

DAFTAR PUSTAKA

- Adham, M., & Aldino, N. (2018). Diagnosis dan tatalaksana karsinoma tiroid berdiferensiasi. *Journal of the National Comprehensive Cancer Network*, 48, 197–209. <https://doi.org/10.6004/jnccn.2022.0040>.
- Agamah, F. E., Mazandu, G. K., Hassan, R., Bope, C. D., Thomford, N. E., Ghansah, A., & Chimusa, E. R. (2020). Computational/in silico methods in drug target and lead prediction. *Briefings in Bioinformatics*, 21(5), 1663–1675. <https://doi.org/10.1093/bib/bbz103>
- Ahmad, A., Mishra, R. K., Vyawahare, A., Kumar, A., Rehman, M. U., Qamar, W., Khan, A. Q., & Khan, R. (2019). Thymoquinone (2-Isopropyl-5-methyl-1, 4-benzoquinone) as a chemopreventive/anticancer agent: Chemistry and biological effects. In *Saudi Pharmaceutical Journal* (Vol. 27, Issue 8). <https://doi.org/10.1016/j.jsps.2019.09.008>
- Ahmad, M. F., Ahmad, F. A., Ashraf, S. A., Saad, H. H., Wahab, S., Khan, M. I., Ali, M., Mohan, S., Hakeem, K. R., & Athar, M. T. (2021). An updated knowledge of Black seed (*Nigella sativa* Linn.): Review of phytochemical constituents and pharmacological properties. *Journal of Herbal Medicine*, 25, 100404. <https://doi.org/10.1016/J.HERMED.2020.100404>
- Akter, Z. (2022). Targeting Inflammatory Mediators: An Anticancer Mechanism of Thymoquinone Action. *Current Medicinal Chemistry*, 28(1). <https://doi.org/10.2174/1875533xmtaxamzcsw>
- Alblihy, A. (2024). From desert flora to cancer therapy: systematic exploration of multi-pathway mechanisms using network pharmacology and molecular modeling approaches. *Frontiers in Pharmacology*, 15. <https://doi.org/10.3389/fphar.2024.1345415>
- Al-Dhahli, A. S., Al-Hassani, F. A., Mohammed Alarjani, K., Mohamed Yehia, H., Al Lawati, W. M., Najmul Hejaz Azmi, S., & Alam Khan, S. (2020). Essential oil from the rhizomes of the Saudi and Chinese *Zingiber officinale* cultivars: Comparison of chemical composition, antibacterial and molecular docking studies. *Journal of King Saud University - Science*, 32(8), 3343–3350. <https://doi.org/10.1016/j.jksus.2020.09.020>
- Alhmied, F., Alammam, A., Alsultan, B., Alshehri, M., & Pottoo, F. H. (2020). Molecular Mechanisms of Thymoquinone as Anticancer Agent. *Combinatorial Chemistry & High Throughput Screening*, 24(10). <https://doi.org/10.2174/1386207323999201027225305>
- Almatroodi, S. A., Almatroudi, A., Alsahli, M. A., Khan, A. A., & Rahmani, A. H. (2020). Thymoquinone, an Active Compound of *Nigella sativa*: Role in Prevention and Treatment of Cancer. *Current Pharmaceutical Biotechnology*, 21(11). <https://doi.org/10.2174/1389201021666200416092743>
- Alsanosi, S., Sheikh, R. A., Sonbul, S., Altayb, H. N., Batubara, A. S., Hosawi, S., Al-Sakkaf, K., Abdullah, O., Omran, Z., & Alhosin, M. (2022). The Potential Role of *Nigella sativa* Seed Oil as Epigenetic Therapy of Cancer. *Molecules*, 27(9). <https://doi.org/10.3390/molecules27092779>

- Ardhiansyah, A. O. (2021). *Dasar-dasar Onkologi dan Hallmark of Cancer (Edisi 2): dari teori preklinik hingga aplikasi klinik* (2nd ed., Vol. 1). Airlangga University Press.
[https://books.google.co.id/books?hl=en&lr=&id=XFswEAAQBAJ&oi=fnd&pg=PR2&dq=Ardhiansyah,+AO+\(2021\).+Kanker+payudara+:+dari+teori+preklinik+hingga+aplikasi+klinik+.+Pers+Universitas+Airlangga.&ots=Pz_e_gYL-md&sig=ckKk-0DsyOvrynCPIUexdPs0UWQ&redir_esc=y#v=on](https://books.google.co.id/books?hl=en&lr=&id=XFswEAAQBAJ&oi=fnd&pg=PR2&dq=Ardhiansyah,+AO+(2021).+Kanker+payudara+:+dari+teori+preklinik+hingga+aplikasi+klinik+.+Pers+Universitas+Airlangga.&ots=Pz_e_gYL-md&sig=ckKk-0DsyOvrynCPIUexdPs0UWQ&redir_esc=y#v=on)
- Astuty, F., & Komari, N. (2022). Kajian Molecular Docking Senyawa Karwinaphthol B dari Tanaman Bawang Dayak (*Eleutherine palmifolia* (L.) Merr) sebagai Inhibitor Enzim Glukokinase. In *Kajian Molekuler Docking....* | (Vol. 1, Issue 1). <https://pubchem.ncbi.nlm.nih.gov/>
- Ayodele, P. F., Bamigbade, A., Bamigbade, O. O., Adeniyi, I. A., Tachin, E. S., Seweje, A. J., & Farohunbi, S. T. (2023). Illustrated Procedure to Perform Molecular Docking Using PyRx and Biovia Discovery Studio Visualizer: A Case Study of 10kt With Atropine. *Progress in Drug Discovery & Biomedical Science*, 6(1). <https://doi.org/10.36877/pddbs.a0000424>
- Baig, W. A., Alwosaibai, K., Al-Jubran, K. M., Chaudhry, T. M., Al-Dowish, N., Alsaffar, F., & Alam, M. A. (2022). Synergistic anti-cancer effects of *Nigella sativa* seed oil and conventional cytotoxic agent against human breast cancer. *Drug Metabolism and Personalized Therapy*, 37(3). <https://doi.org/10.1515/dmpt-2021-0229>
- Baraka, B., Abosheaishaa, H., & Nassar, M. (2023). Immunotherapy-induced thyroid dysfunction: an updated review. *The Egyptian Journal of Internal Medicine*, 35(1). <https://doi.org/10.1186/s43162-023-00210-7>
- Binti Amir, N. A., Putu Dwyandaani Priyahita1, & Talitha Syahla1, Eva Triani. (2023). Clinical Diagnosis and Management of Thyroid Cancer. *Unram Medical Journal*, 12(3), 240–246. <https://doi.org/10.29303/jku.v12i3.963>
- Bonofiglio, D., Qi, H., Gabriele, S., Catalano, S., Aquila, S., Belmonte, M., & Andò, S. (2008). Peroxisome proliferator-activated receptor γ inhibits follicular and anaplastic thyroid carcinoma cells growth by upregulating p21 Cip1/WAF1 gene in a Sp1-dependent manner. *Endocrine-Related Cancer*, 15(2), 545–557. <https://doi.org/10.1677/ERC-07-0272>
- Butt, S. S., Badshah, Y., Shabbir, M., & Rafiq, M. (2020). Molecular Docking Using Chimera and Autodock Vina Software for Nonbioinformaticians. *JMIR Bioinformatics and Biotechnology*, 1(1). <https://doi.org/10.2196/14232>
- Carling, T., & Udelsman, R. (2014). Thyroid cancer. *Annual Review of Medicine*, 65, 125–137. <https://doi.org/10.1146/annurev-med-061512-105739>
- Chang, Y., Hawkins, B. A., Du, J. J., Groundwater, P. W., Hibbs, D. E., & Lai, F. (2023). A Guide to In Silico Drug Design. In *Pharmaceutics* (Vol. 15, Issue 1). MDPI. <https://doi.org/10.3390/pharmaceutics15010049>
- Che, X., Liu, Q., & Zhang, L. (2023). An accurate and universal protein-small molecule batch docking solution using Autodock Vina. *Results in Engineering*, 19. <https://doi.org/10.1016/j.rineng.2023.101335>
- Christofides, A., Konstantinidou, E., Jani, C., & Boussiotis, V. A. (2021). The role of peroxisome proliferator-activated receptors (PPAR) in immune responses.

- In *Metabolism: Clinical and Experimental* (Vol. 114). W.B. Saunders.
<https://doi.org/10.1016/j.metabol.2020.154338>
- Chung, R., Tyebally, S., Chen, D., Kapil, V., Walker, J. M., Addison, D., Ismail-Khan, R., Guha, A., & Ghosh, A. K. (2020). Hypertensive cardiotoxicity in cancer treatment—systematic analysis of adjunct, conventional chemotherapy, and novel therapies—epidemiology, incidence, and pathophysiology. In *Journal of Clinical Medicine* (Vol. 9, Issue 10).
<https://doi.org/10.3390/jcm9103346>
- Chung, S. H., Onoda, N., Ishikawa, T., Ogisawa, K., Takenaka, C., Yano, Y., Hato, F., & Hirakawa, K. (2002). Peroxisome proliferator-activated receptor gamma activation induces cell cycle arrest via the p53-independent pathway in human anaplastic thyroid cancer cells. In *Japanese Journal of Cancer Research* (Vol. 93, Issue 12). <https://doi.org/10.1111/j.1349-7006.2002.tb01245.x>
- Cleveland Clinic. (2024). *Stage of Cancer: What They Mean & How Staging Works*. My.Clevelandclinic.Org.
<https://my.clevelandclinic.org/health/diagnostics/22607-cancer-stages-grades-system>
- Coca-Pelaz, A., Rodrigo, J. P., Shah, J. P., Sanabria, A., Al Ghuzlan, A., Silver, C. E., Shaha, A. R., Angelos, P., Hartl, D. M., Mäkitie, A. A., Olsen, K. D., Owen, R. P., Randolph, G. W., Simó, R., Tufano, R. P., Kowalski, L. P., Zafereo, M. E., Rinaldo, A., & Ferlito, A. (2021). Hürthle Cell Carcinoma of the Thyroid Gland: Systematic Review and Meta-analysis. *Advances in Therapy*, 38(10), 5144–5164. <https://doi.org/10.1007/s12325-021-01876-7>
- De Koning, T. J. (2013). Amino acid synthesis deficiencies. *Handbook of Clinical Neurology*, 113, 1775–1783. <https://doi.org/10.1016/B978-0-444-59565-2.00047-2>
- Denaro, N., Romanò, R., Alfieri, S., Dolci, A., Licitra, L., Nuzzolese, I., Ghidini, M., Bareggi, C., Bertaglia, V., Solinas, C., & Garrone, O. (2023). The Tumor Microenvironment and the Estrogen Loop in Thyroid Cancer. In *Cancers* (Vol. 15, Issue 9). Multidisciplinary Digital Publishing Institute (MDPI).
<https://doi.org/10.3390/cancers15092458>
- Dobson, M. E., Diallo-Krou, E., Grachtchouk, V., Yu, J., Colby, L. A., Wilkinson, J. E., Giordano, T. J., & Koenig, R. J. (2011). Pioglitazone induces a proadipogenic antitumor response in mice with PAX8-PPAR γ fusion protein thyroid carcinoma. *Endocrinology*, 152(11), 4455–4465.
<https://doi.org/10.1210/en.2011-1178>
- Duvillier, P. (2022). Hypertension and cancer : Dangerous Liaisons. In *Annales de Cardiologie et d'Angéiologie* (Vol. 71, Issue 5).
<https://doi.org/10.1016/j.ancard.2022.08.003>
- Elsiana, I., Ulu, K., Anisya Kurnia, K., Qotrunnada Widyatamaka, S., Paujiah, S., Farmasi, P., Ilmu Kesehatan, F., Singaperbangsa Karawang Karawang, U., & Barat, J. (2023). Article Review: Molecular Docking of Anti Diabetes Mellitus Drugs. *Journal of Pharmaceutical and Sciences*, 6(2656–3088), 541–554.
<https://doi.org/10.36490/journal-jps.com.v6i2.41>

- Fatikha Rudia, A., Aulia Dwi, H., Baiq Ramdhani Amelia, N., & Ghanniya Atifah, R. (2023). *Omega-3 Memiliki Banyak Manfaat: Apakah Bisa Melawan Kanker?* <https://doi.org/10.29303/jku.v12i2.13>
- Ferizi, R., Ramadan, M. F., & Maxhuni, Q. (2023). Black Seeds (*Nigella sativa*) Medical Application and Pharmaceutical Perspectives. In *Journal of Pharmacy and Bioallied Sciences* (Vol. 15, Issue 2, pp. 63–67). Wolters Kluwer Medknow Publications. https://doi.org/10.4103/jpbs.jpbs_364_22
- Ferlay J., Ervik M, Lam F., Laversanne M., Colombet M., Mery L., Piñeros M., Znaor A, Soerjomataram I, & Bray F. (2024, February 8). *Global Cancer Observatory: Cancer Today* Lyon, France International Agency for Research on Cancer. World Health Organization. <https://gco.iarc.who.int/today/en>
- Filetti, S., Durante, C., Hartl, D., Leboulleux, S., Locati, L. D., Newbold, K., Papotti, M. G., & Berruti, A. (2019). Thyroid cancer: ESMO Clinical Practice Guidelines for diagnosis, treatment and follow-up. *Annals of Oncology*, 30(12), 1856–1883. <https://doi.org/10.1093/annonc/mdz400>
- Freddie Bray, Mathieu Laversanne, Hyuna Sung, Jacques Ferlay, Rebecca L Siegel, Isabelle Soerjomataram, & Ahmedin Jemal. (2024, May). *Global cancer statistics 2022: GLOBOCAN estimates of incidence and mortality worldwide for 36 cancers in 185 countries*. PubMed. <https://doi.org/https://doi.org/10.3322/caac.21834>
- Ganly, I., Makarov, V., Deraje, S., Dong, Y. Y., Reznik, E., Seshan, V., Nanjangud, G., Eng, S., Bose, P., Kuo, F., Morris, L. G. T., Landa, I., Carrillo Alborno, P. B., Riaz, N., Nikiforov, Y. E., Patel, K., Umbricht, C., Zeiger, M., Kebebew, E., ... Chan, T. A. (2018). Integrated Genomic Analysis of Hürthle Cell Cancer Reveals Oncogenic Drivers, Recurrent Mitochondrial Mutations, and Unique Chromosomal Landscapes. *Cancer Cell*, 34(2), 256-270.e5. <https://doi.org/10.1016/j.ccell.2018.07.002>
- García-Sáenz, M., Lobaton-Ginsberg, M., & Ferreira-Hermosillo, A. (2022). Metformin in Differentiated Thyroid Cancer: Molecular Pathways and Its Clinical Implications. In *Biomolecules* (Vol. 12, Issue 4). <https://doi.org/10.3390/biom12040574>
- Gogoi, A., Mazumder, N., Konwer, S., Ranawat, H., Chen, N. T., & Zhuo, G. Y. (2019). Enantiomeric recognition and separation by chiral nanoparticles. In *Molecules* (Vol. 24, Issue 6). MDPI AG. <https://doi.org/10.3390/molecules24061007>
- Govindaswamy, B., Ravikrishnan, B., Panda, D., & Perumal, S. (2024). In vitro anti cancer, anti inflammatory and anti oxidant activity of Celery oil (*Apium graveolens*)-Myristic acid based microemulsion system: Characterization and Biomedical application. *BioRxiv (The Preprint Server for Biology)*. <https://doi.org/10.1101/2024.11.09.622815>
- Haddad, R. I., Bischoff, L., Ball, D., Bernet, V., Blomain, E., Busaidy, N. L., Campbell, M., Dickson, P., Duh, Q. Y., Ehya, H., Goldner, W. S., Guo, T., Haymart, M., Holt, S., Hunt, J. P., Iagaru, A., Kandeel, F., Lamonica, D. M., Mandel, S., ... Darlow, S. (2022). Thyroid Carcinoma, Version 2.2022 NCCN CLINICAL PRACTICE GUIDELINES IN ONCOLOGY. *JNCCN Journal of*

- the National Comprehensive Cancer Network*, 20(8), 925–951.
<https://doi.org/10.6004/jnccn.2022.0040>
- Hao, Z., Cui, H., Li, Y., Wu, W., Wang, Y., Dan, H., Lou, L., Wang, H., & Zhao, P. (2024). Simultaneous occurrence of papillary thyroid carcinoma, medullary thyroid carcinoma, and lymphoma: A case report. *Medicine (United States)*, 103(33), e39363. <https://doi.org/10.1097/MD.00000000000039363>
- Hidayatullah, A., Eka Putra, W., Rifa, M., Fikri Heikal, M., Widiastuti, D., Wening Permatasari, G., Susanto, H., & Suriza Shuib, A. (2023). Molecular docking and molecular dynamic study of multiple medicinal plants' bioactive compounds as human papillomavirus type 16 E5 protein inhibitor. In *Kuwait J.Sci* (Vol. 50). <https://www.genome.jp/kegg/>
- Huang, W., Guo, X., Wang, C., Alzhan, A., Liu, Z., Ma, X., & Shu, Q. (2022). α -Linolenic acid induces apoptosis, inhibits the invasion and metastasis, and arrests cell cycle in human breast cancer cells by inhibiting fatty acid synthase. *Journal of Functional Foods*, 92. <https://doi.org/10.1016/j.jff.2022.105041>
- IBM SPSS Statistics. (2019, April 28). *IBM SPSS software versi 26*. <https://www.ibm.com/products/spss>
- Jannin, A., Penel, N., Ladsous, M., Vantyghem, M. C., & Cao, C. Do. (2019). Tyrosine kinase inhibitors and immune checkpoint inhibitors-induced thyroid disorders. In *Critical Reviews in Oncology/Hematology* (Vol. 141). <https://doi.org/10.1016/j.critrevonc.2019.05.015>
- Jiang, L., Chu, H., & Zheng, H. (2016). B-raf mutation and papillary thyroid carcinoma patients (Review). *Oncology Letters*, 11(4), 2699–2705. <https://doi.org/10.3892/ol.2016.4298>
- Kanwar, G., Kumar, A., & Mahajan, A. (2018). Open source software tools for computer aided drug design. *International Journal of Research in Pharmaceutical Sciences*, 9(1). <https://doi.org/10.26452/ijrps.v9i1.1191>
- Karyani, Y. S. I., Agung Putra, & Titiek Sumarawati. (2024). The Effect of Habbatussauda (*Nigella sativa*) on TNF- α and IL-6 Levels in Wistar Rats Induced High Fat Diet. *Gema Lingkungan Kesehatan*, 22(2), 128–133. <https://doi.org/10.36568/gelinkes.v22i2.174>
- Kenny Lee, A., Anastasopoulou, C., Chandran, C., & Cassaro Affiliations, S. (2023). *Thyroid Cancer Continuing Education Activity*. <https://www.ncbi.nlm.nih.gov/books/NBK459299/?report=printable>
- Khan, S., Aziz, A., Esbhani, U., & Masood, M. (2022). Medullary thyroid cancer: An experience from a tertiary care hospital of a developing country. *Indian Journal of Endocrinology and Metabolism*, 26(1), 68–72. https://doi.org/10.4103/ijem.ijem_474_21
- Kim, J. T., Lim, M. A., Lee, S. E., Kim, H. J., Koh, H. Y., Lee, J. H., Jun, S. M., Kim, J. M., Kim, K. H., Shin, H. S., Cho, S. W., Kim, K. S., Shong, M., Koo, B. S., & Kang, Y. E. (2022). Adrenomedullin2 stimulates progression of thyroid cancer in mice and humans under nutrient excess conditions. *Journal of Pathology*, 258(3), 264–277. <https://doi.org/10.1002/path.5997>
- Kumar, H., Deep, A., & Marwaha, R. K. (2019). Chemical Synthesis, Mechanism of Action and Anticancer Potential of Medicinally Important Thiazolidin-2,4-

- dione Derivatives: A Review. *Mini-Reviews in Medicinal Chemistry*, 19(18).
<https://doi.org/10.2174/1389557519666190513093618>
- Kure, S., & Ohashi, R. (2021). Thyroid hürthle cell carcinoma: Clinical, pathological, and molecular features. In *Cancers* (Vol. 13, Issue 1, pp. 1–14). MDPI AG. <https://doi.org/10.3390/cancers13010026>
- Kusumadewi, R. C., Pratiwi, R. S., Exhasna, A. T. I., Azizaturrahmah, G. A., Sastrawan, I. G. P. D. A., Wenilia, R., Muttaqin, S., Supriantarini, D., Ilham, M. A. R., & Fatahillah, W. R. (2024). Understanding Thyroid Carcinoma: Clinical Manifestations, Diagnosis, and Management. *Jurnal Biologi Tropis*, 24(4), 645–656. <https://doi.org/https://doi.org/10.29303/jbt.v24i4.7664>
- Li, Z., Li, X., Huang, Y.-Y., Wu, Y., Liu, R., Zhou, L., Lin, Y., Wu, D., Zhang, L., Liu, H., Xu, X., Yu, K., Zhang, Y., Cui, J., Zhan, C.-G., Wang, X., & Luo, H.-B. (2020). Identify potent SARS-CoV-2 main protease inhibitors via accelerated free energy perturbation-based virtual screening of existing drugs. <https://doi.org/10.1073/pnas.2010470117/-/DCSupplemental>
- Lomidze, K., Gordeladze, M., Kikodze, N., Charkviani, N., & Chikovani, T. (2022). THYROID DYSFUNCTIONS INDUCED BY IMMUNE CHECK-POINT INHIBITORS. *EXPERIMENTAL & CLINICAL MEDICINE GEORGIA*. <https://doi.org/10.52340/jecm.2022.06.05.08>
- Lukasiewicz, M., Zwara, A., Kowalski, J., Mika, A., & Hellmann, A. (2024). The Role of Lipid Metabolism Disorders in the Development of Thyroid Cancer. In *International Journal of Molecular Sciences* (Vol. 25, Issue 13). Multidisciplinary Digital Publishing Institute (MDPI). <https://doi.org/10.3390/ijms25137129>
- Martina Ferrari, S., Materazzi, G., Baldini, E., Ullisse, S., Miccoli, P., Antonelli, A., & Fallahi, P. (2016). Antineoplastic Effects of PPAR γ Agonists, with a Special Focus on Thyroid Cancer. *Current Medicinal Chemistry*, 23(7). <https://doi.org/10.2174/0929867323666160203114607>
- Mielczarek-Putka, M., Otto-Ślusarczyk, D., Chrzanowska, A., Filipiek, A., & Graboń, W. (2020). Telmisartan Influences the Antiproliferative Activity of Linoleic Acid in Human Colon Cancer Cells. *Nutrition and Cancer*, 72(1). <https://doi.org/10.1080/01635581.2019.1613552>
- Mirza, A. Z., Althagafi, I. I., & Shamshad, H. (2019). Role of PPAR receptor in different diseases and their ligands: Physiological importance and clinical implications. *European Journal of Medicinal Chemistry*, 166, 502–513. <https://doi.org/10.1016/J.EJMECH.2019.01.067>
- Moini, J., Pereira, K., & Samsam, M. (2020). Structures and functions of the thyroid gland. *Epidemiology of Thyroid Disorders*, 21–43. <https://doi.org/10.1016/B978-0-12-818500-1.00002-5>
- Morale, M. G., Tamura, R. E., & Rubio, I. G. S. (2022). Metformin and Cancer Hallmarks: Molecular Mechanisms in Thyroid, Prostate and Head and Neck Cancer Models. In *Biomolecules* (Vol. 12, Issue 3). <https://doi.org/10.3390/biom12030357>
- Mursal, M., Ahmad, M., Hussain, S., & Khan, M. F. (2024). Navigating the Computational Seas: A Comprehensive Overview of Molecular Docking

Software *in* *Drug* *Discovery.*
<https://doi.org/https://doi.org/10.5772/intechopen.1004802>

- Muttaqin, F. Z., Ferdian Pratama, M., Kurniawan, F., Tinggi, S., & Bandunng, F. (2019). MOLECULAR DOCKING AND MOLECULAR DYNAMIC STUDIES OF STILBENE DERIVATIVE COMPOUNDS AS SIRTUIN-3 (SIRT3) HISTONE DEACETYLASE INHIBITOR ON MELANOMA SKIN CANCER AND THEIR TOXICITIES PREDICTION. In *Molecular Docking ... Journal of Pharmacopolium* (Vol. 2, Issue 2). <https://doi.org/https://doi.org/10.24198/farmaka.v20i3.37598.g19406>
- NATIONAL CANCER INSTITUTE. (2025, February 12). *Thyroid Cancer Treatment (PDQ®)–Patient Version*. United States Government. <https://www.cancer.gov/types/thyroid/patient/thyroid-treatment-pdq>
- National Center for Biotechnology Information. (2025, April 23). *Compound Summary Arachidonic Acid*. PubChem. <https://pubchem.ncbi.nlm.nih.gov/compound/Arachidonic-Acid>
- National Center for Biotechnology Information. (2025, April 23). *Compound Summary Eicosadienoic acid*. PubChem. <https://pubchem.ncbi.nlm.nih.gov/compound/Eicosadienoic-acid>
- National Center for Biotechnology Information. (2025, April 23). *compound Summary Linoleic Acid*. PubChem. https://pubchem.ncbi.nlm.nih.gov/compound/9Z_12Z_-octadeca-9_12-dienoic-acid
- National Center for Biotechnology Information. (2025, April 23). *Compound Summary Myristic Acid*. PubChem. <https://doi.org/https://pubchem.ncbi.nlm.nih.gov/compound/Myristic-Acid>
- National Center for Biotechnology Information. (2025, April 23). *Compound Summary Oleic Acid*. PubChem. <https://pubchem.ncbi.nlm.nih.gov/compound/Oleic-Acid>
- National Center for Biotechnology Information. (2025, April 23). *Compound Summary Palmitic Acid*. PubChem. <https://doi.org/https://pubchem.ncbi.nlm.nih.gov/compound/Palmitic-Acid>
- National Center for Biotechnology Information. (2025, April 23). *Compound Summary Palmitoleic Acid*. PubChem. <https://doi.org/https://pubchem.ncbi.nlm.nih.gov/compound/Palmitoleic-Acid>
- Norde, M. M., Oki, E., & Rogero, M. M. (2019). C-Reactive Protein and Fatty Acids: Public Health Concerns and Implications. *The Molecular Nutrition of Fats*, 117–133. <https://doi.org/10.1016/B978-0-12-811297-7.00009-3>
- Novita, B., Susanto, A., Clourisa, N., Studi, P., Keperawatan, S., & Madani, Y. (2023). PENGARUH PEMBERIAN KAPSUL JINTAN HITAM TERHADAP KADAR KOLESTEROL IBU RUMAH TANGGA. *Jurnal Sehat Mandiri*, 18. <https://doi.org/https://dx.doi.org/10.33761/jsm.v18i1.848>
- Orlyk, O. S., & Garnytska, A. V. (2023). Endocrine side effects of immunotherapeutic drugs. *Infusion & Chemotherapy*, 3, 43–48. <https://doi.org/10.32902/2663-0338-2023-3-43-48>
- Pidchenko, N. S., Vasylyev, L. Y., & Astapieva, O. M. (2023). Changes in parameters of carbohydrate metabolism over the course of antitumor treatment with

- metformin in patients with papillary thyroid cancer. *Ukrainian Journal of Radiology and Oncology*, 31(4). <https://doi.org/10.46879/ukroj.4.2023.427-439>
- Prajapati, D., Mehta, N., & Patani, P. (2023). A REVIEW ON NIGELLA SATIVA: A BLACK SEED OF MIRACLE. *Journal of Population Therapeutics & Clinical Pharmacology*, 30, 1188–1197. <https://doi.org/10.53555/jptcp.v30i19.3816>
- Prasetyo, A., Martati, T., & Saputra, P. W. (2024). In Silico Study of Bioactive Compounds in Herba Sambiloto (*Andrographis paniculata* Burm. F. Nees) as HIV-1 Reverse Transcriptase Inhibitor. *Jurnal Jamu Indonesia*, 9(2). <https://doi.org/10.29244/jji.v9i2.300>
- Pratama, A. B., Herowati, R., & Ansory, H. M. (2021). Studi Docking Molekuler Senyawa Dalam Minyak Atsiri Pala (*Myristica fragrans* H.) Dan Senyawa Turunan Miristisin Terhadap Target Terapi Kanker Kulit. *Majalah Farmaseutik*, 17(2), 233. <https://doi.org/10.22146/farmaseutik.v17i2.59297>
- Qadri, M. M., Alam, M. F., Khired, Z. A., Alaqi, R. O., Khardali, A. A., Alasmari, M. M., Alrashah, A. S. S., Muzafar, H. M. A., & Qahl, A. M. (2023). Thymoquinone Ameliorates Carfilzomib-Induced Renal Impairment by Modulating Oxidative Stress Markers, Inflammatory/Apoptotic Mediators, and Augmenting Nrf2 in Rats. *International Journal of Molecular Sciences*, 24(13). <https://doi.org/10.3390/ijms241310621>
- Rahma, J., Munirah, I., Mukhlisatunnafsi, L., Diaz, M., Syamsu, N., & Harahap, H. S. (2024). POTENSI *Momordica charantia* SEBAGAI ANTIDIABETIK : STUDI LITERATUR. *Jurnal Medika Malahayati*, 8(1), 60–69. <https://doi.org/https://doi.org/10.33024/jmm.v8i1.12816>
- Ravi, Y., Vethamoni, P. I., Saxena, S. N., Kaviyapriya, M., Santhanakrishnan, V. P., Raveendran, M., Ashoka, N. N., Choudhary, S., Verma, A. K., Harisha, C. B., Dhamotharan, P., & Bhardwaj, V. (2025). Anticancer potential of Thymoquinone from *Nigella sativa* L.: An in-silico and cytotoxicity study. *PLOS ONE*, 20(6 June). <https://doi.org/10.1371/journal.pone.0323804>
- Reddi, H. V., Driscoll, C. B., Madde, P., Milosevic, D., Hurley, R. M., McDonough, S. J., Hallanger-Johnson, J., McIver, B., & Eberhardt, N. L. (2013). Redifferentiation and induction of tumor suppressors miR-122 and miR-375 by the PAX8/PPAR γ fusion protein inhibits anaplastic thyroid cancer: A novel therapeutic strategy. *Cancer Gene Therapy*, 20(5), 267–275. <https://doi.org/10.1038/cgt.2013.16>
- Rejeki, S. P., Albab, F. C., & Prasetya, E. R. (2021). *ADIPOGENESIS*. 1–142. <https://repository.unair.ac.id/116867/2/C15-Artikel.pdf>
- Sabir, S., Saleem, U., Akash, M. S. H., Qasim, M., & Chauhdary, Z. (2022). Thymoquinone Induces Nrf2 Mediated Adaptive Homeostasis: Implication for Mercuric Chloride-Induced Nephrotoxicity. *ACS Omega*, 7(8). <https://doi.org/10.1021/acsomega.2c00028>
- Salsabila, A. S., Safira, R. Z., Sari, W. A., Nugraha, A. R., Wulandari, D., & Qaivani, R. (2023). Indonesian Journal of Biological Pharmacy In Silico Study of Moringa leaves Compound (*Moringa oleifera* L.) as Protein Kinase C Alpha

- Inhibitor in Breast Cancer. *Indonesian Journal of Biological Pharmacy*, 3, 154–173. <https://jurnal.unpad.ac.id/ijbp>
- Sari, I. W., Junaidin, J., & Pratiwi, D. (2020). STUDI MOLECULAR DOCKING SENYAWA FLAVONOID HERBA KUMIS KUCING (*Orthosiphon stamineus* B.) PADA RESEPTOR α -GLUKOSIDASE SEBAGAI ANTIDIABETES TIPE 2. *Jurnal Farmagazine*, 7(2), 54. <https://doi.org/10.47653/farm.v7i2.194>
- Sawhney, S. K., & Singh, M. (2020). MOLECULAR DOCKING SOFTWARE'S APPLICATIONS AND BASIC CHALLENGES FACED: A REVIEW. *International Research Journal of Pharmacy*, 11(2). <https://doi.org/10.7897/2230-8407.110213>
- Shabani, H., Karami, M. H., Kolour, J., Sayyahi, Z., Parvin, M. A., Soghala, S., Baghini, S. S., Mardasi, M., Chopani, A., Moulavi, P., Farkhondeh, T., Darroudi, M., Kabiri, M., & Samarghandian, S. (2023). Anticancer activity of thymoquinone against breast cancer cells: Mechanisms of action and delivery approaches. *Biomedicine & Pharmacotherapy*, 165, 114972. <https://doi.org/10.1016/J.BIOPHA.2023.114972>
- Shaker, B., Ahmad, S., Lee, J., Jung, C., & Na, D. (2021). In silico methods and tools for drug discovery. In *Computers in Biology and Medicine* (Vol. 137). Elsevier Ltd. <https://doi.org/10.1016/j.compbiomed.2021.104851>
- Shaterzadeh-Yazdi, H., Noorbakhsh, M.-F., Samarghandian, S., & Farkhondeh, T. (2018). An Overview on Renoprotective Effects of Thymoquinone. *Kidney Diseases*, 4(2). <https://doi.org/10.1159/000486829>
- Shen, J., Yan, M., Chen, L., Ou, D., Yao, J., Feng, N., Zhou, X., Lei, Z., & Xu, D. (2024). Prognosis and influencing factors of follicular thyroid cancer. *Cancer Medicine*, 13(1). <https://doi.org/10.1002/cam4.6727>
- Singh, S. (2023). Medication safety in chronic kidney disease. In *Current Opinion in Nephrology and Hypertension* (Vol. 32, Issue 5). <https://doi.org/10.1097/MNH.0000000000000907>
- Słowikowski, B. K., Drzewiecka, H., Malesza, M., Mądry, I., Sterzyńska, K., & Jagodziński, P. P. (2020). The influence of conjugated linoleic acid on the expression of peroxisome proliferator-activated receptor- γ and selected apoptotic genes in non-small cell lung cancer. *Molecular and Cellular Biochemistry*, 466(1–2). <https://doi.org/10.1007/s11010-020-03689-8>
- Solikhah&Amyati. (2022). *BIOSTATISTIK (Sebuah Aplikasi SPSS dalam Bidang Kesehatan dan Kedokteran)* (R. Ari Nugroho, Ed.; 1st ed.). Jejak Pustaka. <https://eprints.uad.ac.id/37458/1/BIOSTATISTIK.pdf>
- Sowunmi, K. S., & Kaka, Z. (2023). Antioxidant Activity of *Nigella sativa* Essential Oil. In P. Otero & M. Fraga Corral (Eds.), *Recent Developments in Antioxidants from Natural Sources*. IntechOpen. <https://doi.org/10.5772/intechopen.109086>
- Syolihan, D., Putri, R., Utami, M., Fitriana, R. N., & Yulianto, S. (2023). DUKUNGAN KELUARGA DAPAT BERPENGARUH PADA KUALITAS HIDUP PASIEN KANKER PARU YANG MENJALANI KEMOTERAPI. *Journal of Advanced Nursing and Health Sciences*, 4(1), 16–24.

https://repository.itekes-bali.ac.id/medias/journal/KADEK_AYU_ARI_SETIAWATI.pdf

- Tallima, H., & El Ridi, R. (2018). Arachidonic acid: Physiological roles and potential health benefits – A review. In *Journal of Advanced Research* (Vol. 11, pp. 33–41). Elsevier B.V. <https://doi.org/10.1016/j.jare.2017.11.004>
- Wang, X., Zhang, C., & Bao, N. (2023). Molecular mechanism of palmitic acid and its derivatives in tumor progression. In *Frontiers in Oncology* (Vol. 13, pp. 1–10). <https://doi.org/10.3389/fonc.2023.1224125>
- Wood, W. M., Sharma, V., Bauerle, K. T., Pike, L. A., Zhou, Q., Fretwell, D. L., Schweppe, R. E., & Haugen, B. R. (2011). PPAR promotes growth and invasion of thyroid cancer cells. *PPAR Research*. <https://doi.org/10.1155/2011/171765>
- Xu, B., Fuchs, T., Dogan, S., Landa, I., Katabi, N., Fagin, J. A., Tuttle, R. M., Sherman, E., Gill, A. J., & Ghossein, R. (2020). Dissecting Anaplastic Thyroid Carcinoma: A Comprehensive Clinical, Histologic, Immunophenotypic, and Molecular Study of 360 Cases. *Thyroid*, 30(10), 1505–1517. <https://doi.org/10.1089/thy.2020.0086>
- Yamauchi, I., Yasoda, A., Matsumoto, S., Sakamori, Y., Kim, Y. H., Nomura, M., Otsuka, A., Yamasaki, T., Saito, R., Kitamura, M., Kitawaki, T., Hishizawa, M., Kawaguchi-Sakita, N., Fujii, T., Taura, D., Sone, M., & Inagaki, N. (2019). Incidence, features, and prognosis of immune-related adverse events involving the thyroid gland induced by nivolumab. *PLoS ONE*, 14(5). <https://doi.org/10.1371/journal.pone.0216954>
- Yu Zhang PhD, Wei Su MS, Zhou Yang PhD, Dan Zhao BS, Qing Guan MD, Tian Liao PhD, Duanshu Li BS, Baijie Feng MS, Yunjun Wang MD, Yu Wang MD, & Jun Xiang MD. (2024). iPLA2 β regulates the dual effects of arachidonic acid in thyroid cancer. *THE SCIENCES AND SPECIALTIES OF THE HEAD AND NECK*, 47(2), 504–516. <https://doi.org/https://doi.org/10.1002/hed.27937>
- Zhang, Y., Xiao, B., Liu, Y., Wu, S., Xiang, Q., Xiao, Y., Zhao, J., Yuan, R., Xie, K., & Li, L. (2024). Roles of PPAR activation in cancer therapeutic resistance: Implications for combination therapy and drug development. In *European Journal of Pharmacology* (Vol. 964). <https://doi.org/10.1016/j.ejphar.2023.176304>
- Zhao, M., Zhang, X., Gao, L., Song, Y., Xu, C., Yu, C., Shao, S., & Zhao, J. (2018). Palmitic acid downregulates thyroglobulin (Tg), sodium iodide symporter (NIS), and thyroperoxidase (TPO) in human primary thyrocytes: A potential mechanism by which lipotoxicity affects thyroid? *International Journal of Endocrinology*, 2018. <https://doi.org/10.1155/2018/4215848>
- Zhou, G., Xu, Y., Zhai, Y., Gong, Z., Xu, K., Wang, G., Sun, C., & Ma, C. (2022). The Association Between Serum Palmitic Acid and Thyroid Function. *Frontiers in Endocrinology*, 13. <https://doi.org/10.3389/fendo.2022.860634>