

DAFTAR PUSTAKA

- Al-Asmari, A. K., Athar, M. T., dan Kadasah, S. G., 2017, An Updated Phytopharmacological Review on Medicinal Plant of Arab Region: *Apium graveolens* Linn, *Pharmacognosy reviews*, 11(21): 13–18.
- Almeida, É. S., de Oliveira, D., dan Hotza, D., 2019, Properties and Applications of *Morinda citrifolia* (Noni): A Review, *Comprehensive Reviews in Food Science and Food Safety*, 18(4): 883-909.
- Altshuler, A. E., Penn, A. H., Yang, J. A., Kim, G. R., dan Schmid-Schönbein, G. W., 2012, Protease activity increases in plasma, peritoneal fluid, and vital organs after hemorrhagic shock in rats, *PloS one*, 7(3): e32672.
- Anonim, 2016. CHEBI:17488 – scopoletin. <https://www.ebi.ac.uk/chebi/searchId.do?chebiId=CHEBI:17488>. 14 Juli 2016.
- Anonim, 2017. Farmakope Herbal Indonesia. Edisi II. Departemen Kesehatan Republik Indonesia, Jakarta.
- Anonim, 2018. Keputusan Menteri Kesehatan Republik Indonesia Nomor HK.01.07/MENKES/406/2018 tentang Pedoman Nasional Pelayanan Kedokteran Tata Laksana Kanker Kolorektal. Depkes RI, Jakarta.
- Anonim, 2023. Collective Molecular Activities of the Plant: *Morinda Citrifolia*. <https://bidd.group/CMAUP/plant.php?plant=NPO4323>, 2023.
- Anonim, 2024, Apigenin, <https://pubchem.ncbi.nlm.nih.gov/compound/5280443>, 15 Juni 2024.
- Anonim, 2024, Bergapten, <https://pubchem.ncbi.nlm.nih.gov/compound/2355>, 15 Juni 2024.
- Anonim, 2024, Eugenol, <https://pubchem.ncbi.nlm.nih.gov/compound/3314>, 15 Juni 2024.
- Anonim, 2024, Isopimpinellin, <https://pubchem.ncbi.nlm.nih.gov/compound/68079>, 15 Juni 2024.
- Anonim, 2024, Lauric acid, <https://pubchem.ncbi.nlm.nih.gov/compound/3893>, 15 Juni 2024.
- Anonim, 2024, Scopoletin, <https://pubchem.ncbi.nlm.nih.gov/compound/5280460>, 15 Juni 2024.
- Anonim, 2024, Sinapic acid, <https://pubchem.ncbi.nlm.nih.gov/compound/637775>, 15 Juni 2024.
- Arnittali, M., Rissanou, A. N., dan Harmandaris, V., 2019. Structure Of Biomolecules Through Molecular Dynamics Simulations. *Procedia Computer Science*, 156(C): 69-78.
- Avrutsky M. I., dan Troy, C. M., 2021, Caspase-9: A Multimodal Therapeutic Target With Diverse Cellular Expression in Human Disease, *Frontiers in Pharmacology*, 9(12): 701301.
- Baananou, S., Borgi, W., Mahmoud, A., Boukef, K., Chouchane, N., Aouam, K., dan Boughattas, N. A., 2012, Anti-inflammatory and Analgesic Activities of

- Tunisian *Apium graveolens* L. Leaves Extracts in Rats. *Journal of Biologically Active Products from Nature*, 2(4): 225-231.
- Basar, S., Uhlenhut, K., Högger, P., Schöne, F., Westendorf, J., 2010, Analgesic and antiinflammatory activity of *Morinda citrifolia* L. (Noni) fruit, *Phytotherapy Research*, 24(1): 38-42.
- Batista, J. A., Magalhães, D. A., Sousa, S. G., Ferreira, J. D. S., Pereira, C. M. C., Lima, J. V. D. N., de Albuquerque, I. F., Bezerra, N. L. S. D., de Brito, T. V., Monteiro, C. E. D. S., Franco, A. X., Di Lenardo, D., Oliveira, L. A., Feitosa, J. P. A., de Paula, R. C. M., Barros, F. C. N., Freitas, A. L. P., de Oliveira, J. S., Vasconcelos, D. F. P., Soares, P. M. G., dan Barbosa, A. L. D. R., 2020, Polysaccharides derived from *Morinda citrifolia* Linn reduce inflammatory markers during experimental colitis, *Journal of ethnopharmacology*, 248: 112303.
- Batten, J., Cock, I. E., 2022, Antibacterial Activity and Toxicity Profiles of *Apium graveolens* L. Extracts and Conventional Antibiotics against Bacterial Triggers of some Autoimmune Diseases, *Pharmacognosy Communications*, 12(2):56-64.
- Begam, B. F., Kumar, J. S., 2012, A Study on Cheminformatics and its Applications on Modern Drug Discovery, *Procedia Engineering*, 38: 1264-1275.
- Bayat A., 2002, Science, medicine, and the future: Bioinformatics, *BMJ* (Clinical research ed.), 324(7344): 1018–1022.
- Brown, G. R., Hem, V., Katz, K. S., Ovetsky, M., Wallin, C., Ermolaeva, O., Tolstoy, I., Tatusova, T., Pruitt, K. D., Maglott, D. R., dan Murphy, T. D., 2015, Gene: a gene-centered information resource at NCBI, *Nucleic acids research*, 43(Database issue), D36–D42.
- Conrad, K., Roggenbuck, D., dan Laass, M. W., 2014, Diagnosis and classification of ulcerative colitis, *Autoimmunity Reviews*, 13(4–5): 463-466.
- Coutinho de Sousa, B., Reis Machado, J., da Silva, M. V., da Costa, T. A., Lazo-Chica, J. E., Degasperi, T. D., Rodrigues Junior, V., Sales-Campos, H., Uber Bucek, E., dan Freire Oliveira, C. J., 2017, *Morinda citrifolia* (Noni) Fruit Juice Reduces Inflammatory Cytokines Expression and Contributes to the Maintenance of Intestinal Mucosal Integrity in DSS Experimental Colitis, *Mediators of inflammation*, 6567432.
- Daina, A., Michielin, O., dan Zoete, V., 2017, SwissADME: a free web tool to evaluate pharmacokinetics, drug-likeness and medicinal chemistry friendliness of small molecules, *Scientific reports*, 7: 42717.
- Dewangga, A., 2023, Uji Aktivitas Ekstrak Etanolik Seledri (*Apium graveolens* L.) untuk Perbaikan Kondisi Kolitis Ulseratif pada Tikus Yang Diinduksi Asam Asetat, Tesis, Fakultas Farmasi Universitas Gadjah Mada, Yogyakarta.
- Dewangga, A., Saputra, C., Sahid, M. N. A., Gani, A. P. G., 2022. Ekstrak Etanolik Seledri (*Apium graveolens* L.) Memperbaiki Indeks Aktivitas Penyakit Kolitis Ulseratif dan Makroskopik Panjang Kolon Pada Tikus Yang di Induksi Asam Asetat, *Journal of Pharmaceutical Science and Clinical Research*, 1: 71-78.

- Djerico, C., 2021, Identifikasi Gen Target Potensial dan Mekanisme Molekuler Capcaisin dalam Mengatasi Resistensi Trastuzumab pada Kanker Payudara dengan Pendekatan Bioinformatika, Skripsi, Fakultas Farmasi Universitas Gadjah Mada Yogyakarta.
- Feuerstein, J. D. dan Cheifetz, A. S., 2014, Ulcerative Colitis: Epidemiology, Diagnosis, and Management, *Mayo Clinic Proceedings*, 89(11): 1553-1563.
- Gao X. Y., Li X. Y., Zhang C. Y., Bai C. Y., 2024, Scopoletin: a review of its pharmacology, pharmacokinetics, and toxicity, *Frontiers in Pharmacology*, 15: 1268464.
- Gfeller, D., Grosdidier, A., Wirth, M., Daina, A., Michielin, O., dan Zoete, V., 2014, SwissTargetPrediction: a web server for target prediction of bioactive small molecules. *Nucleic acids research*, 42(Web Server issue), W32–W38.
- García-Ortegón, M., Simm, G. N. C., Tripp, A. J., Hernández-Lobato, J. M., Bender, A., & Bacallado, S., 2022, DOCKSTRING: Easy Molecular Docking Yields Better Benchmarks for Ligand Design, *Journal of chemical information and modeling*, 62(15): 3486–3502.
- Jittiwat, J., Chonpathompikunlert, P., dan Sukketsiri, W., 2021, Neuroprotective effects of *Apium graveolens* against focal cerebral ischemia occur partly via antioxidant, anti-inflammatory, and anti-apoptotic pathways, *Journal of the science of food and agriculture*, 101(6): 2256–2263.
- Kanehisa, M., dan Goto, S., 2000, KEGG: kyoto encyclopedia of genes and genomes. *Nucleic acids research*, 28(1), 27–30.
- Khairullah, A. R., Solikhah, T. I., Ansori, A. N. M., Hidayatullah, A. R., Hartadi, E. B., Ramandinianto, S. C. dan Fadholly, A., 2021, Review on the Pharmacological and Health Aspects of *Apium Graveolens* or Celery: An Update, *Systematic Reviews in Pharmacy*, 12(1): 606-612.
- Kleiner H. E., Reed M. J., DiGiovanni J., 2003, Naturally occurring coumarins inhibit human cytochromes P450 and block benzo[a]pyrene and 7,12-dimethylbenz[a]anthracene DNA adduct formation in MCF-7 cells, *Chemical Research in Toxicology*, 16(3):415-22.
- Kralj, S., Jukič, M., Bren, U., 2023, Molecular Filters in Medicinal Chemistry, *Encyclopedia*, 3(2):501-511.
- Kuhn, M., von Mering, C., Campillos, M., Jensen, L. J., dan Bork, P., 2008, STITCH: interaction networks of chemicals and proteins. *Nucleic acids research*, 36(Database issue): D684–D688.
- Lakatos, G., Sipos, F., Miheller, P., Hritz, I., Varga, M. Z., Juhász, M., Molnár, B., Tulassay, Z., Herszényi, L., 2012, The Behavior of Matrix Metalloproteinase-9 in Lymphocytic Colitis, Collagenous Colitis and Ulcerative Colitis, *Pathology & Oncology Research*, 18: 85–91.
- Le Berre, C., Honap, S., dan Peyrin-Biroulet, L., 2023, Ulcerative colitis. *Lancet*, 402(10401): 571–584.
- Lee, D., Yu, J. S., Huang, P., Qader, M., Manavalan, A., Wu, X., Kim, J. C., Pang, C., Cao, S., Kang, K. S., dan Kim, K. H., 2020, Identification of Anti-Inflammatory

- Compounds from Hawaiian Noni (*Morinda citrifolia* L.) Fruit Juice. *Molecules*, 25(21): 4968.
- Lipinski C. A., 2004, Lead- and drug-like compounds: the rule-of-five revolution. Drug discovery today, *Technologies*, 1(4): 337–341.
- Luo, H., Cao, G., Luo, C., Tan, D., Vong, C. T., Xu, Y., Wang, S., Lu, H., Wang, Y., Jing, W., 2022, Emerging pharmacotherapy for inflammatory bowel diseases. *Pharmacological Research*, 178.
- Malathi, K. dan Ramaiah, S., 2018, Bioinformatics approaches for new drug discovery: a review, *Biotechnology and Genetic Engineering Reviews*, 34(2): 243-260.
- Maleki, S. J., Crespo, J. F., Cabanillas, B., 2019, Anti-inflammatory effects of flavonoids, *Food Chemistry*, 299.
- Mathivanan, N., Surendiran, G., Srinivasan, K., Sagadevan, E., dan Malarvizhi, K., 2005, Review on the current scenario of Noni research: Taxonomy, distribution, chemistry, medicinal and therapeutic values of *Morinda citrifolia*, *International Journal of Noni Research*, 1(1).
- McDowell C, Farooq U, dan Haseeb M., 2023, Inflammatory Bowel Disease, <https://www.ncbi.nlm.nih.gov/books/NBK470312/>, 4 Agustus 2023.
- Mencherini, T., Cau, A., Bianco, G., Loggia, R.D., Aquino, R.P., dan Autore, G., 2007, An extract of *Apium graveolens* var. dulce leaves: structure of the major constituent, apiin, and its anti-inflammatory properties, *Journal of Pharmacy and Pharmacology*, 59: 891-897.
- Molecular Operating Environment (MOE), 2015.10, 2015, *Docking*, Chemical Computing Group Inc., Montreal, QC, Canada.
- Morris, G. M., dan Lim-Wilby, M., 2008, Molecular docking. *Methods in molecular biology* (Clifton, N.J.), 443: 365–382.
- Muegge I., 2003, Selection criteria for drug-like compounds, *Medicinal research reviews*, 23(3): 302–321.
- Nagella, P., Ahmad, A., Kim, S., dan Chung, I., 2012, Chemical composition, antioxidant activity and larvicidal effects of essential oil from leaves of *Apium graveolens*, *Immunopharmacology and Immunotoxicology*, 34(2): 205-209.
- Nisar, M. F., Khadim, M., Rafiq, M., Chen, J., Yang, Y., Wan, C. C., 2021, Pharmacological Properties and Health Benefits of Eugenol: A Comprehensive Review. *Oxidative Medicine and Cellular Longevity*, 2021(1): 497354.
- Orlando, B. J., & Malkowski, M. G., 2016, Substrate-selective Inhibition of Cyclooxygenase-2 by Fenamic Acid Derivatives Is Dependent on Peroxide Tone, *Journal of Biological Chemistry*, 291(29): 15069-15081.
- Pantsar, T., & Poso, A., 2018, Binding Affinity via Docking: Fact and Fiction, *Molecules* (Basel, Switzerland), 23(8): 1899.
- Plewczynski, D., Łaźniewski, M., Augustyniak, R., & Ginalski, K., 2011, Can we trust docking results? Evaluation of seven commonly used programs on PDBbind database *Journal of computational chemistry*, 32(4): 742–755.

- Powanda, M. C., Whitehouse, M. W., dan Rainsford, K. D., 2015, Celery Seed and Related Extracts with Antiarthritic, Antiulcer, and Antimicrobial Activities. Progress in drug research, *Fortschritte der Arzneimittelforschung*, 70: 133–153.
- Prakash, V., 2017. Terpenoids as Source of Anti-Inflammatory Compounds, *Asian Journal of Pharmaceutical and Clinical Research*, 10(3): 68-76.
- Pranckevičienė, E. 2019. Gene Prioritization Using Semantic Similarity, Editor(s): Ranganathan, S., Gribskov, M., Nakai, K., Schönbach, C., Encyclopedia of Bioinformatics and Computational Biology, *Academic Press*, 898-906.
- Rahayu, S., 2017, Sehat Tanpa Obat dengan Seledri – Seri Apotik Dapur, *Rapha Publishing*, Yogyakarta.
- Ramamoorthy, P. K., dan Bono, A., 2007, Antioxidant Activity, Total Phenolic and Flavonoid Content of *Morinda Citrifolia* Fruit Extracts from Various Extraction Processes, *Journal of Engineering Science and Technology*. 2(1): 70-80.
- Safran, M., Dalah, I., Alexander, J., Rosen, N., Iny Stein, T., Shmoish, M., Nativ, N., Bahir, I., Doniger, T., Krug, H., Sirota-Madi, A., Olender, T., Golan, Y., Stelzer, G., Harel, A., & Lancet, D., 2010, GeneCards Version 3: the human gene integrator. *Database: the journal of biological databases and curation*, 2010: baq020.
- Sam-Ang, P., Phanumartwiwath, A., Liana, D., Sureram, S., Hongmanee, P., dan Kittakoo, P., 2023, UHPLC-QQQ-MS and RP-HPLC Detection of Bioactive Alizarin and Scopoletin Metabolites from *Morinda citrifolia* Root Extracts and Their Antitubercular, Antibacterial, and Antioxidant Activities, *ACS omega*, 8(32): 29615–29624.
- Santoso, H. B., 2019, Seri Mukjizat Daun: Daun Seledri. *Penerbit Pohon Cahaya Semesta*, Yogyakarta.
- Saputra, C., Dewangga, A., Sahid, M. N. A., Nugroho, A. K., 2022, Pengaruh Pemberian Suspensi Serbuk dan Nanopartikel Seledri (*Apium graveolens*) Terhadap Kondisi Kolitis Pada Mencit yang Diinduksi DSS (*Dextran Sodium Sulphate*), *Journal of Pharmaceutical Science and Clinical Research*, 3: 257-267.
- Saputri, T. N., 2022, Analisis Bioinformatika Kemungkinan Pengaruh Konstituen Major Mitragyna Speciosa dalam Memodulasi Ansietas dan Depresi, Skripsi, Fakultas Farmasi Universitas Gadjah Mada, Yogyakarta.
- Sayed, A. S., El Sayed, N. S., Budzyńska, B., Skalicka-Woźniak, K., Ahmed, M. K., & Kandil, E. A., 2022, Xanthotoxin modulates oxidative stress, inflammation, and MAPK signaling in a rotenone-induced Parkinson's disease model. *Life sciences*, 310: 121129.
- Segal, J. P., LeBlanc, J. F., dan Hart, A. L., 2021, Ulcerative colitis: an update, *Clinical medicine*, 21(2): 135–139.
- Selvaraj, J., Vishnupriya, V., Sardar, H., Balakrishna, J. P., Rex, J., Mohan, S. K., Vijayalakshmi, P., & Ponnulakshmi, R., 2020, Molecular docking analysis of COX-2 for potential inhibitors, *Bioinformation*, 16(10): 753–758.

- Sherman, B. T., Hao, M., Qiu, J., Jiao, X., Baseler, M. W., Lane, H. C., Imamichi, T., & Chang, W., 2022, DAVID: a web server for functional enrichment analysis and functional annotation of gene lists (2021 update). *Nucleic acids research*, 50(W1): W216–W221.
- Singh, G., Kaur, A., Kaur, J., Bhatti, M. S., Singh, P., & Bhatti, R., 2019, Bergapten inhibits chemically induced nociceptive behavior and inflammation in mice by decreasing the expression of spinal PARP, iNOS, COX-2 and inflammatory cytokines. *Inflammopharmacology*, 27(4): 749–760.
- Sutcliffe, S., Pontari, M. A., Chapter 2 - Inflammation and Infection in the Etiology of Prostate Cancer, Editor(s): Mydlo, J. H., Godec, C. J., 2016, Prostate Cancer (Second Edition), *Academic Press*, 13-20.
- Spisni, E., Valerii, M. C., De Fazio, L., Cavazza, E., Borsetti, F., Sgromo, A., Candela, M., Centanni, M., Rizello, F., & Strillacci, A., 2015, Cyclooxygenase-2 silencing for the treatment of colitis: a combined in vivo strategy based on RNA interference and engineered Escherichia coli. *Molecular therapy : the journal of the American Society of Gene Therapy*, 23(2): 278–289.
- Stelzer, G., Rosen, N., Plaschkes, I., Zimmerman, S., Twik, M., Fishilevich, S., Stein, T. I., Nudel, R., Lieder, I., Mazor, Y., Kaplan, S., Dahary, D., Warshawsky, D., Guan-Golan, Y., Kohn, A., Rappaport, N., Safran, M., dan Lancet, D., 2016, The GeneCards Suite: From Gene Data Mining to Disease Genome Sequence Analyses, *Current protocols in bioinformatics*, 54: 1.30.1–1.30.33.
- Szklarczyk, D., Kirsch, R., Koutrouli, M., Nastou, K., Mehryary, F., Hachilif, R., Gable, A. L., Fang, T., Doncheva, N. T., Pyysalo, S., Bork, P., Jensen, L. J., dan von Mering, C., 2023, The STRING database in 2023: protein-protein association networks and functional enrichment analyses for any sequenced genome of interest. *Nucleic acids research*, 51(D1): D638–D646.
- Tam, J. S. Y., Collier, J. K., Hughes, P. A., Prestidge, C. A., & Bowen, J. M., 2021, Toll-like receptor 4 (TLR4) antagonists as potential therapeutics for intestinal inflammation. *Indian journal of gastroenterology : official journal of the Indian Society of Gastroenterology*, 40(1): 5–21.
- Tatiya-aphiradee, N., Chatuphonprasert, W., dan Jarukamjorn, K., 2019, Immune response and inflammatory pathway of ulcerative colitis, *Journal of Basic and Clinical Physiology and Pharmacology*, 30(1): 1-10.
- Uhlén, M., Fagerberg, L., Hallström, B. M., Lindskog, C., Oksvold, P., Mardinoglu, A., Sivertsson, Å., Kampf, C., Sjöstedt, E., Asplund, A., Olsson, I., Edlund, K., Lundberg, E., Navani, S., Szigytarto, C. A., Odeberg, J., Djureinovic, D., Takanen, J. O., Hober, S., Alm, T., ... Pontén, F., 2015, Proteomics. Tissue-based map of the human proteome, *Science*, 347(6220): 1260419.
- U.S. Department of Agriculture, Agricultural Research Service, 2016, Dr. Duke's Phytochemical and Ethnobotanical Databases, <http://phytochem.nal.usda.gov/>.
- Waldner, M. J., Wirtz, S., Jefremow, A., Warntjen, M., Neufert, C., Atreya, R., Becker, C., Weigmann, B., Vieth, M., Rose-John, S., & Neurath, M. F., 2010, VEGF

- receptor signaling links inflammation and tumorigenesis in colitis-associated cancer, *The Journal of experimental medicine*, 207(13): 2855–2868.
- Wang, D., & Dubois, R. N., 2010, The role of COX-2 in intestinal inflammation and colorectal cancer, *Oncogene*, 29(6): 781–788.
- West B. J., Deng, S., Isami, F., Uwaya, A., Jensen, C.J., 2018, The Potential Health Benefits of Noni Juice: A Review of Human Intervention Studies. *Foods*, 7(4):58.
- Xia, 2017, Bioinformatics and Drug Discovery, *Current Topics in Medicinal Chemistry*, 17: 1709-1726.
- Yahfoufi, N., Alsadi, N., Jambi, M., & Matar, C., 2018, The Immunomodulatory and Anti-Inflammatory Role of Polyphenols. *Nutrients*, 10(11): 1618.
- Yao, D., Dong, M., Dai, C., Wu, S., 2019, Inflammation and Inflammatory Cytokine Contribute to the Initiation and Development of Ulcerative Colitis and Its Associated Cancer, *Inflammatory Bowel Diseases*, 25(10): 1595–1602.
- Zeng, X., Zhang, P., Wang, Y., Qin, C., Chen, S., He, W., Tao, L., Tan, Y., Gao, D., Wang, B., Chen, Z., Chen, W., Jiang, Y. Y., dan Chen, Y. Z., 2019, CMAUP: a database of collective molecular activities of useful plants, *Nucleic acids research*, 47(D1): D1118–D1127.
- Zhang, H., Xia, B., Li, J., Zhao, Q., Chen, Z., Zhou, R., Wu., J., 2016, Expression and clinical significance of IL-17 and IL-17 receptor in ulcerative colitis, *Journal of Huazhong University of Science and Technology [Medical Sciences]*, 36(1):37-40.
- Zhao, H., Wu, L., Yan, G., Chen, Y., Zhou, M., Wu, Y., dan Li, Y., 2021, Inflammation and tumor progression: signaling pathways and targeted intervention, *Signal Transduction and Targeted Therapy*, 6(263).
- Zhu, L., Bao, T., Deng, Y., Li, H., dan Chen, L., 2017, Constituents from *Apium graveolens* and their anti-inflammatory effects, *Journal of Asian Natural Products Research*, 19(11): 1079-1086.