

## DAFTAR PUSTAKA

Abdel-Bar, H. M., & el Basset Sanad, R. A. (2017). Endocytic pathways of optimized resveratrol cubosomes capturing into human hepatoma cells. *Biomedicine and Pharmacotherapy*, 93, 561–569. <https://doi.org/10.1016/j.biopha.2017.06.093>

Akinwumi, B. C., Bordun, K. A. M., & Anderson, H. D. (2018). Biological activities of stilbenoids. In *International Journal of Molecular Sciences* (Vol. 19, Issue 3). MDPI AG. <https://doi.org/10.3390/ijms19030792>

Amini, S., & White, M. K. (2013). Neuronal Cell Culture: Methods and Protocols. In *Neuronal Cell Culture*. <https://api.semanticscholar.org/CorpusID:82155997>

Ashrafizadeh, M., Javanmardi, S., Moradi-Ozarlou, M., Mohammadinejad, R., Farkhondeh, T., Samarghandian, S., & Garg, M. (2020). Natural products and phytochemical nanoformulations targeting mitochondria in oncotherapy: An updated review on resveratrol. *Bioscience Reports*, 40(4), 1–21. <https://doi.org/10.1042/BSR20200257>

Barbosa, M. A. G., Xavier, C. P. R., Pereira, R. F., Petrikaitè, V., & Vasconcelos, M. H. (2022). 3D Cell Culture Models as Recapitulators of the Tumor Microenvironment for the Screening of Anti-Cancer Drugs. In *Cancers* (Vol. 14, Issue 1). MDPI. <https://doi.org/10.3390/cancers14010190>

Barros, A. S., Costa, E. C., Nunes, A. S., de Melo-Diogo, D., & Correia, I. J. (2018). Comparative study of the therapeutic effect of Doxorubicin and Resveratrol combination on 2D and 3D (spheroids) cell culture models. *International Journal of Pharmaceutics*, 551(1–2), 76–83. <https://doi.org/10.1016/j.ijpharm.2018.09.016>

Baxter-Holland, M., & Dass, C. R. (2018). Doxorubicin, mesenchymal stem cell toxicity and antitumour activity: implications for clinical use. *Journal of Pharmacy and Pharmacology*, 70(3), 320–327. <https://doi.org/10.1111/jphp.12869>

Bhadra, K. (2022). A Mini Review on Molecules Inducing Caspase-Independent Cell Death: A New Route to Cancer Therapy. In *Molecules* (Vol. 27, Issue 19). MDPI. <https://doi.org/10.3390/molecules27196401>

Bresciani, G., Hofland, L. J., Dogan, F., Giamas, G., Gagliano, T., & Zatelli, M. C. (2019). Evaluation of Spheroid 3D Culture Methods to Study a Pancreatic Neuroendocrine Neoplasm Cell Line. *Frontiers in Endocrinology*, 10. <https://doi.org/10.3389/fendo.2019.00682>

Cai, K., Deng, L., Zheng, D., Li, L., He, Z., & Yu, C. (2022). MICAL1 facilitates pancreatic cancer proliferation, migration, and invasion by activating WNT/β-catenin pathway. *Journal of Translational Medicine*, 20(1), 1–17. <https://doi.org/10.1186/s12967-022-03749-1>

Cappetta, D., De Angelis, A., Sapiro, L., Prezioso, L., Illiano, M., Quaini, F., Rossi, F., Berrino, L., Naviglio, S., & Urbanek, K. (2017). Oxidative stress and cellular response to doxorubicin: A common factor in the complex milieu of anthracycline cardiotoxicity. *Oxidative Medicine and Cellular Longevity*, 2017. <https://doi.org/10.1155/2017/1521020>

*DB-ALM Protocol n ° 216 : Cell culture protocol for the SH-SY5Y neuroblastoma cell line Résumé.* (2015). 681002, 1–7.

Degerstedt, O., O'Callaghan, P., Clavero, A. L., Gråsjö, J., Eriksson, O., Sjögren, E., Hansson, P., Heindryckx, F., Kreuger, J., & Lennernäs, H. (2024). Quantitative imaging of doxorubicin diffusion and cellular uptake in biomimetic gels with human liver tumor cells. *Drug Delivery and Translational Research*, 14(4), 970–983. <https://doi.org/10.1007/s13346-023-01445-1>

El-Agamy, S. E., Abdel-Aziz, A. K., Esmat, A., & Azab, S. S. (2019). Chemotherapy and cognition: comprehensive review on doxorubicin-induced chemobrain. In *Cancer Chemotherapy and Pharmacology* (Vol. 84, Issue 1). Springer Verlag. <https://doi.org/10.1007/s00280-019-03827-0>

Fares, J., Fares, M. Y., Khachfe, H. H., Salhab, H. A., & Fares, Y. (2020). Molecular principles of metastasis: a hallmark of cancer revisited. *Signal Transduction and Targeted Therapy*, 5(1). <https://doi.org/10.1038/s41392-020-0134-x>

Fiód Riccio, B. V., Fonseca-Santos, B., Colerato Ferrari, P., & Chorilli, M. (2020). Characteristics, Biological Properties and Analytical Methods of Trans-Resveratrol: A Review. *Critical Reviews in Analytical Chemistry*, 50(4), 339–358. <https://doi.org/10.1080/10408347.2019.1637242>

Franco-Campos, F., Fernández-Franzón, M., Rodríguez-Carrasco, Y., & Ruiz, M. J. (2025). Establishing a 3D Spheroid Model of Cholinergic Neurons from SH-SY5Y Cells for Neurotoxicity Assessment. *Toxins*, 17(7), 336.

Garniasih, R. D., Windiastuti, E., & Gatot, D. (2016). Karakteristik dan Kesintasan Neuroblastoma pada Anak di Departemen Ilmu Kesehatan Anak Fakultas Kedokteran Universitas Indonesia Rumah Sakit Cipto Mangunkusumo. *Sari Pediatri*, 11(1), 39. <https://doi.org/10.14238/sp11.1.2009.39-46>

Gueguen, N., Desquiret-Dumas, V., Leman, G., Chupin, S., Baron, S., Nivet-Antoine, V., Vessières, E., Ayer, A., Henrion, D., Lenaers, G., Reynier, P., & Procaccio, V. (2015). Resveratrol directly binds to mitochondrial complex i and increases oxidative stress in brain mitochondria of aged mice. *PLoS ONE*, 10(12), 1–19. <https://doi.org/10.1371/journal.pone.0144290>

He, L., Wennerberg, K., Aittokallio, T., & Tang, J. (2015). *User Instructions and Tutorials of the Synergyfinder Package*. 1–18.

Izycki, D., Niezgoda, A., Kaźmierczak, M., & Nowak-Markwitz, E. (2016). Chemotherapy-induced peripheral neuropathy - epidemiology and pathogenesis. *Ginekologia Polska*, 87(4), 293–299. <https://doi.org/10.17772/gp/61750>

Jin, X., Wei, Y., Liu, Y., Lu, X., Ding, F., Wang, J., & Yang, S. (2019). Resveratrol promotes sensitization to Doxorubicin by inhibiting epithelial-mesenchymal transition and modulating SIRT1/β-catenin signaling pathway in breast cancer. *Cancer Medicine*, 8(3), 1246–1257. <https://doi.org/10.1002/cam4.1993>

Kalyanaraman, B. (2020). Teaching the basics of the mechanism of doxorubicin-induced cardiotoxicity: Have we been barking up the wrong tree? *Redox Biology*, 29(November 2019), 101394. <https://doi.org/10.1016/j.redox.2019.101394>

Kamińska, K., & Cudnoch-Jędrzejewska, A. (2023). A Review on the Neurotoxic Effects of Doxorubicin. In *Neurotoxicity Research* (Vol. 41, Issue 5, pp. 383–397). Springer. <https://doi.org/10.1007/s12640-023-00652-5>

Kamran, S., Sinniah, A., Chik, Z., & Alshawsh, M. A. (2022). Diosmetin Exerts Synergistic Effects in Combination with 5-Fluorouracil in Colorectal Cancer Cells. *Biomedicines*, 10(3). <https://doi.org/10.3390/biomedicines10030531>

Kciuk, M., Gielecińska, A., Mujwar, S., Kołat, D., Kalużajska-Kołat, Ż., Celik, I., & Kontek, R. (2023). Doxorubicin—An Agent with Multiple Mechanisms of Anticancer Activity. *Cells*, 12(4), 26–32. <https://doi.org/10.3390/cells12040659>

Kim, T. H., Shin, Y. J., Won, A. J., Lee, B. M., Choi, W. S., Jung, J. H., Chung, H. Y., & Kim, H. S. (2014). Resveratrol enhances chemosensitivity of doxorubicin in multidrug-resistant human breast cancer cells via increased cellular influx of doxorubicin. *Biochimica et Biophysica Acta - General Subjects*, 1840(1), 615–625. <https://doi.org/10.1016/j.bbagen.2013.10.023>

Klanl, M. H., Ahmad, M., & Masood, M. I. (2016). *Through Chemotherapy : a Historical Review*. 10.

Krakhmal, N. V., Zavyalova, M. V., Denisov, E. V., Vtorushin, S. V., & Perelmuter, V. M. (2015). Cancer invasion: Patterns and mechanisms. *Acta Naturae*, 7(2), 17–28. <https://doi.org/10.32607/20758251-2015-7-2-17-28>

Lee, S. H., & Lee, Y. J. (2021). Synergistic anticancer activity of resveratrol in combination with docetaxel in prostate carcinoma cells. *Nutrition Research and Practice*, 15(1), 12–25. <https://doi.org/10.4162/nrp.2021.15.1.12>

Leis, K., Baska, A., Bereznicka, W., Marjańska, A., Mazur, E., Lewandowski, B. T., Kałuzny, K., & Gałazka, P. (2020). Resveratrol in the treatment of neuroblastoma: a review. In *Reviews in the Neurosciences* (Vol. 31, Issue 8, pp. 873–881). De Gruyter Open Ltd. <https://doi.org/10.1515/revneuro-2020-0021>

Loh, C. Y., Chai, J. Y., Tang, T. F., Wong, W. F., Sethi, G., Shanmugam, M. K., Chong, P. P., & Looi, C. Y. (2019). The e-cadherin and n-cadherin switch in epithelial-to-mesenchymal transition: Signaling, therapeutic implications, and challenges. In *Cells* (Vol. 8, Issue 10). <https://doi.org/10.3390/cells8101118>

Lopez-Suarez, L., Awabdh, S. Al, Coumoul, X., & Chauvet, C. (2022). The SH-SY5Y human neuroblastoma cell line, a relevant in vitro cell model for investigating neurotoxicology in human: Focus on organic pollutants. *NeuroToxicology*, 92(July), 131–155. <https://doi.org/10.1016/j.neuro.2022.07.008>

Majidpoor, J., & Mortezaee, K. (2021). Steps in metastasis: an updated review. *Medical Oncology*, 38(1), 1–17. <https://doi.org/10.1007/s12032-020-01447-w>

Marioli-Sapsakou, G. K., & Kourti, M. (2021). Targeting production of reactive oxygen species as an anticancer strategy. *Anticancer Research*, 41(12), 5881–5902. <https://doi.org/10.21873/anticanres.15408>

Namkaew, J., Jaroonwitchawan, T., Rujanapun, N., Saelee, J., & Noisa, P. (2018a). Combined effects of curcumin and doxorubicin on cell death and cell migration of SH-SY5Y human neuroblastoma cells. *In Vitro Cellular and Developmental Biology - Animal*, 54(9), 629–639. <https://doi.org/10.1007/s11626-018-0288-9>

Namkaew, J., Jaroonwitchawan, T., Rujanapun, N., Saelee, J., & Noisa, P. (2018b). Combined effects of curcumin and doxorubicin on cell death and cell migration of SH-SY5Y human neuroblastoma cells. *In Vitro Cellular and Developmental Biology - Animal*, 54(9), 629–639. <https://doi.org/10.1007/s11626-018-0288-9>

Nasution, M. T. rizky R. (2019). *PENGARUH PEMBERIAN AMLODIPIN DOSIS 5 µM TERHADAP EKSPRESI PROTEIN NRF2 PADA KULTUR SEL NEURON SH-SY5Y YANG DIINDUKSI GLUKOSA 25 mM.*

National Center for Biotechnology Information. (2025). *PubChem Compound Summary for CID 31703, Doxorubicin*. <https://pubchem.ncbi.nlm.nih.gov/compound/Doxorubicin>

Nayak, P., Bentivoglio, V., Varani, M., & Signore, A. (2023). Three-Dimensional In Vitro Tumor Spheroid Models for Evaluation of Anticancer Therapy: Recent Updates. In *Cancers* (Vol. 15, Issue 19). Multidisciplinary Digital Publishing Institute (MDPI). <https://doi.org/10.3390/cancers15194846>

Ncube, K. N., Jurgens, T., Steenkamp, V., Cromarty, A. D., van den Bout, I., & Cordier, W. (2023). Comparative Evaluation of the Cytotoxicity of Doxorubicin in BT-20 Triple-Negative Breast Carcinoma Monolayer and Spheroid Cultures. *Biomedicines*, 11(5). <https://doi.org/10.3390/biomedicines11051484>

Nguyen, C., Baskaran, K., Pupulin, A., Ruvinov, I., Zaitoon, O., Grewal, S., Scaria, B., Mehadli, A., Vegh, C., & Pandey, S. (2019). Hibiscus flower extract

- selectively induces apoptosis in breast cancer cells and positively interacts with common chemotherapeutics. *BMC Complementary and Alternative Medicine*, 19(1). <https://doi.org/10.1186/s12906-019-2505-9>
- Olsen, E. D. (1986). Analytical chemistry, fourth edition (Christian, Gary D.). In *Journal of Chemical Education* (Vol. 63, Issue 11). <https://doi.org/10.1021/ed063pa277.3>
- Ong, M. S., Deng, S., Halim, C. E., Cai, W., Tan, T. Z., Huang, R. Y. J., Sethi, G., Hooi, S. C., Kumar, A. P., & Yap, C. T. (2020). Cytoskeletal proteins in cancer and intracellular stress: A therapeutic perspective. *Cancers*, 12(1), 1–24. <https://doi.org/10.3390/cancers12010238>
- Pan, R., Yang, X., Ning, K., Xie, Y., Chen, F., & Yu, L. (2023). Recapitulating the drifting and fusion of two-generation spheroids on concave agarose microwells. *International Journal of Molecular Sciences*, 24(15), 11967.
- Peter, S., Alven, S., Maseko, R. B., & Aderibigbe, B. A. (2022). Doxorubicin-Based Hybrid Compounds as Potential Anticancer Agents: A Review. *Molecules*, 27(14), 1–20. <https://doi.org/10.3390/molecules27144478>
- Pezzuto, J. M. (2019). Resveratrol: Twenty years of growth, development and controversy. In *Biomolecules and Therapeutics* (Vol. 27, Issue 1, pp. 1–14). Korean Society of Applied Pharmacology. <https://doi.org/10.4062/biomolther.2018.176>
- Pilco-Ferreto, N., & Calaf, G. M. (2016). Influence of doxorubicin on apoptosis and oxidative stress in breast cancer cell lines. *International Journal of Oncology*, 49(2), 753–762. <https://doi.org/10.3892/ijo.2016.3558>
- Pourjafar, M., & Tiwari, V. K. (2024). Plasticity in cell migration modes across development, physiology, and disease. *Frontiers in Cell and Developmental Biology*, 12(April), 1–9. <https://doi.org/10.3389/fcell.2024.1363361>
- Preti, K., & Davis, M. E. (2024). Chemotherapy-Induced Peripheral Neuropathy: Assessment and Treatment Strategies for Advanced Practice Providers. *Clinical Journal of Oncology Nursing*, 28(4), 351–357. <https://doi.org/10.1188/24.CJON.351-357>

Pudhuvai, B., Beneš, K., Čurn, V., Bohata, A., Lencova, J., Vrzalova, R., Barta, J., & Matha, V. (2024). The Daunomycin: Biosynthesis, Actions, and the Search for New Solutions to Enhance Production. *Microorganisms*, 12(12), 1–20. <https://doi.org/10.3390/microorganisms12122639>

Rai, G., Mishra, S., Suman, S., & Shukla, Y. (2016). Resveratrol improves the anticancer effects of doxorubicin in vitro and in vivo models: A mechanistic insight. *Phytomedicine*, 23(3), 233–242. <https://doi.org/10.1016/j.phymed.2015.12.020>

Ramazanov, B. R., Khusnutdinov, R. R., Galembikova, A. R., Dunaev, P. D., & Boichuk, S. V. (2016). Role of P53 protein in activation of atm- and parp-mediated dna damage repair (DDR) pathways induced by topoisomerase type II inhibitors. *Kazanskiy Meditsinskiy Zhurnal*, 97(2), 245–249. <https://doi.org/10.17750/kmj2016-245>

Ramazi, S., Salimian, M., Allahverdi, A., Kianamiri, S., & Abdolmaleki, P. (2023). Synergistic cytotoxic effects of an extremely low-frequency electromagnetic field with doxorubicin on MCF-7 cell line. *Scientific Reports*, 13(1), 1–13. <https://doi.org/10.1038/s41598-023-35767-4>

Rute, A., & Pina, D. A. (2015). *A membrane biophysical approach to the therapeutic effects of resveratrol and design of novel nutraceutical nanoformulations*.

Salehi, B., Mishra, A. P., Nigam, M., Sener, B., Kilic, M., Sharifi-Rad, M., Fokou, P. V. T., Martins, N., & Sharifi-Rad, J. (2018). Resveratrol: A double-edged sword in health benefits. In *Biomedicines* (Vol. 6, Issue 3). MDPI AG. <https://doi.org/10.3390/biomedicines6030091>

Shakeri, R., Kheirollahi, A., & Davoodi, J. (2017). Apaf-1: Regulation and function in cell death. *Biochimie*, 135, 111–125. <https://doi.org/10.1016/j.biochi.2017.02.001>

Sripatharan, S., & Sivalingam, N. (2021). A comprehensive review on time-tested anticancer drug doxorubicin. In *Life Sciences* (Vol. 278). Elsevier Inc. <https://doi.org/10.1016/j.lfs.2021.119527>

Strasser, A., & Vaux, D. L. (2020). Cell Death in the Origin and Treatment of Cancer. *Molecular Cell*, 78(6), 1045–1054.

<https://doi.org/10.1016/j.molcel.2020.05.014>

Tchoryk, A., Taresco, V., Argent, R. H., Ashford, M., Gellert, P. R., Stolnik, S., Grabowska, A., & Garnett, M. C. (2019). Penetration and uptake of nanoparticles in 3D tumor spheroids. *Bioconjugate Chemistry*, 30(5), 1371–1384. <https://doi.org/10.1021/acs.bioconjchem.9b00136>

Thorn, C. F., Oshiro, C., Marsh, S., Hernandez-Boussard, T., McLeod, H., Klein, T. E., & Altman, R. B. (2011). Doxorubicin pathways: Pharmacodynamics and adverse effects. *Pharmacogenetics and Genomics*, 21(7), 440–446. <https://doi.org/10.1097/FPC.0b013e32833ffb56>

Tilsed, C. M., Fisher, S. A., Nowak, A. K., Lake, R. A., & Lesterhuis, W. J. (2022). Cancer chemotherapy: insights into cellular and tumor microenvironmental mechanisms of action. *Frontiers in Oncology*, 12(July), 1–18. <https://doi.org/10.3389/fonc.2022.960317>

Torrico Guzmán, E. A., Gravely, M., & Meenach, S. A. (2024). Evaluation of the Cancer-Preventive Effect of Resveratrol-Loaded Nanoparticles on the Formation and Growth of In Vitro Lung Tumor Spheroids. *Pharmaceutics*, 16(12). <https://doi.org/10.3390/pharmaceutics16121588>

Usman, S., Waseem, N. H., Khanh, T., Nguyen, N., Mohsin, S., Jamal, A., Teh, M., & Waseem, A. (2021). Vimentin Is at the Heart of Epithelial Mesenchymal Transition. *Cancers*, 1–26.

van der Zanden, S. Y., Qiao, X., & Neefjes, J. (2021). New insights into the activities and toxicities of the old anticancer drug doxorubicin. *FEBS Journal*, 288(21), 6095–6111. <https://doi.org/10.1111/febs.15583>

Van Ravenstein, S. X., Mehta, K. P., Kavlashvili, T., Byl, J. A. W., Zhao, R., Osheroff, N., Cortez, D., & Dewar, J. M. (2022). Topoisomerase II poisons inhibit vertebrate DNA replication through distinct mechanisms. *The EMBO Journal*, 41(12), 1–17. <https://doi.org/10.15252/embj.2022110632>

Vervandier-Fasseur, D., & Latruffe, N. (2019). The potential use of resveratrol for cancer prevention. *Molecules*, 24(24). <https://doi.org/10.3390/molecules24244506>

Viwatpinyo, K., Mukda, S., & Warinhomhoun, S. (2023). Effects of mitragynine on viability, proliferation, and migration of C6 rat glioma, SH-SY5Y human neuroblastoma, and HT22 immortalized mouse hippocampal neuron cell lines. *Biomedicine and Pharmacotherapy*, 166, 115364. <https://doi.org/10.1016/j.biopha.2023.115364>

Walle, T. (2011). Bioavailability of resveratrol. *Annals of the New York Academy of Sciences*, 1215(1), 9–15. <https://doi.org/10.1111/j.1749-6632.2010.05842.x>

Wu, B. Bin, Leung, K. T., & Poon, E. N. (2022). *Mitochondrial-Targeted Therapy for Doxorubicin-Induced Cardiotoxicity*.

Xiao, Q., Zhu, W., Feng, W., Lee, S. S., Leung, A. W., Shen, J., Gao, L., & Xu, C. (2019). A review of resveratrol as a potent chemoprotective and synergistic agent in cancer chemotherapy. In *Frontiers in Pharmacology* (Vol. 9, Issue JAN). Frontiers Media S.A. <https://doi.org/10.3389/fphar.2018.01534>

Xing, C., Kemas, A., Mickols, E., Klein, K., Artursson, P., & Lauschke, V. M. (2024). The choice of ultra-low attachment plates impacts primary human and primary canine hepatocyte spheroid formation, phenotypes, and function. *Biotechnology Journal*, 19(2). <https://doi.org/10.1002/biot.202300587>

Xu, J., Liu, D., Niu, H., Zhu, G., Xu, Y., Ye, D., Li, J., & Zhang, Q. (2017). Resveratrol reverses Doxorubicin resistance by inhibiting epithelial-mesenchymal transition (EMT) through modulating PTEN/Akt signaling pathway in gastric cancer. *Journal of Experimental and Clinical Cancer Research*, 36(1), 1–14. <https://doi.org/10.1186/s13046-016-0487-8>

Xu, N., Wang, L., Fu, S., & Jiang, B. (2021). Resveratrol is cytotoxic and acts synergistically with NF-κB inhibition in osteosarcoma MG-63 cells. *Archives of Medical Science*, 17(1), 166–176. <https://doi.org/10.5114/aoms.2020.100777>

Yu, X. D., Yang, J. lei, Zhang, W. L., & Liu, D. X. (2016). Resveratrol inhibits oral squamous cell carcinoma through induction of apoptosis and G2/M phase cell cycle arrest. *Tumor Biology*, 37(3), 2871–2877. <https://doi.org/10.1007/s13277-015-3793-4>

Yun, C., Kim, S. H., Kim, K. M., Yang, M. H., Byun, M. R., Kim, J. H., Kwon, D., Pham, H. T. M., Kim, H. S., Kim, J. H., & Jung, Y. S. (2024). Advantages of

Using 3D Spheroid Culture Systems in Toxicological and Pharmacological Assessment for Osteogenesis Research. In *International Journal of Molecular Sciences* (Vol. 25, Issue 5). Multidisciplinary Digital Publishing Institute (MDPI). <https://doi.org/10.3390/ijms25052512>

Zanoni, M., Piccinini, F., Arienti, C., Zamagni, A., Santi, S., Polico, R., Bevilacqua, A., & Tesei, A. (2016). 3D tumor spheroid models for in vitro therapeutic screening: A systematic approach to enhance the biological relevance of data obtained. *Scientific Reports*, 6. <https://doi.org/10.1038/srep19103>

Zhang, J., Wang, X., Vikash, V., Ye, Q., Wu, D., Liu, Y., & Dong, W. (2016). ROS and ROS-Mediated Cellular Signaling. *Oxidative Medicine and Cellular Longevity*, 2016(Figure 1). <https://doi.org/10.1155/2016/4350965>

