

DAFTAR PUSTAKA

- Abreu, R., L. O. Penalva, E. M. Marcotte, C. Vogel, . 2009. Global signatures of protein and mRNA expression levels. *Molecular BioSystems*. 5(12): 1512–1526.
- Adefolaju, G. A., K. Theron, M. J. Hosie. 2015. BAX/BCL-2 mRNA and protein expression in human breast MCF-7 cells exposed to drug vehicles-methanol and dimethyl sulfoxide (DMSO) for 24 hrs. *Niger Med J*. 56(3): 169–174.
- Aggarwal, A., M. Jamwal, G. K. Viswanathan, P. Sharma, M. U. S. Sachdeva, D. Bansal, P. Malhotra, R. Das. 2018. Optimal Reference Gene Selection for Expression Studies in Human Reticulocytes. *Journal of Molecular Diagnostics*. 20(3): 326–333.
- Akbora, D. H., I. Kunter, T. Ercetin, A. Murat Elagoz, B. A. Cicek. 2019. Determination of Tetrodotoxin (TTX) Levels in Various Tissues of the Silver Cheeked Pufferfish (*Lagocephalus sceleratus* (Gmelin, 1789)) in Northern Cyprus Sea (Eastern Mediterranean). *Toxicon*. 175: 1-6.
- Alhoshani, A., F. O. Alatawi, H. M. Korashy. 2020. BCL-2 Inhibitor Venetoclax Induces Autophagy-Associated Cell Death, Cell Cycle Arrest, and Apoptosis in Human Breast Cancer. *OncoTargets and Therapy*. 13: 13357–13370.
- Amaral C. R. L., P. M. Brito, D. A. Silva, E. F. Carvalho. 2013. A New Cryptic Species of South American Freshwater Pufferfish of the Genus *Colomesus* (Tetraodontidae), Based on Both Morphology and DNA Data. *Plos One* 8(9): 1-9.
- Amith, S. R., J. M. Wilkinson, L. Fliegel. 2016. Assessing Na⁺/H⁺ exchange and cell effector functionality in metastatic breast cancer. *Biochimie Open*. 2: 16-23.
- Angus, M., P. Ruben. (2019). Voltage Gated Sodium Channels in Cancer and Their Potential Mechanisms of Action. *Channels*. 13(1): 400-409.
- Apte, S. S., M. G. Mattei, B. R. Olsen. 1995. Mapping of the human BAX gene to chromosome 19q13.3-q13.4 and isolation of a novel alternatively spliced transcript, BAX δ . *Genomics*. 26(3): 592–594.
- Arango M. T., P. Quintero-Ronderos, J. Castiblanco J, et al. 2013. *Cell culture and cell analysis*. In: Anaya JM, Shoenfeld Y, Rojas-Villarraga A, et al., editors. Autoimmunity: From Bench to Bedside [Internet]. Bogota (Colombia): El Rosario University. Chapter 45.
- Bah, N., L. Maillet, J. Ryan, S. Dubreil, F. Gautier, A. Letai, P. Juin, S. Barillé-Nion. 2014. Bcl-xL controls a switch between cell death modes during mitotic arrest. *Cell Death & Disease*. 5(6): 1–11.
- Barrientos, R. G., G. Hernández-Mora, F. Alegre, T. Field, L. Flewelling, S. McGrath, and B. A. Stacy. 2019. Saxitoxin Poisoning in Green Turtles (*Chelonia mydas*) Linked to Scavenging on Mass Mortality of Caribbean Sharpnose Puffer Fish (*Canthigaster rostrata*-Tetraodontidae). *Frontiers in Veterinary Science*. 6(466): 1-6.
- Berkovitz, B., P. Shellis. 2017. Bony fishes. *The Teeth of Non-Mammalian*

Vertebrates 43–111.

- Bhattacharya, T. K. 2020. Application of genomics tools in meat quality evaluation. In *Meat Quality Analysis: Advanced Evaluation Methods, Techniques, and Technologies*. Elsevier Inc.
- Blanco, A., & Blanco, G. (2017). Apoptosis. *Medical Biochemistry*, 791–796.
- Boitano, S., M.L. Woodruff, E. R. Dirksen. 1997. Reduction of extracellular Na⁺ causes a release of Ca²⁺ from internal stores in airway epithelial cells. *American Journal of Physiology-Lung Cellular and Molecular Physiology*. 272(6): 1189–1197.
- Brown, D. A., N. Yang, S. D. Ray. 2014. Apoptosis. *Encyclopedia of Toxicology: Third Edition*. 1: 287–294.
- Butler, J. M. 2012. DNA Quantitation. *Advanced Topics in Forensic DNA Typing*. 49–67.
- Camarillo, I. G., F. Xiao, S. Madhivanan, T. Salameh, M. Nichols, L. M. Reece, J. F. Leary, K. Otto, A. Natarajan, A. Ramesh, R. Sundararajan. 2014. Low and high voltage electrochemotherapy for breast cancer: an in vitro model study. In *Electroporation-Based Therapies for Cancer*. Woodhead Publishing Limited. 55–102.
- Campbell, K., S. Haughey. 2014. *Tetrodotoxin*. UK: Queen's University Belfast.
- Candenas, L., M. Seda, P. Noheda, H. Buschamann, C. G. Cintado, J. D Martin, F. M. Pinto. 2006. Molecular diversity of voltage-gated sodium channel α and β subunit mRNAs in human tissues. *Eur J Pharmacol*. 541: 9-16.
- Chang, G., J. Wang, H. Zhang, Y. Zhang, C. Wang, H. Xu, T. Pang. 2014. CD44 targets Na⁺/H⁺ exchanger 1 to mediate MDA-MB-231 cells metastasis via the regulation of ERK1/2. *British Journal of Cancer*. 110(4): 916-927.
- Chaplin, M. 2007. *Water's hydrogen bond strength*. in *Water and Life*, edited by R. M. Lynden-Bell, S. Conway Morris, J. D. Barrow, J. L. Finney, and C. L. Harper, Jr. pp. 69–86; e-print.
- Chaudhary, K. K., N. Mishra. 2016. A Review on Molecular Docking: Novel Tool for Drug Discovery. *JSM Chemistry*. 4(3): 1029.
- Cheema, S. K., S. K. Mishra, V. M. Rangnekar, A. M. Tari, R. Kumar, G. Lopez-Berestein, G. 2003. Par-4 Transcriptionally Regulates Bcl-2 through a WT1-binding Site on the bcl-2 Promoter. *Journal of Biological Chemistry*. 278(22): 19995–20005.
- Chen, K., Z. Hu, L. E. Wang, E. M. Sturgis, A. K. El-Naggar, W. Zhang, Q. Wei. 2007. Single-nucleotide polymorphisms at the TP53-binding or responsive promoter regions of BAX and BCL2 genes and risk of squamous cell carcinoma of the head and neck. *Carcinogenesis*. 28(9): 2008–2012.
- Chen, G., Z. Jia, L. Wang, T. Hu. 2020. Effect of acute exposure of saxitoxin on development of zebrafish embryos (*Danio rerio*). *Environmental Research*. 185: 109432.
- Chen, J., R. Zhang, X. Ou, D. Yao, Z. Huang, L. Li, B. Sun, B. 2017. Primers and probe design and precision assessment of the real time RT-PCR assay in

- Coxsackievirus A10 and enterovirus detection. *Data in Brief*. 12: 418–422.
- Chen, X., X. Zhang, Y. Lu, J. Y. Shim, S. Sang, Z. Sun, X. Chen. 2012. Chemoprevention of 7,12-dimethylbenz[a]anthracene (DMBA)-induced Hamster Cheek Pouch Carcinogenesis by a 5-Lipoxygenase Inhibitor, Garcinol. *Nutrition and Cancer*. 64(8):1211–1218.
- Chulanetra, M., N. Sookrung, P. Srimanote, N. Indrawattana, J. Thanongsaksrikul, Y. Sakolvaree, and W. Chaicumpa. 2011. Toxic Marine Puffer Fish in Thailand Seas and Tetrodotoxin They Contained. *Toxins*. 3(10): 1249–1262.
- Colombel, Vacherot, Gill Diez, Fontaine, Buttyan, Chopin. 1998. Zonal variation of apoptosis and proliferation in the normal prostate and in benign prostatic hyperplasia. *British Journal of Urology*. 82(3): 380-385.
- Cos, S., M. D. Mediavilla, R. Fernandez, D. Gonzalez-Lamuno, E. J. Sanchez-Barcelo. 2002. Does melatonin induce apoptosis in MCF-7 human breast cancer cells in vitro. *Journal of Pineal Research*. 32(2): 90-96.
- D'Costa, N. M., M. R. Lowerison, P. A. Raven, Z. Tan, M. E. Roberts, R. Shrestha, A. I. So. 2020. Y-box binding protein-1 is crucial in acquired drug resistance development in metastatic clear-cell renal cell carcinoma. *Journal of Experiment & Clinical Cancer Research*. 39(1): 1-16.
- Dekkers, W. J. 1975. Review of the Asiatic Freshwater Puffers of The Genus *Tetraodon* Linnaeus, 1758 (Pisces, Tetraodontiformes, Tetraodontidae). *Bijdragen Tot De*. 45(1): 88-141.
- Dhorajiwala, T. M., S. T. Halder, L. Samant. 2019. Comparative In Silico Molecular Docking Analysis of L-Threonine-3-Dehydrogenase, a Protein Target Against African Trypanosomiasis Using Selected Phytochemicals. *J Appl Biotechnol*. 6(3):101-108.
- Du, X., Y. Li, Y. Xia, L. Ai, J. Liang, P. Sang, S. Q. Liu. 2016. Insights into protein-ligand interaction: mechanism, models, and methods. *International Journal of Molecular Sciences*. 17(2): 144.
- Dutordoir, R. M., A. D. A. Bates. 2016. Activation of apoptosis signaling pathways by reactive oxygen species. *Biochimica et Biophysica Acta (BBA). Molecular Cell Research*. 1863(12): 2977-2992.
- Edelman, L. B., J. A. Eddy, N. D. Price. 2009. In silico models of cancer. *Wiley Interdisciplinary Reviews: Systems Biology and Medicine*. 2(4): 438–459.
- Fairlie, W. D., S. Tran, E. F. Lee. 2020. Crosstalk between apoptosis and autophagy signaling pathways. *International Review of Cell and Molecular Biology*. 1(32): 115-158.
- Fani, S., F. Dehghan, H. Karimian, K. Mun Lo, S. Ebrahimi Nigjeh, Y. Swee Keong, N. Mohd Hashim. 2016. Monobenzyltin Complex C1 Induces Apoptosis in MCF-7 Breast Cancer Cells through the Intrinsic Signaling Pathway and through the Targeting of MCF-7-Derived Breast Cancer Stem Cells via the Wnt/ β -Catenin Signaling Pathway. *PLOS ONE*. 11(8): 1-20.
- Ferreira, L., R. Santos, G. Oliva, A. Andricopulo. 2015. Molecular Docking and Structure-Based Drug Design Strategies. *Molecules*. 20(7): 13384–13421.

- Fiebig, A. A., W. Zhu, C. Hollerbach, B. Leber, D. W. Andrews. 2006. Bcl-XL is qualitatively different from and ten times more effective than Bcl-2 when expressed in a breast cancer cell line. *BMC Cancer*. 6(1): 1-15.
- Fouda, F. M. 2005. Anti-tumor activity of tetrodotoxin extracted from the masked puffer fish *Arothron diademantus*. *Egyptian Journal of Biology*. 7 : 1-13.
- Fraser, S. P., J. K. Diss, A. M. Chioni, M. Mycielska, H. Pan, R. F. Yamaci, 2005. Voltage-gated sodium channel expression and potentiation of human breast cancer metastasis. *Clin Cancer Res*. 11: 5381–5389.
- Fu, N. Y., S. K. Sukumaran, S. Y. Kerk, V. C. Yu. 2009. Bax β : A Constitutively Active Human Bax Isoform that Is under Tight Regulatory Control by the Proteasomal Degradation Mechanism. *Molecular Cell*. 33(1): 15–29.
- Fu, Y., J. Mei, J Zhao. 2019. Probing molecular docking problem by an improved quantum-behaved particle swarm optimization algorithm. *Journal of Algorithms & Computational Technology*. 13: 1–13.
- Fulda, S., E. Meyer, K. Debatin. 2002. Inhibition of TRAIL-induced apoptosis by Bcl-2 overexpression. *Oncogene*. 21: 2283-2294.
- Genchi, G., M. S. Sinicropi, G. Lauria, A. Carocci, A. Catalano. 2020. The effects of cadmium toxicity. *International Journal of Environmental Research and Public Health*. 17(11): 1–24.
- Gomes, I., K. Becker, M.A Rothschild, P. M. Schneider. 2013. Validation study of endogenous reference genes for normalization of quantitative real time PCR data in post mortem skin tissue. *Forensic Science International: Genetics Supplement Series*. 4(1): 156–157.
- Gradek, F., L. O. Charcas, S. Chadet, L. Poisson, L. Ouldamer, C. Goupille, M. L. Jourdan, S. Chevalier, D. Moussata, P. Besson, and S. Roger. 2019. Sodium Channel Nav1.5 Controls Epithelial-to-Mesenchymal Transition and Invasiveness in Breast Cancer Cells Through its Regulation by the Salt-Inducible Kinase-1. *Scientific Reports*. 9(1): 18652.
- Grigolato, R., M. E. Bizzoca, L. Calabrese, S. Leuci, M. D. Mignogna, L.L. Muzio. 2020. Leukoplakia and immunology: New chemoprevention landscapes?. *International Journal of Molecular Sciences*. 21(18): 1–20.
- Godfrey, L., J. Kerry, R. Thorne, E. Repapi, J. O. J. Davies, M. Tapia, T. A Milne. 2017. MLL-AF4 binds directly to a BCL-2 specific enhancer and modulates H3K27 acetylation. *Experimental Hematology*. 47: 64–75.
- Guo, J., Y. Lao, D. C. Chang. 2009. Calcium and Apoptosis. *Handbook of Neurochemistry and Molecular Neurobiology*. 597–622.
- Guo, C. F., H. P. Pan, L. H. Zhang, D. Ou, Z. T. Lu, M. M. Khan, B. L. Qiu. 2020. Comprehensive assessment of candidate reference genes for gene expression studies using rt-qpcr in tamarixia radiata, a predominant parasitoid of diaphorina citri. *Genes*. 11(10): 1–20.
- Gutta, C., A. Rahman, C. Aura, P. Dynoodt, E. M Charles, E. Hirschenhahn, J. Joseph, J. Wouters, C. Chaumont, M. Rafferty, M. Warren, J. J van den Oord, W. M.Gallagher, M. Rehm. 2020. Low expression of pro-apoptotic proteins Bax, Bak

and Smac indicates prolonged progression-free survival in chemotherapy-treated metastatic melanoma. *Cell Death and Disease*, 11(2): 1-12.

- Haas J, J. Manro J, Shannon H, et al. 2012. *In Vivo Assay Guidelines*. In: Markossian S, Grossman A, Brimacombe K, et al., editors. Assay Guidance Manual [Internet]. Bethesda (MD): Eli Lilly & Company and the National Center for Advancing Translational Sciences; 2004-.
- Haferkamp, B., H. Zhang, S. Kissinger, X. Wang, Y. Lin, M. Schultz, J. Xiang. 2013. Bax Δ 2 Family Alternative Splicing Salvages Bax Microsatellite-Frameshift Mutations. *Genes and Cancer*. 4(11–12): 501–512.
- Hanif, M. M., W. D. Putra, W. Lira, D. I. Roesma, D. H. Tjong. 2021. Antitumor potential of ovarian and skin extract Singkarak Lake Pufferfish (*Tetraodon leiurus*). *International Journal of Biology Research*. 6(3): 45-49.
- Hayes, B. L. 2010. The role of caspase-2 in stress-induced apoptosis. *Journal of Cellular and Molecular Medicine*. 14(6): 1212-1224.
- Hoebeeck, J., F. Speleman, J. Vandesompele. 2007. Real-time quantitative PCR as an alternative to southern blot or fluorescence in situ hybridization for detection of gene copy number changes. *Methods in Molecular Biology*. 353: 205–226.
- Hopkins, A. L., C. R. Groom. 2002. The druggable genome. *Nature Reviews Drug Discovery*. 1(9): 727-730.
- Hoy, M. A. 2013. DNA Amplification by the Polymerase Chain Reaction. *Insect Molecular Genetics*. 307-372.
- Hubbard, R. E., M. Kamran Haider. 2010. Hydrogen Bond in Proteins: Role and Strength. *Encyclopedia of Life Sciences*. 1-7.
- Inglis, G. D., J. Enkerli, M. S. Goettel. 2012. *Laboratory techniques used for entomopathogenic fungi*. Hypocreales. Manual of Techniques in Invertebrate Pathology (Second Edi). Elsevier Ltd.
- Jagadeeshan, S., M. M. Prasad, S. A. Nair. 2018. *Role of Deguelin in Chemoresistance*. In Role of Nutraceuticals in Chemoresistance to Cancer (1st ed., Vol. 2). Elsevier Inc.
- Jensen, K., D. J. WuWong, S. Wong, M. Matsuyama, S. Matsuyama. 2019. Pharmacological inhibition of Bax-induced cell death: Baxinhibiting peptides and small compounds inhibiting Bax. *Experimental Biology and Medicine*. 1–9.
- Jia, Y. (2012). Real-Time PCR. In *Methods in Cell Biology* (Vol. 112). Elsevier.
- Kemeny, L. V., A. Schnúr, M. Czepán, Z. Rakonczay, E. Gál, J. Lonovics, P. Hegyi. 2013. Na⁺/Ca²⁺ exchangers regulate the migration and proliferation of human gastric myofibroblasts. *American Journal of Physiology-Gastrointestinal and Liver Physiology*. 305(8): 552–563.
- Khodapasand, E., N. Jafarzadeh, F. Farrokhi, B. Kamalidehghan, M. Houshmand, M. 2015. Is Bax/Bcl-2 ratio considered as a prognostic marker with age and tumor location in colorectal cancer?. *Iranian Biomedical Journal*. 19(2): 69–75.
- Kholoussi, N. M., S. E. H. El-Nabi, N. N. Esmail, N. M. Abd El-Bary, A. F. El-Kased. 2014. Evaluation of Bax and Bak gene mutations and expression in breast cancer. *BioMed Research International*. 1-9

- Kim, H. Y., J. H. Kim, H. G. Jeong, C. H. Jin. 2021. Anti-diabetic effect of the lupinalbin A compound isolated from *Apios americana*: *In vitro* analysis and molecular docking study. *Biomed Rep.* 14(4): 1-5.
- Kirkin, V., S. Joos, M. Zo. 2004. *The role of Bcl-2 family members in tumorigenesis.* 1644: 229–249.
- Kleensang, A., M. Vantangoli, S. Odwin-DaCosta, M. E. Andersen, K. Boekelheide, M. Bouhifd, T. Hartung. 2016. Genetic variability in a frozen batch of MCF-7 cells invisible in routine authentication affecting cell function. *Scientific Reports.* 6(1): 1-11.
- Knudson, C. M., G. M. Johnson, Y. Lin, S. J. Korsmeyer. 2001. Bax accelerates tumorigenesis in p53-deficient mice. *Cancer Research.* 61(2): 659–665.
- Ko, E.Y., A. Moon. 2015. Natural Products for Chemoprevention of Breast Cancer. *Journal of Cancer Prevention.* 20(4): 223–231.
- Kolluru, S., R. Momoh, L. Lin, J. R. Mallareddy, J. L. Krstenansky. 2019. Identification of potential binding pocket on viral oncoprotein HPV16 E6: a promising anti-cancer target for small molecule drug discovery. *BMC Molecular and Cell Biology.* 20(1): 1-11.
- Kosker, A. R., F. Ozogul, M. Durmus, Y. Ucar, D. Ayas, J. M. Regenstein, and Y. Ozogul. 2016. Tetrodotoxin level in pufferfish (*Lagocephalus sceleratus*) caught in the Northeastern Mediterranean Sea. *Food Chemistry* 210: 332-337.
- Kumar, S., R. Nussinov. 2002. Close-Range Electrostatic Interactions in Proteins. *ChemBioChem* 3: 604-617.
- Kungsuwan, A., O. Arakawa, M. Promdet, Y. Onoue. 1997. Occurrence of paralytic shellfish poisons in thai freshwater puffers. *Toxicon.* 35(8): 1341-1346.
- Lagana, A., J. Vadnais, P. U. Le, T. N. Nguyen, R. Laprade, I. R. Nabi, and J. Noël. 2000. Regulation of the formation of tumor cell pseudopodia by the Na⁺/H⁺ exchanger NHE1. *Journal of Cell Science.* 113: 3649-3662.
- Lees, A., A. J. McIntyre, N. T. Crawford, F. Falcone, F., et al. 2020. The pseudo-caspase FLIP(L) regulates cell fate following p53 activation. *Proceedings of the National Academy of Sciences.* 117(30): 17808-17819.
- Lenaeus, M. J., T. M. Gamal El-Din, K. Ramanadane, R. Pomès, N. Zheng, and W. A. Catterall. 2017. Structures of closed and open states of a voltage-gated sodium channel. *Proceedings of the National Academy of Sciences.* 114(15): 3051–3060.
- Leung, L. K., T. T. Wang. 2000. Bcl-2 Is Not Reduced in the Death of MCF-7 Cells at Low Genistein Concentration. *The Journal of Nutrition.* 130(12): 2922–2926.
- Li, F., A. Liang, Y. Lv, G. Liu, A. Jiang, P. Liu. 2017. MicroRNA-200c Inhibits Epithelial-Mesenchymal Transition by Targeting the *BMI-1* Gene Through the Phospho-AKT Pathway in Endometrial Carcinoma Cells *In Vitro.* *Med Sci Monit,* 23: 5139-5149.
- Li, S., Q. B. Zhao, S. Wang, X. Yuan, Wang, K. Li. 2018. Quercetin reversed MDR in breast cancer cells through down-regulating P-gp expression and eliminating cancer stem cells mediated by YB-1 nuclear translocation. *Phytotherapy Research.* 32(8): 1530–1536.

- Li, S., J. Li, T. Hu, Z. Chuhong, X. Lv, S. He, H. Yan, Y. Tan, M. Wen, M. Lei, and j. Zuo. 2017. Bcl-2 overexpression contributes to laryngeal carcinoma cell survival by forming a complex with Hsp90 β . *Oncology Reports*. 37(2): 849–856.
- Lin, H. J., C. P. Tseng, C. F. Lin, M. H. Liao, C. M. Chen, S. T. Kao, J. C. Cheng. 2011. A Chinese Herbal Decoction Modified Yi Guan Jian, Induces apoptosis in hepatic Stellate cells through an ROS-mediated mitochondrial/caspase pathway. *Evidence-Based Complementary and Alternative Medicine*. 1-8.
- Lindeman, G. J., J. E. Visvader. 2013. *Targeting BCL-2 in breast cancer : exploiting a tumor lifeline to deliver a mortal blow ?*. 2: 1–4.
- Liu, H. 2020. Nav channels in cancers: Non-classical roles. *Global Journal of Cancer Therapy*. 6(1): 28-32.
- Liu, J., D. Liu, J. Liu, C. Zhao, S. Yao, and L. Hong. 2018. Blocking the Nav1.5 channel using eicosapentaenoic acid reduces migration and proliferation of ovarian cancer cells. *International Journal of Oncology*. 57(5): 1234.
- Liu, Z., Y. Ding, N. Ye, C. Wild, H. Chen, J. Zhou. 2015. Direct Activation of Bax protein for cancer therapy. *Medicinal Research Reviews*. 36(2): 313-341.
- Lobert, S., L. Hiser, J. J. Correia, J. J. 2010. Expression profiling of tubulin isotypes and microtubule-interacting proteins using real-time polymerase chain reaction. *Methods in Cell Biology*. 95: 47-58.
- Lobikin, M., B. Chernet, D. Lobo, M. Levin. 2012. Resting potential, oncogene-induced tumorigenesis, and metastasis: the bioelectric basis of cancer *in vivo*. *Phys Biol*. 9: 065002.
- Lockshin, R. A., Z. Zakeri. 2001. Programmed cell death and apoptosis: Origins of the theory. *Nature Reviews Molecular Cell Biology*. 2(7): 545–550.
- Lu, R. J. 1999. *Chapter 2. Neutron reflection study of globular protein adsorption at planar interface. Annual Reports Section "C" (Physical Chemistry)*, 95, 3.
- Luo, Q., T. Wu, W. Wu, G. Chen, X. Luo, L. Jiang, M. Deng. 2020. The functional role of voltage-gated sodium channel Nav1.5 in metastatic breast cancer. *Frontiers in Pharmacology*. 11: 1-10.
- Mahdavi, S., S. Kuyucak. 2015. Mechanism of ion permeation in mammalian voltage-gated sodium channels. *Methods in Cell Biology*. 95: 47-58.
- Maira, M. S., Pearson, M. A., Fabbro, D., C. García-Echeverría. 2007. Cancer Biology. *Comprehensive Medicinal Chemistry II*, 1–31.
- Malladi, S., M. Challa-Malladi, M., S. B. Bratton. 2010. *Apoptosis*. Comprehensive Toxicology: Second Edition. 543–578.
- Mansoori, B., A. Mohammadi, S. Davudian, S. Shirjang, B. Baradaran. 2017. The Different Mechanisms of Cancer Drug Resistance: A Brief Review. *Advanced Pharmaceutical Bulletin*. 7(3): 339–348.
- Matsuura, K. 2015. Taxonomy and Systematics of Tetraodontiform Fishes: A Review Focusing Primarily on Progress in the Period from 1980 to 2014. *Ichthyol Res*. 62: 72–113.
- Meijerink, J. P. P., Mensink, E. J. B. M., Wang, K., Sedlak, T. W., Slöetjes, A. W., De

- Witte, T., Waksman, G., & Korsmeyer, S. J. 1998. Hematopoietic malignancies demonstrate loss-of-function mutations of BAX. *Blood*. 91(8): 2991–2997.
- Meng, X. Y. H. X. Zhang, M. Mezei, M. Cui. 2011. Molecular docking: A powerful approach for structure-based drug discovery. *Current Computer Aided-Drug Design*. 7(2): 146-157.
- Mikhailov, V., M. Mikhailova, D. J. Pulkrabek, Z. Dong, M. A. Venkatachalam, P. Saikumar. 2001. Bcl-2 Prevents Bax Oligomerization in the Mitochondrial Outer Membrane. *Journal of Biological Chemistry*. 276(21): 18361–18374.
- Mushtaq, S., B. H. Abbasi, B. Uzair, R. Abbasi. 2018. Natural products as reservoirs of novel therapeutic agents. *EXCLI Journal*. 17: 420–451.
- Navarro, M. F., G. Salvesen. 2016. Apoptosis. *Encyclopedia of Cell Biology*. 3: 327-334.
- Nelson, W. M., G. W. Long, L. M. Cockrell. 2014. Multiplexed, lateral flow, polymerase chain reaction (PCR) techniques for biological identification. *Biological Identification: DNA Amplification and Sequencing, Optical Sensing, Lab-On-Chip and Portable Systems*. 54–68.
- Nestorov, J., G. Matić, I. Elaković, N. Tanić. 2013. Gene expression studies: How to obtain accurate and reliable data by quantitative real-time RT PCR. *Journal of Medical Biochemistry*. 32(4): 325–338.
- Nguyen, N. T., T. H. Nguyen, N. H. Pham, N. T. Huy, M. V. Bay, M. Pham, S. T. Ngo. 2019. Autodock vina adopts more accurate binding pose but Autodock4 forms better binding affinity. *Journal of chemical information and modeling*. 60: 204-211.
- Nicholson, D. W., G. Melino, G. 2013. Caspases and Cell Death. In *Encyclopedia of Biological Chemistry: Second Edition*. 1: 388-396.
- Nigjeh, S. E., F. M. Yusoff, N. B. Mohamed Alitheen, M. Rasoli, Y. S. Keong, R. A. Omar. 2013. Cytotoxic effect of ethanol extract of microalga *Chaetoceros calcitrans*, and its mechanism in inducing apoptosis in human breast cancer cell line. *BioMed Research International*. 1-8.
- Niizuma, H., Y. Nakamura, T. Ozaki, H. Nakanishi, M. Ohira, E. Isogai, H. Kageyama, H., M. Imaizumi, A. Nakagawara. 2006. Bcl-2 is a key regulator for the retinoic acid-induced apoptotic cell death in neuroblastoma. *Oncogene*. (25): 5046–5055.
- Noguchi, T., K. Onuki, and O. Arakawa. 2011. Tetrodotoxin Poisoning Due to Pufferfish and Gastropods, and Their Intoxication Mechanism. *ISRN Toxicology*. 1–10.
- Nontji, A. 2016. Danau Singkarak. http://www.limnologi.lipi.go.id/file/file_nontji/DANAU%20SINGKARAK.pdf
- Novikov, F. N., G. G. Chilov. 2009. Molecular docking: theoretical background, practical applications and perspectives. *Mendeleyev Communications*. 19(5): 237-242.
- Nuemket, N., N. Yasui, Y. Kusakabe, Y. Nomura, N. Atsumi, S. Akiyama, A. Yamashita. 2017. Structural basis for perception of diverse chemical substances by T1r taste receptors. *Nature Communications*. 8: 1-10.

- O'Neill, K. L., K. Huang, J. Zhang, Y. Chen, X. Luo. 2016. Inactivation of prosurvival Bcl-2 proteins activates Bax/Bak through the outer mitochondrial membrane. *Genes & Development*. 30(8): 973-988.
- Oltval, Z. N., C. L. Milliman, S. J. Korsmeyer, S. J. 1993. Bcl-2 heterodimerizes in vivo with a conserved homolog, Bax, that accelerates programmed cell death. *Cell*. 74(4): 609-619.
- Onel, B., M. Carver, G. Wu, D. Timonina, S. Kalarn, M. Larriva, D. Yang. 2016. A new G-Quadruplex with Hairpin Loop immediately upstream of the human Bcl2 P1 promoter modulates transcription. *Journal of the American Chemical Society*. 138(8): 2563-2570.
- Ouellette, R. J., J. D. Rawn. 2018. Alkene: structures and properties. *Organic Chemistry*. 135-165.
- Page, R. B., A. J. Stromberg. 2011. Linear methods for analysis and quality control of relative expression ratios from quantitative real-time polymerase chain reaction experiments. *TheScientificWorldJournal*. 11: 1383-1393.
- Pantsar, T., A. Poso. 2018. Binding Affinity via Docking: Fact and Fiction. *Molecules*. 23(8): 1-11.
- Parida, M. M. 2008. Rapid and real-time detection technologies for emerging viruses of biomedical importance. *Journal of Biosciences*. 33(4): 617-628.
- Park, S. J., M. K. Seo. 2011. Solid-solid interfaces. *Interface Science and Technology*. 253-331.
- Perez, S., I. Tyaroska. 2014. Carbohydrate-protein interactions. *Advances in Carbohydrate Chemistry and Biochemistry*. 9-136.
- Pistritto, G., D. Trisciuglio, C. Ceci, A. Garufi, G. D'Orazi. 2016. Apoptosis as anticancer mechanism: Function and dysfunction of its modulators and targeted therapeutic strategies. *Aging*. 8(4): 603-619.
- Pluta, P., P. Smolewski, A. Pluta, B. Cebula-Obrzut, A. Wierzbowska, D. Nejc, T. Robak, R. Kordek, L. Gottwald, J. Piekarski, A. Jeziorski. 2011. Significance of Bax expression in breast cancer patients. *Polski Przegląd Chirurgiczny/ Polish Journal of Surgery*. 83(10): 549-553.
- Puigserver, P. 2018. Signaling Transduction and Metabolomics. In *Hematology: Basic Principles and Practice*. 68-78.
- Qasaymeh, Rotondo, Oosthuizen, Lall, Seidel. 2019. Predictive Binding Affinity of Plant-Derived Natural Products Towards the Protein Kinase G Enzyme of *Mycobacterium tuberculosis* (MtPknG). *Plants*. 8(11): 477.
- Rao, S., K. Arora. 2020. Recent trends in molecular techniques for food pathogen detection. *Chemical Analysis of Food*. 177-285.
- Raphael, V. P., S. K. Shanmughan. 2020. Computational evaluation of the inhibition efficacies of HIV antivirals on SARS-CoV-2 (COVID-19) Protease and identification of 3D pharmacophore and hit compounds. *Advances in Pharmacological and Pharmaceutical Sciences*. 1-10.
- Rawindraraj, A. D., C. Y. Zhou, V. Pathak. 2018. Delayed breast cancer relapse with pleural metastasis and malignant pleural effusion after long periods of disease-

- free survival. *Respirology Case Reports*. 6(9): 1–3.
- Reboucas, E. de L., Costa, J. J. do N., Passos, M. J., Passos, J. R. de S., Hurk, R. van den, Silva, J. R. V. 2013. Real time PCR and importance of housekeeping genes for normalization and quantification of mRNA expression in different tissues. *Brazilian Archives of Biology and Technology*. 56(1): 143–154.
- Roberts, T. R. 1998. Freshwater fugu or pufferfishes of the genus *Tetraodon* from the Mekong basin, with descriptions of two new species. *Ichthyological Research*. 45(3): 225-234.
- Rodriguez-Lazaro, D., M. Hernández, M. 2014. *Identification Methods: Real-Time PCR*. Encyclopedia of Food Microbiology: Second Edition. 2: 344–350.
- Roger, S., J. Le Guennec, P. Besson. 2004. Particular sensitivity to calcium channel blockers of the fast inward voltage-dependent sodium current involved in the invasive properties of a metastatic breast cancer cell line. *Brit. J. Pharmacology* 141: 610–615.
- Ruijter, J. M., C. Ramakers, W. M. H. Hoogaars, Y. Karlen, O. Bakker, M. J. B. Van den hoff, A. F. M. Moorm. 2009. Amplification efficiency: Linking baseline and bias in the analysis of quantitative PCR data. *Nucleic Acids Research*. 37(6).
- Ruiz, D. L. M., R. L. Kraus. 2015. Voltage-gated sodium channels: structure, function, pharmacology, and clinical indications. *Journal of Medicinal Chemistry*. 58(18): 7093-7118.
- Ruyck, D. J., G. Brysbaert, R. Blossey, M. Lensink. 2016. Molecular docking as a popular tool in drug design, an in silico travel. *Advances and Applications in Bioinformatics and Chemistry*. 9: 1-11.
- Ryter, S. W., A. M. K. Choi. 2014. *Cell Death and Repair in Lung Disease*. In Pathobiology of Human Disease: A Dynamic Encyclopedia of Disease Mechanisms. Elsevier Inc.
- Salehi, H., S. Al-Arag, E. Middendorp, C. Gergely, F. Cuisinier, and V. Orti. 2018. Dental pulp stem cells used to deliver the anticancer drug paclitaxel. *Stem Cell Research and Therapy*. 9(1): 103.
- Sauerwald, T. M., A. Lewis, H. Dorai, M. J. Betenbaugh. 2011. *Apoptosis: The Signaling Pathways and Their Control*. In Comprehensive Biotechnology, Second Edition (Second Edi, Vol. 1). Elsevier B.V.
- Scheiner, S., T. Kar, J. Pattanayak. 2002. Comparison of various types of hydrogen bonds involving aromatic amino acids. *Journal of the American Chemical Society*. 124(44): 13257-13264.
- Schmid, H., C. D. Cohen, A. Henger, S. Irrgang, D. Schlöndorff, M. Kretzler. 2003. Validation of endogenous controls for gene expression analysis in microdissected human renal biopsies. *Kidney International*. 64(1): 356–360.
- Seto, M., U. Jaeger, R. D. Hockett, W. Graninger, S. Bennett, P. Goldman, S. J. Korsmeyer. 1988. Alternative promoters and exons, somatic mutation and deregulation of the Bcl-2-Ig fusion gene in lymphoma. *EMBO*. 7(1):123-31.
- Shan, Y., Y. Gao, W. Jin, M. Fan, Y. Wang, Y. Gu, and Q. Xu. 2019. Targeting HIBCH to reprogram valine metabolism for the treatment of colorectal cancer. *Cell*

Death & Disease 10(8).

- Sheets, M. F., H. A. Fozzard, D. A. Hanck. 2015. Important Role of Asparagines in Coupling the Pore and Voltage-Sensor Domain in Voltage-Gated Sodium Channels. *Biophysical Journal*, 109(11): 2277-2286.
- Shi, M., J. Gao, M. Q. Zhang. 2017. Web3DMol: interactive protein structure visualization based on WebGL. *Nucleic Acids Research*. 45(1): 523–527.
- Shono, T., A. P. Thiery, R. L. Cooper, D. Kurokawa, R. Britz, M. Okabe, and G. J. Fraser. 2019. Evolution and Developmental Diversity of Skin Spines in Pufferfishes. *iScience*. (19): 1248-1259.
- Silverman, G. A., E. D. Greent, R. L. Young, J. I. Jockel, P. H. Domeri, S. J. K. Ii. 1990. Meiotic recombination between yeast artificial chromosomes yields a single clone containing the entire BCL2 protooncogene. *Proc Natl Acad Sci U S A*. (87): 9913–9917.
- Singh, M., S. Suman, Y. Shukla. 2014. New enlightenment of skin cancer chemoprevention through phytochemicals: in vitro and in vivo studies and the underlying mechanism. *BioMed Research International*. 1-18.
- Sivaganesan, M., Seifring, S., Varma, M., Haugland, R. A., & Shanks, O. C. 2008. A Bayesian method for calculating real-time quantitative PCR calibration curves using absolute plasmid DNA standards. *BMC Bioinformatics*, 9.
- Subamia, I., N. Meilisza, Sudarto, and S. Sugito. (2008). Domestication of freshwater puffer fish or Buntal (*Tetraodon palembangensis*). *Indonesian Aquaculture Journal*. 3 (2): 133-138.
- Takahashi, H., M. C. Chen, H. Pham, H., Matsuo, Y. Ishiguro, H. Reber, H. A. Eibl. 2013. Simultaneous knock-down of Bcl-X_L and Mcl-1 induces apoptosis through Bax activation in pancreatic cancer cells. *Biochimica et Biophysica Acta (BBA) – Molecular Cell Research*. 1833(12): 2980-2987.
- Tamele, I. M. Silva, V. Vasconcelos. 2019. The incidence of tetrodotoxin and its analogs in the Indian ocean and the Red sea. *Marine Drugs*, 17(1): 28.
- Tan, S. N., Sim, S. P. 2018. Bile acids at neutral and acidic pH induce apoptosis and gene cleavages in nasopharyngeal epithelial cells: implications in chromosome rearrangement. *BMC Cancer*. 18(1): 1-18.
- Taylor, R. C., S. P. Cullen, S. J. Martin. (2008). Apoptosis: controlled demolition at the cellular level. *Nature Reviews Molecular Cell Biology*. 9(3): 231–241.
- Tichopad, A., M. Dilger, G. Schwarz, M. W. Pfaffl. 2003. Standardized determination of real-time PCR efficiency from a single reaction set-up. *Nucleic Acids Research*. 31(20): 2–7.
- Tor, Y. S., L. S. Yazan, J. B. Foo, A. Wibowo, N. Ismail, Y. K. Cheah, R. Abdullah, M. Ismail, I. S. Ismail, and S. K. Yeap. 2015. Induction of apoptosis in MCF-7 cells via oxidative stress generation, mitochondria-dependent and caspase-independent pathway by ethyl acetate extract of *Dillenia suffruticosa* and its chemical profile. *PLoS ONE*. 10(6): 1–25.
- Trisciuglio, D., M. G. Tupone, M. Desideri, M. Di Martile, C. Gabellini, S. Buglioni, D. Del Bufalo. 2017. BCL-XL overexpression promotes tumor progression-

- associated properties. *Cell Death & Disease*. 8(12): 1-15.
- Tsuda, K., S. Ikuma, M. Kawamura, R. Tachikawa, K. Sakai, C. Tamura, O. Amakasu, O. (1964). *Tetrodotoxin. VII. On the Structures of Tetrodotoxin and its Derivatives*. *Chemical & Pharmaceutical Bulletin*. 12(11): 1357–1374.
- Untario, N., T. Dewi, M. Widodo, P. Rahaju, P. 2017. Effect of Tetrodotoxin from Crude Puffer Fish (*Tetraodon fluviatilis*) Liver Extract on Intracellular Calcium Level and Apoptosis of HeLa Cell Culture. *Journal of Tropical Life Science*. 7(1): 23–29.
- Veeruraj, A., S. R. Pugazhvendan, T. T. Ajithkumar, M. Arumugam. 2016. Isolation and identification of cytotoxic and biological active toxin from the pufferfish *Arothron stellatus*. *Toxicological Research*. 32(3): 215–223.
- Vieira, T. F., S. F. Sousa. 2019. Comparing AutoDock and Vina in Ligand/Decoy Discrimination for Virtual Screening. *Applied Sciences*. 9(21): 4538.
- Volgin, D. V. (2013). Gene Expression: Analysis and Quantitation. In *Animal Biotechnology: Models in Discovery and Translation*. Elsevier.
- Walker, J. R., P. A. Novick, W. H. Parsons, M. McGregor, J. Zablocki, V. S. Pande, J. Du Bois. 2012. Marked difference in saxitoxin and tetrodotoxin affinity for the human nociceptive voltage-gated sodium channel (Nav1.7). *Proceedings of the National Academy of Sciences*. 109(44): 18102-18107.
- Wan, N., L. J. Tang, G. Q. Zhu, D. Y. Peng, L. Wang, F. N. Sun, Q. L. Li. 2008. Apoptosis induced by baicalin involving up-regulation of P53 and Bax in MCF-7 cells. *Journal of Asian Natural Products Research*. 10(12): 1129-1135.
- Wang, P. G., Y. Li, Y. Pan, Z. Z. Gao, X. W. Guan, L. Jia, F. T. Liu. 2019. Lower expression of Bax predicts poor clinical outcome in patients with glioma after curative resection and radiotherapy/chemotherapy. *Journal of Neuro-Oncology*. 141(1): 71–81.
- Wang, S., M. He, L. Li, Z. Liang, Z. Zou, and A. Tao. 2016. Cell-in-cell death is not restricted by caspase-3 deficiency in MCF-7 cells. *Journal of Breast Cancer*. 19(3): 231–241.
- Warren, C. F. A., M. W. Brown, N. A. Bowden. 2019. BCL-2 family isoforms in apoptosis and cancer. *Cell Death and Disease*. 10(3): 177.
- Welsh, J. E. 2013. Animal Models for Studying Prevention and Treatment of Breast Cancer. *Animal Models for the Study of Human Disease*. 997-1108
- White, E., D. R. Green, A. G. Letai. 2014. Apoptosis, Necrosis, and Autophagy. *The Molecular Basis of Cancer: Fourth Edition*. 209-228.
- Widlak, W. 2013. Cell Signaling pathways. *Lecture Notes in Computer Science*. 121-138.
- Wiese, M., P. M. D'Agustino, T. K. Mihali, M. C. Moffit, B. A. Neilan. 2010. Neurotoxic alkaloids: saxitoxin and its analogs. *Marine Drugs*. 8(7): 2185-2211.
- Wisdom, K. M., Adebowale, K., Chang, J., Lee, J. Y., Nam, S., Desai, R., N. S. Rossen, M. Rafat, R. B. West, L. Hodgson, and O. Chaudhuri. 2018. Matrix mechanical plasticity regulates cancer cell migration through confining microenvironments. *Nature Communications*, 9(1): 4144.

- Xia, P., J. Liang, Z. Jin Z. 2021. Reversine inhibits proliferation, invasion and migration and induces cell apoptosis in gastric cancer cells by downregulating TTK. *Experimental and Therapeutic Medicine*, 22(3), 1-10.
- Xing, D., J. Wang, S. Ou, Y. Wang, B. Qiu, D. Ding, F. Guo, Q. Gao. 2014. Expression of neonatal Nav1.5 in human brain astrocytoma and its effect on proliferation, invasion and apoptosis of astrocytoma cells. *Oncology Reports*. 31(6): 2692–2700.
- Xu, L., Q. Xie, L. Qi, C. Wang, N. Xu, W. Liu, Y. Yul, S. Li, Y. Xu. 2017. Bcl-2 overexpression reduces cisplatin cytotoxicity by decreasing ER-mitochondrial Ca²⁺ signaling in SKOV3 cells. *Oncology Reports*. 39: 985-992.
- Yamauchi, O. 2016. Noncovalent interactions in biocomplexes. *Physical Sciences Reviews*. 1(4): 1-25.
- Yan, J., Z. Hosseinzadeh, B. Zhanf, M. Froeschl, K. Schulze-Osthoff, C. Stournaras, F. Lang. 2016. Decrease of store-operated Ca²⁺ entry and increase of Na⁺/Ca²⁺ exchange by pharmacological JAK2 inhibition. *Cellular Physiology and Biochemistry*. 38(2): 683-695.
- Yen, T. J., M. Lolicato, R. Thomas-Tran, J. Du Bois, D. L. Minor. 2019. Structure of the saxiphilin:saxitoxin (STX) complex reveals a convergent molecular recognition strategy for paralytic toxins. *Science Advances*. 5(6): 1-10.
- Yuan, S., H. C. S. Chan, Z. Hu. 2017. Using PyMOL as a platform for computational drug design. *Wiley interdisciplinary Reviews: Computational Molecular Science*. 7(2): 1298.
- Zhang, J., S. Wang, L. Wang, R. Wang, S. Chen, B. Pan, Y. Sun. 2015. Prognostic value of Bcl-2 expression in patients with non-small-cell lung cancer: a meta-analysis and systemic review. *Onco Targets Ther*. 8: 3361–3369.
- Zhou, M., Y. Li, Q. Hu, X. C. Bai, W. Huang, C. Yan, S. H. W. Scheres, Y. Shi. 2015. Atomic structure of the apoptosome: Mechanism of cytochrome c- and dATP-mediated activation of Apaf-1. *Genes and Development*. 29(22): 2349–2361.
- Zhu, H., A. Yamada, Y. Goto, L. Horn, L. Ngy, M. Wada, O. Arakawa. 2020. Phylogeny and toxin profile of freshwater pufferfish (Genus Pao) collected from 2 different regions in cambodia. *Toxins*. 12(11): 689.