolia* Lam.) terhadap penyembuhan luka pada model tikus diabetes. *Kartika: Jurnal Ilmiah Farmasi*, **6**(2), 70-80.
- Clayton, W., & Elasy, T. A. 2009. A Review of the Pathophysiology, Classification, and Treatment of Foot Ulcers in Diabetic Patients. *Clinical Diabetes*, **27**(2), 52-58.
- Damayanti, S. 2017. *Diabetes Melitus dan Penatalaksanaan Keperawatan*. Nuha Medika, Yogyakarta.
- Darby, I. A. & Desmoulière, A. 2020. Scar Formation: Cellular Mechanisms. In: Téot L, Mustoe TA, Middelkoop E, Gauglitz GG, editors. *Textbook on Scar Management: State of the Art Management and Emerging Technologies*. Springer.
- Dewi, P., Sabri, M., Rahmi, E., Jalaluddin, M., Asmilia, N. & Al Azhar. 2017. Density of Lumbar Vertebrae Bone Ovariectomized Rat (*Rattus Norvegicus*) Given the Extract Sipatah-patah (*Cissus Quadrangularis* Salisb). *Jurnal Medika Veterinaria*, **11**(1), 39-44.
- Ding, L., Qi, Q., Zhang, S., Ren, C., Deng, M., Sun, Z., Zhang, R., Liu, Q., Duan, S., Wang, X., & Wang, L. 2025. Hydroxypropyl methylcellulose reinforced collagen/PVA composite hydrogel wound dressing with self-

- adaptive, hemostasis and antibacterial ability for wound healing. *International Journal of Biological Macromolecules*, 304(2), 1-15.
- Dinh, T., Elder, S., & Veves, A. 2011. Delayed wound healing in diabetes: considering future treatments. *Future Medicine*, 1(5), 509-519.
- Dovi, J., Szpaderska, A., & DiPietro, L. 2004. Neutrophil function in the healing wound: adding insult to injury? *Thrombosis and Haemostasis*, 92, 275–280.
- Feldman, L., Russell, W., Sullivan, A., & Golovoy. 1999. New insights into the pathogenesis of diabetic neuropathy. *Curr Opin Neurol*, 5, 553-563.
- Festing, M. F. & Altman, D. G. 2005. Guidelines for the design and statistical analysis of experiments using laboratory animals. *ILAR J.*, 46(3), 320.
- Fischer, A. H., Jacobson, K. A., Rose, J., & Zeller, R. 2017. Hematoxylin and Eosin Staining of Tissue and Cell Sections. *Cold Spring Harbor Laboratory Press*, 3(5).
- Fisman, E. Z., Adler, Y., & Tenenbaum, A. 2008. Biomarkers in cardiovascular diabetology: interleukins and matrixins. *Advances in Cardiology*, 45, 44-64.
- Furman, B. L. 2021. Streptozotocin-Induced Diabetic Models in Mice and Rats. *Current Protocols*, 1, e78.
- Galvez, M., Martin-Cordero, C., Lopez-Lazaro, M., & Cortes, F. A. 2003. Cytotoxic effect of *Plantago* spp. on cancer cell lines. *Journal of Ethnopharmacology*, 88(2-3), 125-130.
- Gantwerker, E. A., & Hom, D. B. 2011. Skin: Histology and Physiology of Wound Healing. *Facial Plast Surg Clin N Am*, 19, 441-453.
- Genc, Y., Dereli, F.T.G., Saracoglu, I., dan Akkol, E.K., 2020. The inhibitory effects of isolated constituents from *Plantago major* subsp. *major* L. on collagenase, elastase, and hyaluronidase enzymes: Potential wound healer. *Saudi Pharmaceutical Journal*, 28, 101–106.
- Ghanadian, M., Soltani, R., Homayouni, A., Khorvash, F., Jouabadi, S. M., & Abdollahzadeh, M. 2024. The Effect of *Plantago major* Hydroalcoholic Extract on the Healing of Diabetic Foot and Pressure Ulcers: A Randomized Open-Label Controlled Clinical Trial. *The International Journal of Lower Extremity Wounds*, 23(3), 475–481.

- Gonçalves, S., & Romano, A. 2016. The medicinal potential of plants from the genus *Plantago* (Plantaginaceae). *Industrial Crops and Products*, **83**, 213-226.
- Haggstrom, M. 2010. *Epidermal layers*. Uppsala: GNU Free Documentation License.
- Handajani, F. 2021. *Metode Pemilihan dan Pembuatan Hewan Model Beberapa Penyakit pada Penelitian Eksperimental*. Zifatama Jawa. Sidoarjo.
- Hatanaka, E., Monteagudo, P. T., Marrocos, M. S. 2006. Neutrophils and monocytes as potentially important sources of proinflammatory cytokines in diabetes. *Clin Exp Immunol*, **146**(3), 443–447.
- He, Y., Kam, H., Wu, X., Chen, Q., & Lee, S. M. Y. 2023. Dual effect of aucubin on promoting VEGFR2 mediated angiogenesis and reducing RANKL induced bone resorption. *Chinese Medicine*, **18**, 108.
- Hom, D. 1998. Wound healing in relation to scarring. *Facial Plastic Surgery Clinics of North America*, **6**(11), 111-123.
- Huang, C., Murphy, G. F., Akaishi, S., & Ogawa, R. 2013. Keloids and Hypertrophic Scars: Update and Future Directions. *Plastic and Reconstructive Surgery Global*, **1**(4), e25.
- Huang, K., Mi, B., Xiong, Y., Fu, Z., Zhou, W., Liu, W., Liu, G., Dai, G. 2025. Angiogenesis during diabetic wound repair: from mechanism to therapy opportunity. *Burns Trauma*, **13**, tkae052.
- International Diabetes Federation. 2021. *IDF Diabetes Atlas*, 10<sup>th</sup> Ed. International Diabetes Federation. doi:ISBN: 978-2-930229-98-0.
- Jeong-hyon, K., Bon-hyuk, G., Sang-soo, N., & Yeon-cheol, P. 2020. A review of rat models of periodontitis treated with natural extracts. *Journal of Traditional Chinese Medical Sciences*, **7**: 95-103.
- Junqueira, L. C., & Carneiro, J. 1982. *Histologi Dasar (Basic Histology)*, 3<sup>rd</sup> Ed. Penerbit Buku Kedokteran EGC, Jakarta.
- Jusuf, A. A. 2009. *Histoteknik Dasar: Rangkaian Proses Histoteknik Pembuatan Sediaan Histologi*. Fakultas Kedokteran Indonesia. Depok.
- Kartini K, K., Islamie, R., & Handojo, C. 2018. Wound Healing Activity of Aucubin. *Journal of Young Pharmacists*, **10**(2s), S136-S139.

- Kartini, K., Wati, N., Gustav, R., Wahyuni, R., Anggada, Y., & Hidayani, R. 2021. Wound healing effects of *Plantago major* extract and its chemical compounds. *Food Bioscience*, **41**, 100937.
- Kelkar, P. 2006. Diabetic neuropathy. *Sem Neurol*, **25**, 168-173.
- Khafi, M. 2024. Pendekatan Network Pharmacology, Validasi Efikasi Secara In Vivo, Dan Analisis Untargeted Metabolomic Daun *Plantago Major L.* Dalam Penyembuhan Luka Diabetes, *Tesis*, Fakultas Farmasi Universitas Gadjah Mada, Yogyakarta.
- Koh, T. J., & DiPietro, L. A. 2011. Inflammation and wound healing: the role of the macrophage. *Expert Reviews in Molecular Medicine*, **13**, 23.
- Lim, C., Song, Y. H., Song, Y., Seo, J. H., Hwang, D. S., & Lee, D. W. 2021. Adaptive amphiphilic interaction mechanism of hydroxypropyl methylcellulose in water. *Applied Surface Science*, **565**, 150535.
- Mardisiswojo, S. & Rajakmangunsudarso, H. 1985. *Cabe puyang: warisan nenek moyang I*. Balai Pustaka. Jakarta.
- Maria, S., Kamath, V.V., Komali, dan Krisnanad, R. 2015. Sprague-Dawley Rats are a sustainable and reproducible animal model for induction and study of oral submucous fibrosis. *J Orofac Sci*. **7**(1): 11-18.
- Marzuki, A., 2024. Penelusuran Mekanisme Anti-Inflamasi Ekstrak *Plantago major L.* pada Sel RAW 264.7 Hiperglikemi Terinduksi Lipopolisakarida Dan Analisis Profil Kimia Secara Kemometrik, *Tesis*, Fakultas Farmasi Universitas Gadjah Mada, Yogyakarta.
- McDermott, K., Fang, M., Boulton, A. J., Selvin, E., & Hicks, C. W. 2023. Etiology, Epidemiology, and Disparities in the Burden of Diabetic Foot Ulcers. *Diabetes Care*, **46**(1), 209-221.
- Mitchell, L., Mitchell, D. A., & Fitrianiingsih, S. P. 2015. *Kedokteran Gigi Klinik Edisi 5*. EGC Buku Kedokteran. Jakarta.
- Metiner, K., Ozkan, O., & Seyyal, A. K. 2012. Antibacterial effects of ethanol and acetone extract of *plantago major L.* on gram positive and gram-negative bacteria. *Kafkas Universitesi Veteriner Fakultesi Dergisi*, **18**(3), 503-505.
- Najafian, Y., Hamedi, S., Farshchi, M., & Feyzabadi, Z. 2018. *Plantago major* in traditional Persian medicine and modern phytotherapy: A narrative review. *Electronic Physician*, **10**(20), 6390.

- Nowak, N. C., Menichella, D. M., Miller, R., dan Paller, A. S. 2021. Cutaneous innervation in impaired diabetic wound healing. *Translational Research*, **236**, 87–108.
- Ochoa, O., Torres, F. M., & Shireman, P. K. 2007. Chemokines and diabetic wound healing. *Vascular*, **15**, 350–355.
- Orasanu, G., & Plutzky, J. 2009. The pathologic continuum of diabetic vascular disease. *J Am Coll Cardiol*, **5** (35-42), 53.
- Patel, S., Srivastava, S., Singh, M.R., dan Singh, D. 2019. Mechanistic insight into diabetic wounds: Pathogenesis, molecular targets and treatment strategies to pace wound healing. *Biomedicine & Pharmacotherapy*, **112**, 108615.
- Penn, J. W., Adriaan O. G., & Kerstin J. R., 2012. The role of the  $\text{tgf-}\beta$  family in wound healing, burns and Scarring: a review article. *Int J Burn Trauma*, **2**(1), 18-28.
- Pradhan, L., Nabzdyk, C., Andersen, N., LoGerfo, F., & Veves, A. 2009. Inflammation and neuropeptides: the connection in diabetic wound healing. *Expert reviews in molecular medicine*, **11**.
- Prikhodko, V. A., Karev, V. E., Sysoev, Y. I., Ivkin D. Y., & Okovityi, S. V. 2023. A Simple Algorithm for Semiquantitative Analysis of Scored Histology Data in the R Environment, on the Example of Murine Non-Alcoholic Steatohepatitis Pharmacotherapy. *Livers*, **2**(4), 412-424.
- Rafsanjani, M. S., Naeini, A. T., Meimandi-Parizi, A., Nowzari, F., Wani, M. M., & Iraj, A. 2022. Wound healing effect of *Carum carvi* L. on the incised skin wound in male rats: Histopathology, total protein and biomechanical evaluations. *Vet Med Sci*, **8**, 2726–2737.
- Ringbom, T., Segura, L., Noreen, Y., Perera, P., & Bohlin, L. 1998. Ursolic acid from *Plantago major*, a selective inhibitor of cyclooxygenase-2 catalyzed prostaglandin biosynthesis. *Journal of Natural Products*, **61**(10), 1212-1215.
- Rodero, M., & Khosrotehrani, K. 2010. Skin wound healing modulation by macrophages. *International Journal Clinical Experiment Pathology*, **3**(7), 643-653.
- Rosyidah, U. S. 2015. Uji Efek Hambatan Atorvastatin Terhadap Pembentukan Skar Hipertrofi Pada Kelinci New Zealand (Kajian terhadap morfologi klinis ketinggian jaringan skar, Scar Elevation Index, kepadatan kolagen

dan ekspresi VEGF), *Tesis*, Fakultas Kedokteran Universitas Gadjah Mada, Yogyakarta.

Rubin, R. 2012. *Clinicopathologic Foundations of Medicine*. 6<sup>th</sup> Ed. China: Lippincott Williams and Wilkins.

Sabire, N. 2010. *Basic Science in Obstetrics and Gynaecology*. 4<sup>th</sup> Ed. Churchill Livingstone.

Samuelson, A. 2000. The traditional uses, chemical constituents and biological activities of *Plantago major* L. A review. *Journal of Ethnopharmacology*, **71**(1-2), 1-21.

Santosa, A., & Nikmah, I. M. 2014. Hubungan Pengetahuan Tentang Pengendalian Kadar Gula Darah Dengan Kejadian Ulkus Diabetik Pada Pasien Diabetes Mellitus. *Medisains*, **18**(3), 1-11.

Schoch, C.L., Ciuffo, S., Domrachev, M., Hotton, C.L., Kannan, S., Khovanskaya, R., Leipe, D., Mcveigh, R., O'Neill, K., Robbertse, B., Sharma, S., Soussov, V., Sullivan, J.P., Sun, L., Turner, S., & Karsch-Mizrachi, I. 2020. NCBI Taxonomy: a comprehensive update on curation, resources and tools. *Database: The Journal of Biological Databases and Curation*.

Schultz, G. S., Chin, G. A., Moldawer, L. 2011. *Principles of Wound Healing*. University of Adelaide Press, Adelaide.

Shahi, S. K., Kumar, A., Kumar, S., Singh, S. K., Gupta, S. K., & Singh, T. 2012. Prevalence of diabetic foot ulcer and associated risk factors in diabetic patients from North India. *J Diabet Foot Complicat*, **4**(3), 83-91.

Shridharani, S. M., Michael M., Paul N. M., Navin K. S., Basak B., & Gedge D. R. 2010. The emerging role of antineoplastic agents in the treatment of keloids and hypertrophic scars. *Ann Plast Surg*, **64**(3), 355–361.

Sidawy, A. N., & Perler, B. A. 2019. *Rutherford's vascular surgery and endovascular therapy*, 9<sup>th</sup> Ed. Elsevier, Philadelphia.

Singer, A. J., & Clark, R. A. 1999. Cutaneous wound healing. *N Engl J Med*, **341**(10), 738-746.

Spampinato, S. F., Caruso, G. I., De Pasquale, R., Sortino, M. A., dan Merlo, S. 2020. The Treatment of Impaired Wound Healing in Diabetes: Looking among Old Drugs. *Pharmaceuticals*, **13**, 60.

Suparni, I., & Wuladari, A. 2012. *Paparan Luka Bakar 10 Detik Dengan Plat Besi*. UIN Syarif Hidayatullah, Jakarta.

- Thomas, N. A., Taupik, M., Djuwarno, E. N., Papeo, R. P. & Djunaidi, N. N., 2023. Uji Penyembuhan Luka Bakar Gel Enzim Bromelin Menggunakan Carbopol 940 Secara In Vivo. *Journal Syifa Sciences and Clinical Research*, **5**, 232- 244.
- Tollefson, T. T., Kamangar, F., Aminpour, S., Lee, A., Durbin-Johnson, B., Tinling, S. 2012. Comparison of effectiveness of silicone gel sheeting with microporous paper tape in the prevention of hypertrophic scarring in a rabbit model. *Arch Facial Plast Surg*, **14**(1), 45-51.
- Tortora, G. J., & Derrickson, B. 2017. *Principles of Anatomy & Physiology*, 15<sup>th</sup> Ed. John Wiley & Sons Inc, Danvers.
- Van der veer, W. M., Bloemen, M. C. T., Ulrich, M. M. W., Molema, G., Van Zuijlen, P. P., Middlekoop, E., & Niessen, F. B. 2009. Potential cellular and molecular causes of hypertrophic scar formation. *Burn*, **35**, 15-29.
- Velnar, T., Bailey, T., & Smrkolj, V. 2009. The Wound Healing Process: an Overview of the Cellular and Molecular Mechanisms. *The Journal of International Medical Research*, **37**(5), 1528 -1542.
- Vlekkert, D. V., Machado, E., & d'Azzo, A. 2020. Analysis of Generalized Fibrosis in Mouse Tissue Sections with Masson's Trichrome Staining. *Bio Protoc*, **10**(10), e3629.
- Vyver, M. V., Boodhoo, K., Frazier, T. H., Kopcewicz, M., Levi, B., Maartens, M., . . . Gimble, J. M. 2021. Histology Scoring System for Murine Cutaneous Wounds. *Stem Cells and Development*, **30**(23), 1141–1152.
- Wang, P. H., Huang, B. S., Horng, H. C., Yeh, C. C., & Chen, Y. J. 2018. Wound healing. *J Chin Med Assoc*, **81**, 94–101.
- Wang, X., Wang, R., Jiang, L., Xu, Q., & Guo, X. 2022. Endothelial repair by stem and progenitor cells. *J Mol Cell Cardiol*, **163**, 133–46.
- Wang, X., Dai, S., Zheng, W., Chen, W., Li, J., Chen, X., dkk., 2023. Identification and verification of ferroptosis-related genes in diabetic foot using bioinformatics analysis. *International Wound Journal*, **20**, 3191–3203.
- Wells, B. G., DiPiro, J. T., Schwinghammer, T. L., & DiPiro, C. V. 2015. *Pharmacotherapy Handbook*, 9<sup>th</sup> Ed. McGraw-Hill Education, New York.
- Wilkinson, H. N., & Hardman, M. J. 2020. Wound healing: cellular mechanisms and pathological outcomes. *Open Biology*, **10**(9).

- Yunir, E., Tahapary, D. L., Tarigan, T. J., Harbuwono, D. S., Oktavianda, Y. D., Kristanti, M., . . . Soewondo, P. 2021. Non-vascular contributing factors of diabetic foot ulcer severity. *Journal of Diabetes & Metabolic Disorders*, (20), 805-813.
- Yuriawati, F. N., Mardiaty, S., dan M Tana, S. 2016. Perbandingan Struktur Histologi Magnum pada Itik Magelang, Itik Tegal, dan Itik Pengging. *Buletin Anatomi dan Fisiologi*, **24**(1).
- York, Y. 2022. The proliferative phase of wound healing. *Journal of Aesthetic & Reconstructive Surgery*, **8**, 1-2.
- Zaine, N. H., Burns, J., Vicaretti, M., Fletcher, J. P., Begg, L., & Hitos, K. 2014. Characteristics of diabetic foot ulcers in Western Sydney. *Australia. J Foot Ankle Res*, **7**, 1-7.
- Zhang, M., Lv, X. Y., Li, J., Xu, Z. G., & Chen, L. 2008. The Characterization of High-Fat Diet and Multiple Low-Dose Streptozotocin Induced Type 2 Diabetes Rat Model. *Journal of Diabetes Research*, **37**, 347-354.
- Zhang, P., Lu, J., Jing, Y., Tang, S., Zhu, D., & Bi, Y. 2017. Global epidemiology of diabetic foot ulceration: a systematic review and meta-analysis. *Annals of Medicine*, **49**(2), 106-116.
- Zakiya, R., Mulqie, L. & Fitriyaningsih, S. P. 2019. Uji Aktivitas Ekstrak Etanol Daun Kelor (*Moringa oleifera* Lam) terhadap Penyembuhan Luka Bakar Derajat II pada Mencit Swiss Webster Jantan. *Prosiding Farmasi*, **5**. 504-511.