

References

- Ahmed, H. (2018). Ethnomedicinal, Phytochemical and Pharmacological Investigations of *Perilla frutescens* (L.) Britt. *Molecules*, 24(1), 102. <https://doi.org/10.3390/molecules24010102>
- Al-Amin, K., Kawsar, M., Rahaman, T., & Hossain, M. S. (2025). Fourier transform infrared spectroscopic technique for analysis of inorganic materials: A review. *Nanoscale Advances*. <https://doi.org/10.1039/d5na00522a>
- Alanazi, S. (2025). Recent Advances in Liquid Chromatography–Mass Spectrometry (LC–MS) Applications in Biological and Applied Sciences. *Analytical Science Advances*, 6(1). <https://doi.org/10.1002/ansa.70024>
- Allemailem, K. S., Almatroudi, A., Obaid, H., AlSuhaymi, N., Alsugoor, M. H., Aldakheel, F. M., Khan, A. A., & Rahmani, A. H. (2024). Apigenin: A Bioflavonoid with a Promising Role in Disease Prevention and Treatment. *Biomedicines*, 12(6), 1353–1353. <https://doi.org/10.3390/biomedicines12061353>
- Amensour, M., Sendra, E., Abrini, J., Bouhdid, S., Pérez-Alvarez, J. A., & Fernández-López, J. (2009). Total Phenolic Content and Antioxidant Activity of Myrtle (*Myrtus communis*) Extracts. *Natural Product Communications*, 4(6). <https://doi.org/10.1177/1934578x09000400616>
- Aochen, C., Kumar, A., Jaiswal, S., Puro, K., Shimray, P. W., Hajong, S., Ch, H., Aochen, S., langrai, B., Bhattacharjee, B., Jamir, L., Angami, T., Pattanayak, A., & Mishra, V. K. (2023). *Perilla frutescens* L.: a dynamic food crop worthy of future challenges. *Frontiers in Nutrition*, 10. <https://doi.org/10.3389/fnut.2023.1130927>
- Artika, I. M., Dewi, Y. P., Nainggolan, I. M., Siregar, J. E., & Antonjaya, U. (2022). Real-Time Polymerase Chain Reaction: Current Techniques, Applications, and Role in COVID-19 Diagnosis. *Genes*, 13(12), 2387. <https://doi.org/10.3390/genes13122387>
- Asiamah, E. K., Ekwemalor, K., Adjei-Fremah, S., Osei, B., Newman, R., & Worku, M. (2019). Natural and synthetic pathogen associated molecular patterns modulate galectin expression in cow

- blood. *Journal of Animal Science and Technology*, 61(5), 245–253.
<https://doi.org/10.5187/jast.2019.61.5.245>
- Aydin, S., Emre, E., Ugur, K., Aydin, M. A., Sahin, İ., Cinar, V., & Akbulut, T. (2025). An overview of ELISA: a review and update on best laboratory practices for quantifying peptides and proteins in biological fluids. *Journal of International Medical Research*, 53(2).
<https://doi.org/10.1177/03000605251315913>
- Baek, H.-I., Joo, J. C., Kim, S.-K., Park, M.-H., Cho, G. H., Shen, L., & Park, S. J. (2026). Efficacy and Safety of Standardized Ethanol Extract of Purple Perilla (*Perilla frutescens* Britton var. *acuta* Kudo) Leaves in Cognitive Impairment: A Randomized, Double-Blind, Placebo-Controlled Clinical Trial. *Nutrients*, 18(6), 960. <https://doi.org/10.3390/nu18060960>
- Bancos, S., & Tyner, K. M. (2014). Evaluating the effect of assay preparation on the uptake of gold nanoparticles by RAW264.7 cells. *Journal of Nanobiotechnology*, 12(1).
<https://doi.org/10.1186/s12951-014-0045-5>
- Bertani, B., & Ruiz, N. (2018). Function and Biogenesis of Lipopolysaccharides. *EcoSal Plus*, 8(1).
<https://doi.org/10.1128/ecosalplus.esp-0001-2018>
- BioTechne . (2017). *Protocol for Cell Counting Kit-8*. Tocris Bioscience; Tocris Bioscience.
<https://www.tocris.com/resources/protocols/protocol-cell-counting-kit-8>
- Bong, D., Sohn, J., & Lee, S.-J. V. (2024). Brief guide to RT-qPCR. *Molecules and Cells*, 47(12), 100141.
<https://doi.org/10.1016/j.mocell.2024.100141>
- Boukind, S., Najahi, A., Khalili, H., Jaworski, A., Putaux, J.-L., Boufi, S., & Sehaqui, H. (2025). Phosphorylated Lignin–Cellulose Nanofibrils: Elucidating the Preparation Pathway and Structural Features. *Biomacromolecules*, 27(1), 533–548.
<https://doi.org/10.1021/acs.biomac.5c01763>
- Brady, S. M., Burow, M., Busch, W., Carlborg, Ö., Denby, K. J., Glazebrook, J., Hamilton, E. S., Harmer, S. L., Haswell, E. S., Maloof, J. N., Springer, N. M., & Kliebenstein, D. J. (2015). Reassess the t

- Test: Interact with All Your Data via ANOVA. *The Plant Cell*, 27(8), 2088–2094.
<https://doi.org/10.1105/tpc.15.00238>
- Bustin, S., & Huggett, J. (2017). qPCR primer design revisited. *Biomolecular Detection and Quantification*, 14(1), 19–28. <https://doi.org/10.1016/j.bdq.2017.11.001>
- Caldwell, A. B., Cheng, Z., Vargas, J. D., Birnbaum, H. A., & Hoffmann, A. (2014). Network dynamics determine the autocrine and paracrine signaling functions of TNF. *Genes & Development*, 28(19), 2120–2133. <https://doi.org/10.1101/gad.244749.114>
- Calmaz, E., Orta-Yilmaz, B., & Aydin, Y. (2025). Luteolin Protects Against Acrylamide-Induced Cellular Toxicity in Mouse Leydig Cells. *Food Science & Nutrition*, 13(7).
<https://doi.org/10.1002/fsn3.70621>
- Cao, S., Liang, J., Chen, M., Xu, C., Wang, X., Qiu, L., Zhao, X., & Hu, W. (2025). Comparative analysis of extraction technologies for plant extracts and absolutes. *Frontiers in Chemistry*, 13.
<https://doi.org/10.3389/fchem.2025.1536590>
- Carvalho, M. F., & Oliveira, R. S. (2017). Natural production of fluorinated compounds and biotechnological prospects of the fluorinase enzyme. *Critical Reviews in Biotechnology*, 37(7), 880–897. <https://doi.org/10.1080/07388551.2016.1267109>
- Cedrone, E., Potter, T. M., Neun, B. W., & Dobrovolskaia, M. A. (2020). Enzyme-Linked Immunosorbent Assay (ELISA) for Detection of Human TNF- α in Culture Supernatants. *Nih.Gov*.
<https://doi.org/10.17917/JQM0-0G48>
- Chamchoy, K., Pakotiprapha, D., Pumirat, P., Leartsakulpanich, U., & Boonyuen, U. (2019). Application of WST-8 based colorimetric NAD(P)H detection for quantitative dehydrogenase assays. *BMC Biochemistry*, 20(1). <https://doi.org/10.1186/s12858-019-0108-1>
- Chatepa, L. E. C., Mwamatope, B., Chikowe, I., & Masamba, K. G. (2024). Effects of solvent extraction on the phytoconstituents and in vitro antioxidant activity properties of leaf extracts of the two selected medicinal plants from Malawi. *BMC Complementary Medicine and Therapies*, 24(1). <https://doi.org/10.1186/s12906-024-04619-7>

- Chavda, V. P., Rajashri Bezbaruah, Ahmed, N., Alom, S., Bhattacharjee, B., Nalla, L. V., Rynjah, D., Gadanec, L. K., & Apostolopoulos, V. (2025). Proinflammatory Cytokines in Chronic Respiratory Diseases and Their Management. *Cells*, 14(6), 400–400. <https://doi.org/10.3390/cells14060400>
- Chelangarimiyandoab, F., Lavoie, J.-P. C., Flamand, N., Cordat, E., & Breton, S. (2025). Molecular Mechanisms of Acute Inflammation: Systemic Responses and Kidney-Specific Pathophysiology. *Function*. <https://doi.org/10.1152/function.087.2025>
- Chen, C.-Y., Leu, Y.-L., Fang, Y., Lin, C.-F., Kuo, L.-M., Sung, W.-C., Tsai, Y.-F., Chung, P.-J., Lee, M.-C., Kuo, Y.-T., Yang, H.-W., & Hwang, T.-L. (2015). Anti-inflammatory effects of *Perilla frutescens* in activated human neutrophils through two independent pathways: Src family kinases and Calcium. *Scientific Reports*, 5(1). <https://doi.org/10.1038/srep18204>
- Chen, L., Deng, H., & Cui, H. (2018a). Inflammatory Responses and Inflammation-associated Diseases in Organs. *Oncotarget*, 9(6), 7204–7218. <https://doi.org/10.18632/oncotarget.23208>
- Chen, L., Deng, H., & Cui, H. (2018b). Inflammatory Responses and inflammation-associated Diseases in Organs. *Oncotarget*, 9(6), 7204–7218. <https://doi.org/10.18632/oncotarget.23208>
- Chen, Z., Halford, N. G., & Liu, C. (2023). Real-Time Quantitative PCR: Primer Design, Reference Gene Selection, Calculations and Statistics. *Metabolites*, 13(7), 806–806. <https://doi.org/10.3390/metabo13070806>
- Choi, Y. W., & Lee, Y. G. (2004). *Comparative Studies on the Amino Acids and Flavor Compounds Among Some Varieties of Perilla Leaves Cultivated in Miryang Area*. 931–937.
- Coco, A. M. A., Unalan, I., Grünewald, A., Soares, D. C. F., Houmard, M., Dourado, L. F. N., Ferreira, K. H., dos Santos, V. L., Nunes, E. H. M., & Boccaccini, A. R. (2026). Biological investigation of cobalt-containing and curcumin-loaded bioactive glass nanospheres for chronic wound healing applications [Review of *Biological investigation of cobalt-containing and curcumin-loaded bioactive glass nanospheres for chronic wound healing applications*]. *Biomaterials Advances*, 188, 215031. <https://doi.org/10.1016/j.bioadv.2026.215031>

- Corsetti, G., Pasini, E., Scarabelli, T. M., Romano, C., Singh, A., Scarabelli, C. C., & Dioguardi, F. S. (2024). Importance of Energy, Dietary Protein Sources, and Amino Acid Composition in the Regulation of Metabolism: An Indissoluble Dynamic Combination for Life. *Nutrients*, *16*(15), 2417–2417. <https://doi.org/10.3390/nu16152417>
- Dini, I. (2026). Potential Health Benefits of Dietary Antioxidants. *Antioxidants*, *15*(1), 92. <https://doi.org/10.3390/antiox15010092>
- dos Santos, J. S. P., Silva, D. K. C., da Silva Oliveira, V., Junior, S. S. S., dos Santos Rodrigues, E., de Souza, C. V. C., Martinez, S. T., Santos-Filho, O. A., Meira, C. S., & Soares, M. B. P. (2025). The Alkaloid Caulerpin Exhibits Potent and Selective Anti-Inflammatory Activity Through Interaction with the Glucocorticoid Receptor. *Marine Drugs*, *23*(6), 232. <https://doi.org/10.3390/md23060232>
- Ebrahimi, P., Roodbali, A., Simonato, B., Lante, A., & Rizzi, C. (2025). Unveiling the effects of sieving and drying on Ultrasound-Assisted extraction of bioactive compounds from spent sour cherry pomace. *Ultrasonics Sonochemistry*, 107375–107375. <https://doi.org/10.1016/j.ultsonch.2025.107375>
- Eisenberg, E., & Levanon, E. Y. (2013). Human housekeeping genes, revisited. *Trends in Genetics*, *29*(10), 569–574. <https://doi.org/10.1016/j.tig.2013.05.010>
- Elisia, I., Pae, H. B., Lam, V., Cederberg, R., Hofs, E., & Krystal, G. (2018). Comparison of RAW264.7, human whole blood and PBMC assays to screen for immunomodulators. *Journal of Immunological Methods*, *452*, 26–31. <https://doi.org/10.1016/j.jim.2017.10.004>
- Emwas, A.-H., Roy, R., McKay, R. T., Tenori, L., Saccenti, E., Gowda, G. A. N., Raftery, D., Alahmari, F., Jaremko, L., Jaremko, M., & Wishart, D. S. (2019). NMR Spectroscopy for Metabolomics Research. *Metabolites*, *9*(7). <https://doi.org/10.3390/metabo9070123>
- Eryilmaz, I. E., Bergel, C. C., Arioiz, B., Huriyet, N., Cecener, G., & Egeli, U. (2024). Luteolin induces oxidative stress and apoptosis via dysregulating the cytoprotective Nrf2-Keap1-Cul3 redox

- signaling in metastatic castration-resistant prostate cancer cells. *Molecular Biology Reports*, 52(1). <https://doi.org/10.1007/s11033-024-10178-4>
- Fan, J., Schiemer, T., Vaska, A., Jahed, V., & Klavins, K. (2024). Cell via Cell Viability Assay Changes Cellular Metabolic Characteristics by Intervening with Glycolysis and Pentose Phosphate Pathway. *Chemical Research in Toxicology*, 37(2). <https://doi.org/10.1021/acs.chemrestox.3c00339>
- Farhana, A., & Khan, Y. S. (2023, April 17). *Biochemistry, Lipopolysaccharide*. PubMed; StatPearls Publishing. <https://www.ncbi.nlm.nih.gov/books/NBK554414/>
- Feng, S., Achoute, L., Margolskee, R. F., Jiang, P., & Wang, H. (2020). *Lipopolysaccharide-Induced Inflammatory Cytokine Expression in Taste Organoids*. 187–194. <https://doi.org/10.1093/chemse/bjaa002>
- Ferrao, R., Zhou, H., Shan, Y., Liu, Q., Li, Q., Shaw, D. E., Li, X., & Wu, H. (2014). IRAK4 Dimerization and trans -Autophosphorylation Are Induced by Myddosome Assembly. *Molecular Cell*, 55(6), 891–903. <https://doi.org/10.1016/j.molcel.2014.08.006>
- Fitri, Z. A., Ahmadi, F., Islam, M. A., Ponnampalam, E. N., Dunshea, F. R., & Suleria, H. A. R. (2025). A Systematic Review of Extraction Methods, Phytochemicals, and Food Applications of *Moringa oleifera* Leaves Using PRISMA Methodology. *Food Science & Nutrition*, 13(4). <https://doi.org/10.1002/fsn3.70138>
- Forgie, B. N., Prakash, R., Goyeneche, A. A., & Telleria, C. M. (2024). Vitality, viability, long-term clonogenic survival, cytotoxicity, cytostasis and lethality: what do they mean when testing new investigational oncology drugs? *Discover Oncology*, 15(1). <https://doi.org/10.1007/s12672-023-00857-2>
- Furman, D., Campisi, J., Verdin, E., Carrera-Bastos, P., Targ, S., Franceschi, C., Ferrucci, L., Gilroy, D. W., Fasano, A., Miller, G. W., Miller, A. H., Mantovani, A., Weyand, C. M., Barzilai, N., Goronzy, J. J., Rando, T. A., Effros, R. B., Lucia, A., Kleinstreuer, N., & Slavich, G. M. (2019). Chronic

- inflammation in the etiology of disease across the life span. *Nature Medicine*, 25(12), 1822–1832. <https://doi.org/10.1038/s41591-019-0675-0>
- Gabbrielli, M., Valkama, E., Calone, R., Bregaglio, S., Manici, L., Ragaglini, G., Perego, A., & Acutis, M. (2026). Guidelines for selecting variability measure in limited-size ANOVA experiments. *Scientific Reports*. <https://doi.org/10.1038/s41598-026-54181-0>
- Gamage, D., Dharmadasa, R., Abeysinghe, D. T., Wijesekara, R., Prathapasinghe, G., & Someya, T. (2021). Effect of Drying Methods and Type of Packaging Materials on Phytochemical Content and Total Antioxidant Capacity of Five Medicinal Plants with Cosmetic Potential over Three Months Storage at Ambient Temperature. *World Journal of Agricultural Research*, 9(2), 73–79. <https://doi.org/10.12691/wjar-9-2-5>
- Ghannam, M. G., & Varacallo, M. (2018). *Biochemistry, Polymerase Chain Reaction (PCR)*. Nih.Gov; StatPearls Publishing. <https://www.ncbi.nlm.nih.gov/books/NBK535453/>
- Gongpan, P., Xu, T., Zhang, Y., Ji, K., Kong, L., Wang, X., Chen, H., Song, Q., Sun, Y., Geng, C., & Li, J. (2025). Apigenin alleviates inflammation as a natural IRAK4 inhibitor. *Phytomedicine*, 139, 156519. <https://doi.org/10.1016/j.phymed.2025.156519>
- Grebenciucova, E., & VanHaerents, S. (2023). Interleukin 6: at the interface of human health and disease. *Frontiers in Immunology*, 14. <https://doi.org/10.3389/fimmu.2023.1255533>
- Grumezescu, A. M., & Holban, A. M. (2019). *Value-added ingredients and enrichments of beverages*. Duxford Elsevier, Wp - Woodhead Publishing.
- Guan, L., Zhu, L., Zhang, X., Han, Y., Wang, K., Ji, N., Yao, X., Zhou, Y., Li, B., Chen, Q., Fan, J., Sha, D., & Lu, S. (2024). Perilla Seed Oil and Protein: Composition, Health Benefits, and Potential Applications in Functional Foods. *Molecules*, 29(22), 5258–5258. <https://doi.org/10.3390/molecules29225258>
- Guo, Q., Ai, L., & Cui, S. W. (2018). Fourier Transform Infrared Spectroscopy (FTIR) for Carbohydrate Analysis. *Springer Briefs in Molecular Science*, 69–71. https://doi.org/10.1007/978-3-319-96370-9_9

- Ha, B., Kang, J.-H., Kim, D. H., & Lee, M.-Y. (2025). Lipopolysaccharide-Induced Inflammatory Response and Its Prominent Suppression by *Paspalum thunbergii* Extract. *International Journal of Molecular Sciences*, 26(4), 1611. <https://doi.org/10.3390/ijms26041611>
- Haloul, M., Edson, Kader, M., Wells, J. Z., Tominello, T. R., Andaloussi, A. E., Yates, C. C., & Ismail, N. (2019). mTORC1-mediated polarization of M1 macrophages and their accumulation in the liver correlate with immunopathology in fatal ehrlichiosis. *Scientific Reports*, 9(1), 14050–14050. <https://doi.org/10.1038/s41598-019-50320-y>
- Harshitha, R., & Arunraj, D. R. (2021). Real-time quantitative PCR: A tool for absolute and relative quantification. *Biochemistry and Molecular Biology Education*, 49(5), 800–812. <https://doi.org/10.1002/bmb.21552>
- Hartley, J. W., Evans, L. H., Green, K. Y., Naghashfar, Z., Macias, A. R., Zervas, P. M., & Ward, J. M. (2008). Expression of infectious murine leukemia viruses by RAW264.7 cells, a potential complication for studies with a widely used mouse macrophage cell line. *Retrovirology*, 5(1), 1. <https://doi.org/10.1186/1742-4690-5-1>
- Hayrapetyan, H., Tran, T., Tellez-Corrales, E., & Madiraju, C. (2023). Enzyme-Linked Immunosorbent Assay: Types and Applications. *Methods in Molecular Biology*, 2612, 1–17. https://doi.org/10.1007/978-1-0716-2903-1_1
- Hlatshwayo, S., Thembane, N., Krishna, S. B. N., Gqaleni, N., & Ngcobo, M. (2025). Extraction and Processing of Bioactive Phytoconstituents from Widely Used South African Medicinal Plants for the Preparation of Effective Traditional Herbal Medicine Products: A Narrative Review. *Plants*, 14(2), 206. <https://doi.org/10.3390/plants14020206>
- Hou, T., Netala, V. R., Zhang, H., Xing, Y., Li, H., & Zhang, Z. (2022a). *Perilla frutescens*: A Rich Source of Pharmacological Active Compounds. *Molecules*, 27(11), 3578. <https://doi.org/10.3390/molecules27113578>

- Hou, T., Netala, V. R., Zhang, H., Xing, Y., Li, H., & Zhang, Z. (2022b). Perilla frutescens: A Rich Source of Pharmacological Active Compounds. *Molecules*, 27(11), 3578. <https://doi.org/10.3390/molecules27113578>
- Huber, K., Brigide, P., Bretas, E. B., & Canniatti-Brazaca, S. G. (2014). Effect of Thermal Processing and Maceration on the Antioxidant Activity of White Beans. *PLoS ONE*, 9(7), e99325. <https://doi.org/10.1371/journal.pone.0099325>
- InstaNANO. (n.d.). FTIR functional group database table with search. <https://instanano.com/all/characterization/ftir/ftir-functional-group-search/>
- Institute for Quality and Efficiency in Health Care. (2021). *What Is an inflammation?* National Library of Medicine; Institute for Quality and Efficiency in Health Care (IQWiG). <https://www.ncbi.nlm.nih.gov/books/NBK279298/>
- Ishida, M., Takekuni, C., Nishi, K., & Sugahara, T. (2019). Anti-inflammatory effect of aqueous extract from Kawachi-bankan (*Citrus maxima*) peel in vitro and in vivo. *Cytotechnology*, 71(4), 797–807. <https://doi.org/10.1007/s10616-019-00323-4>
- Jang, D., Lee, A.-H., Shin, H.-Y., Song, H.-R., Park, J.-H., Kang, T.-B., Lee, S.-R., & Yang, S.-H. (2021). The Role of Tumor Necrosis Factor Alpha (TNF- α) in Autoimmune Disease and Current TNF- α Inhibitors in Therapeutics. *International Journal of Molecular Sciences*, 22(5). <https://doi.org/10.3390/ijms22052719>
- Jang, S., Kelley, K. W., & Johnson, R. W. (2008). Luteolin reduces IL-6 production in microglia by inhibiting JNK phosphorylation and activation of AP-1. *Proceedings of the National Academy of Sciences*, 105(21), 7534–7539. <https://doi.org/10.1073/pnas.0802865105>
- Jodynys-Liebert, J., & Kujawska, M. (2020). Biphasic Dose-Response Induced by Phytochemicals: Experimental Evidence. *Journal of Clinical Medicine*, 9(3). <https://doi.org/10.3390/jcm9030718>

- Kagawa, N., Iguchi, H., Henzan, M., & Hanaoka, M. (2019). Drying the leaves of *Perilla frutescens* increases their content of anticancer nutraceuticals. *Food Science & Nutrition*, 7(4), 1494–1501. <https://doi.org/10.1002/fsn3.993>
- Kako, D., Ghareeb, M. M., & Al-Lami, M. S. (2024). High-Performance Liquid Chromatography (HPLC) Method Validation for Identifying and Quantifying Rebamipide in Ethosomes. *Cureus*, 16(3). <https://doi.org/10.7759/cureus.56061>
- Kang, N. R., Son, Y. G., Jang, S., Lee, S., & Kim, J. Y. (2025). Comparative Analysis of Metabolite Profiles of *Perilla frutescens* Britton var. *acuta* Kudo (Lamiaceae) Leaves Collected from Different Regions in South Korea. *Applied Sciences*, 15(24), 13118. <https://doi.org/10.3390/app152413118>
- Kanno, J., Aisaki, K. I., Igarashi, K., Nakatsu, N., Ono, A., Kodama, Y., & Nagao, T. (2006). “Per cell” normalization method for mRNA measurement by quantitative PCR and microarrays. *BMC Genomics*, 7(1). <https://doi.org/10.1186/1471-2164-7-64>
- Khabipov, A., Käding, A., Liedtke, K. R., Freund, E., Partecke, L.-I., & Bekeschus, S. (2019). RAW 264.7 Macrophage Polarization by Pancreatic Cancer Cells - A Model for Studying Tumour-promoting Macrophages. *Anticancer Research*, 39(6), 2871–2882. <https://doi.org/10.21873/anticancer.13416>
- Khehra, N., Padda, I. S., & Swift, C. J. (2023, March 6). *Polymerase Chain Reaction (PCR)*. PubMed; StatPearls Publishing. <https://www.ncbi.nlm.nih.gov/books/NBK589663/>
- Kim, H.-Y. (2014). Statistical notes for clinical researchers: Two-way analysis of variance (ANOVA)-exploring possible interaction between factors. *Restorative Dentistry & Endodontics*, 39(2), 143. <https://doi.org/10.5395/rde.2014.39.2.143>
- Kim, M. Y., Kim, J. I., Kim, S. W., Kim, S., Oh, E., Lee, J., Lee, E., An, Y. J., Han, C. Y., Lee, H., & Lee, M. H. (2024). Respiratory Protective Effects of *Perilla* Leave Varieties (*Perilla frutescens*) Against Fine Particulate Matter (<sc>PM_{2.5}</sc>)-induced Damage in Human Nasal Cells. *Food Science & Nutrition*, 13(1). <https://doi.org/10.1002/fsn3.4708>

- Kirkley, J. E., Thompson, B. J., & Coon, J. S. (2003). Temperature Alters Lipopolysaccharide-Induced Cytokine Secretion by RAW 264.7 Cells. *Scandinavian Journal of Immunology*, 58(1), 51–58. <https://doi.org/https://doi.org/10.1046/j.1365-3083.2003.01274.x>Digital Object Identifier (DOI)
- Koffi, S., Deng, Q., Li, F., Wang, L., Jiang, N., Kefale, H., Zhou, R., Li, D., Tan, M., & Wang, L. (2025). Metabolic profiling of Perilla leaves of different colors: insights into metabolite variation and bioactive compound distribution. *BMC Plant Biology*, 25(1). <https://doi.org/10.1186/s12870-024-05984-8>
- Kramer, D. J., & Johnson, A. A. (2024). Apigenin: a natural molecule at the intersection of sleep and aging. *Frontiers in Nutrition*, 11. <https://doi.org/10.3389/fnut.2024.1359176>
- Kumar, V., & Kundu, S. (2022). Studies on Apigenin and Its Biological and Pharmacological Activity in Brain Disorders. *Advanced Pharmaceutical Bulletin*. <https://doi.org/10.34172/apb.2022.068>
- Kuzmich, N., Sivak, K., Chubarev, V., Porozov, Y., Savateeva-Lyubimova, T., & Peri, F. (2017). TLR4 Signaling Pathway Modulators as Potential Therapeutics in Inflammation and Sepsis. *Vaccines*, 5(4), 34. <https://doi.org/10.3390/vaccines5040034>
- Larabee, J. L., Hauck, G., & Ballard, J. D. (2018). Unique, Intersecting, and Overlapping Roles of C/EBP β and CREB in Cells of the Innate Immune System. *Scientific Reports*, 8(1). <https://doi.org/10.1038/s41598-018-35184-y>
- Lee, H. A., & Han, J. S. (2012). Anti-inflammatory Effect of Perilla frutescens (L.) Britton var. frutescens Extract in LPS-stimulated RAW 264.7 Macrophages. *Preventive Nutrition and Food Science*, 17(2), 109–115. <https://doi.org/10.3746/pnf.2012.17.2.109>
- Lee, H.-A., & Han, J.-S. (2012). Anti-inflammatory Effect of Perilla frutescens (L.) Britton var. frutescens Extract in LPS-stimulated RAW 264.7 Macrophages. *Preventive Nutrition and Food Science*, 17(2), 109–115. <https://doi.org/10.3746/pnf.2012.17.2.109>
- Lee, J.-E., Jayakody, J. T. M., Kim, J.-I., Jeong, J.-W., Choi, K.-M., Kim, T.-S., Seo, C., Azimi, I., Hyun, J.-M., & Ryu, B.-M. (2024). The Influence of Solvent Choice on the Extraction of Bioactive

- Compounds from Asteraceae: A Comparative Review. *Foods*, 13(19), 3151–3151.
<https://doi.org/10.3390/foods13193151>
- Lezoul, N. E. H., Belkadi, M., Habibi, F., & Guillén, F. (2020). Extraction Processes with Several Solvents on Total Bioactive Compounds in Different Organs of Three Medicinal Plants. *Molecules (Basel, Switzerland)*, 25(20). <https://doi.org/10.3390/molecules25204672>
- Li, X., Zheng, R., Pan, W., Fang, N., Yin, X., Yang, L., Ma, X., Hou, Q., Zhang, Z., Li, Y., & Lin, M. (2025). Components, isolated from perilla leaves, synergistically alleviate the inflammation of acute lung injury via Syk/ β 2-integrin pathway. *Fitoterapia*, 184, 106655.
<https://doi.org/10.1016/j.fitote.2025.106655>
- Liao, S., Börmel, L., Wallert, M., & Lorkowski, S. (2023). *Cell culture of RAW264.7 cells* .
<https://doi.org/10.17504/protocols.io.q26g7ynbqgwz/v1>
- LibreTexts Chemistry. (2014). *Infrared Spectroscopy Absorption Table*. Chemistry LibreTexts.
https://chem.libretexts.org/Ancillary_Materials/Reference/Reference_Tables/Spectroscopic_Reference_Tables/Infrared_Spectroscopy_Absorption_Table
- Lin, H., Xiong, W., Fu, L., Yi, J., & Yang, J. (2025). Damage-associated molecular patterns (DAMPs) in diseases: implications for therapy. *Molecular Biomedicine*, 6(1).
<https://doi.org/10.1186/s43556-025-00305-3>
- Liu, C., Chu, D., Kalantar-Zadeh, K., George, J., Young, H. A., & Liu, G. (2021). Cytokines: from Clinical Significance to Quantification. *Advanced Science*, 8(15), 2004433.
<https://doi.org/10.1002/advs.202004433>
- Liu, D., Zhong, Z., & Karin, M. (2022). NF- κ B: A Double-Edged Sword Controlling Inflammation. *Biomedicines*, 10(6), 1250. <https://doi.org/10.3390/biomedicines10061250>
- Liu, T., Zhang, L., Joo, D., & Sun, S.-C. (2017). NF- κ B Signaling in Inflammation. *Signal Transduction and Targeted Therapy*, 2(17023). <https://doi.org/10.1038/sigtrans.2017.23>

- Luo, C., Zou, L., Sun, H., Peng, J., Gao, C., Bao, L., Ji, R., Jin, Y., & Sun, S. (2020). A Review of the Anti-Inflammatory Effects of Rosmarinic Acid on Inflammatory Diseases. *Frontiers in Pharmacology*, 11. <https://doi.org/10.3389/fphar.2020.00153>
- Luo, R., Yao, Y., Chen, Z., & Sun, X. (2025). An examination of the LPS-TLR4 immune response through the analysis of molecular structures and protein–protein interactions. *Cell Communication and Signaling*, 23(1). <https://doi.org/10.1186/s12964-025-02149-4>
- Lv, Y., Hu, S., Lu, J., Dong, N., Liu, Q., Du, M., & Zhang, H. (2014). Upregulating Nonneuronal Cholinergic Activity Decreases TNF Release from Lipopolysaccharide-Stimulated RAW264.7 Cells [Review of Upregulating Nonneuronal Cholinergic Activity Decreases TNF Release from Lipopolysaccharide-Stimulated RAW264.7 Cells]. *Mediators of Inflammation*, 2014, 1–10. <https://doi.org/10.1155/2014/873728>
- Ma, H., Bell, K. N., & Loker, R. N. (2020). Development and Validation of qPCR and RT-qPCR: Regulatory Points to Consider When Conducting Biodistribution and Vector Shedding Studies of Gene and Cell Therapy Products. *Molecular Therapy - Methods & Clinical Development*, 20. <https://doi.org/10.1016/j.omtm.2020.11.007>
- Ma, M., Jiang, W., & Zhou, R. (2024). DAMPs and DAMP-sensing receptors in inflammation and diseases. *Immunity*, 57(4), 752–771. <https://doi.org/10.1016/j.immuni.2024.03.002>
- Mao, N., Huang, S., Martins, L. G. P., Yan, H., Ling, X., Liang, L., Kong, J., & Tisdale, W. A. (2024). Vibrational Fermi Resonance in Atomically Thin Black Phosphorus. *Nano Letters*, 24(40), 12582–12589. <https://doi.org/10.1021/acs.nanolett.4c03592>
- Mao, R., Yang, R., Chen, X., Harhaj, E. W., Wang, X., & Fan, Y. (2017). Regnase-1, a rapid response ribonuclease regulating inflammation and stress responses. *Cellular & Molecular Immunology*, 14(5), 412–422. <https://doi.org/10.1038/cmi.2016.70>
- Marchingo, J. M., & Cantrell, D. A. (2022). Protein synthesis, degradation, and energy metabolism in T cell immunity. *Cellular & Molecular Immunology*, 19(3), 303–315. <https://doi.org/10.1038/s41423-021-00792-8>

- Martin, F., Neubert, A., Lutter, A.-H., Scholka, J., Hentschel, E., Richter, H., & Anderer, U. (2024). MTS, WST-8, and ATP viability assays in 2D and 3D cultures: Comparison of methodologically different assays in primary human chondrocytes. *Clinical Hemorheology and Microcirculation*, 1–17. <https://doi.org/10.3233/ch-248101>
- Martín-Alonso, S., Frutos-Beltrán, E., & Menéndez-Arias, L. (2020). Reverse Transcriptase: From Transcriptomics to Genome Editing. *Trends in Biotechnology*, 39(2). <https://doi.org/10.1016/j.tibtech.2020.06.008>
- Melo, R. C. O., Martins, A. A., Vieira, G. H. A., Andrade, R. V. S., Silva, D. N. A., Chalmers, J., Silveira, T. M., Pirih, F. Q., Araújo, V. S., Silva, J. S. P., Lopes, M. L. D. S., Leitão, R. F. C., Júnior, R. F. A., Silva, I. L. G., Silva, L. J. T., Barbosa, E. G., & Araújo, A. A. (2024). Selective inhibition of interleukin 6 receptor decreased inflammatory cytokines and increased proteases in an experimental model of critical calvarial defect. *Brazilian Journal of Medical and Biological Research*, 57. <https://doi.org/10.1590/1414-431x2024e13913>
- Millington, A. L., Houskeeper, J. A., Quackenbush, J. F., Trauba, J. M., & Wittwer, C. T. (2019). The kinetic requirements of extreme qPCR. *Biomolecular Detection and Quantification*, 17, 100081. <https://doi.org/10.1016/j.bdq.2019.100081>
- Mino, T., & Takeuchi, O. (2018). Post-transcriptional regulation of immune responses by RNA binding proteins. *Proceedings of the Japan Academy, Series B*, 94(6), 248–258. <https://doi.org/10.2183/pjab.94.017>
- Muangsuwan, C., Kriprasertkul, W., Ratchahat, S., Liu, C.-G., Posoknistakul, P., Laosiripojana, N., & Sakdaronnarong, C. (2021). Upgrading of Light Bio-oil from Solvothermolysis Liquefaction of an Oil Palm Empty Fruit Bunch in Glycerol by Catalytic Hydrodeoxygenation Using NiMo/Al₂O₃ or CoMo/Al₂O₃ Catalysts. *ACS Omega*, 6(4), 2999–3016. <https://doi.org/10.1021/acsomega.0c05387>

- Nadalin, P., Kim, J. K., & Park, S. U. (2024). Recent insights into luteolin and its biological and pharmacological activities. [Review of *Recent insights into luteolin and its biological and pharmacological activities*.]. *PubMed*, 23, 787–794. <https://doi.org/10.17179/excli2024-7168>
- Nishi, K., Nakatani, Y., Ishida, M., Kadota, A., & Sugahara, T. (2024). Anti-Inflammatory Activity of the Combination of Nobiletin and Docosahexaenoic Acid in Lipopolysaccharide-Stimulated RAW 264.7 Cells: A Potential Synergistic Anti-Inflammatory Effect. *Nutrients*, 16(13), 2080. <https://doi.org/10.3390/nu16132080>
- Nurcholis, W., Marliani, N., Asyhar, R., & Minarni, M. (2023). Optimized solvents for the maceration of phenolic antioxidants from *Curcuma xanthorrhiza* Rhizome using a simplex centroid design. *Journal of Pharmacy And Bioallied Sciences*, 15(1), 35–35. https://doi.org/10.4103/jpbs.jpbs_185_23
- Olbei, M., Thomas, J. P., Hautefort, I., Treveil, A., Bohar, B., Madgwick, M., Gul, L., Csabai, L., Modos, D., & Korcsmaros, T. (2021). *CytokineLink: A Cytokine Communication Map to Analyse Immune Responses—Case Studies in Inflammatory Bowel Disease and COVID-19*. <https://doi.org/10.3390/cells10092242>
- Oyenihi, O. R., Oyenihi, A. B., Alabi, T. D, Tade, O. G., Adeyanju, A. A., & Oguntibeju, O. O. (2022). Reactive oxygen species: Key players in the anticancer effects of apigenin? *Journal of Food Biochemistry*, 46(2). <https://doi.org/10.1111/jfbc.14060>
- Pasieczna-Patkowska, S., Cichy, M., & Flieger, J. (2025). Application of Fourier Transform Infrared (FTIR) Spectroscopy in Characterization of Green Synthesized Nanoparticles. *Molecules*, 30(3), 684. <https://doi.org/10.3390/molecules30030684>
- Patel, J. A., Nair, S., Ochoa, E. E., Huda, R., Roberts, N. J., & Chonmaitree, T. (2010). Interleukin-6–174 and Tumor Necrosis Factor α –308 Polymorphisms Enhance Cytokine Production by Human Macrophages Exposed to Respiratory Viruses. *Journal of Interferon & Cytokine Research*, 30(12), 917–921. <https://doi.org/10.1089/jir.2010.0033>

- Penney, J., Jung, A., Koethe, B., & Doron, S. (2022). Cycle threshold values and SARS-CoV-2: Relationship to demographic characteristics and disease severity. *Journal of Medical Virology*, 94(8), 3978–3981. <https://doi.org/10.1002/jmv.27752>
- Pfaffl, M. W. (2001). A new mathematical model for relative quantification in real-time RT-PCR. *Nucleic Acids Research*, 29(9), 45e–45. <https://doi.org/10.1093/nar/29.9.e45>
- Potter, T. M., Cedrone, E., Neun, B. W., & Dobrovolskaia, M. A. (2020). Detection of Nitric Oxide Production by the Macrophage Cell Line RAW264.7. Nih.Gov. <https://doi.org/10.17917/T6JC-ZG30>
- Reddy, N., Li, H., Hou, T., Bethu, M., Ren, Z., & Zhang, Z. (2021). Phytosynthesis of Silver Nanoparticles Using *Perilla frutescens* Leaf Extract: Characterization and Evaluation of Antibacterial, Antioxidant, and Anticancer Activities. *International Journal of Nanomedicine*, Volume 16, 15–29. <https://doi.org/10.2147/ijn.s265003>
- Rocha, J., Eduardo-Figueira, M., Barateiro, A., Fernandes, A., Brites, D., Bronze, R., Duarte, C. M., Serra, A. T., Pinto, R., Freitas, M., Fernandes, E., Silva-Lima, B., Mota-Filipe, H., & Sepodes, B. (2014). Anti-inflammatory Effect of Rosmarinic Acid and an Extract of *Rosmarinus officinalis* in Rat Models of Local and Systemic Inflammation. *Basic & Clinical Pharmacology & Toxicology*, 116(5), 398–413. <https://doi.org/10.1111/bcpt.12335>
- Rodgers, J. M., Abaskharon, R. M., Ding, B., Chen, J., Zhang, W., & Gai, F. (2017). Fermi resonance as a means to determine the hydrogen-bonding status of two infrared probes. *Physical Chemistry Chemical Physics*, 19(24), 16144–16150. <https://doi.org/10.1039/c7cp02442h>
- Saeed, S. I., Ajose, D. J., Kamaruzzaman, N., Ateba, C. N., & Adekanmbi, A. O. (2024). Combating antibiotic resistance in a one health context: a plethora of frontiers. *One Health Outlook*, 6(1). <https://doi.org/10.1186/s42522-024-00115-7>
- Sakamoto, S., Putalun, W., Vimolmangkang, S., Phoolcharoen, W., Shoyama, Y., Tanaka, H., & Morimoto, S. (2017). Enzyme-linked immunosorbent assay for the quantitative/qualitative analysis of plant secondary metabolites. *Journal of Natural Medicines*, 72(1), 32–42.

- Salehi, B., Venditti, A., Sharifi-Rad, M., Kręgiel, D., Sharifi-Rad, J., Durazzo, A., Lucarini, M., Santini, A., Souto, E., Novellino, E., Antolak, H., Azzini, E., Setzer, W., & Martins, N. (2019). The Therapeutic Potential of Apigenin. *International Journal of Molecular Sciences*, 20(6), 1305. <https://doi.org/10.3390/ijms20061305>
- Sanchez, C. L., Sims, S. G., Nowery, J. D., & Meares, G. P. (2019). *Endoplasmic reticulum stress differentially modulates the IL-6 family of cytokines in murine astrocytes and macrophages*. <https://doi.org/https://doi.org/10.1038/s41598-019-51481-6>
- Sazonova, E. V., Chesnokov, M. S., Zhivotovsky, B., & Kopeina, G. S. (2022). Drug toxicity assessment: cell proliferation versus cell death. *Cell Death Discovery*, 8(1). <https://doi.org/10.1038/s41420-022-01207-x>
- Sevindik, M., Gürgen, A., Khassanov, V. T., & Bal, C. (2024). Biological Activities of Ethanol Extracts of *Hericium erinaceus* Obtained as a Result of Optimization Analysis. *Foods*, 13(10), 1560–1560. <https://doi.org/10.3390/foods13101560>
- Shih, R.-H., Wang, C.-Y., & Yang, C.-M. (2015). NF-kappaB Signaling Pathways in Neurological Inflammation: A Mini Review. *Frontiers in Molecular Neuroscience*, 8. <https://doi.org/10.3389/fnmol.2015.00077>
- Stanker, L. H., & Hnasko, R. M. (2015). A Double-Sandwich ELISA for Identification of Monoclonal Antibodies Suitable for Sandwich Immunoassays. *Methods in Molecular Biology*, 69–78. https://doi.org/10.1007/978-1-4939-2742-5_7
- Stone, W. L., Basit, H., & Burns, B. (2024a). *Pathology, Inflammation*. Nih.Gov; StatPearls Publishing. <https://www.ncbi.nlm.nih.gov/books/NBK534820/>
- Stone, W. L., Basit, H., & Burns, B. (2024b). *Pathology, Inflammation*. Nih.Gov; StatPearls Publishing. <https://www.ncbi.nlm.nih.gov/books/NBK534820/>
- Sugahara, T., Gurusmatika, N. S., Ishida, M., & Nishi, K. (2023). Anti-Inflammatory Potentials of Rendang Seasoning (Sumatran Traditional Food) Water Extract in RAW264.7 Cells and Mouse

- Peritoneal Macrophages. *Journal of Functional Food and Nutraceutical*.
<https://doi.org/10.33555/jffn.v5i1.119>
- Sun, L., Wu, J., Du, F., Chen, X., & Chen, Z. J. (2012). Cyclic GMP-AMP Synthase Is a Cytosolic DNA Sensor That Activates the Type I Interferon Pathway. *Science*, 339(6121), 786–791.
<https://doi.org/10.1126/science.1232458>
- Sun, P., Chen, X., Wang, Y., Wang, X., Li, K., Song, H., & Mao, J. (2025). Regulatory mechanisms of luteolin in inflammatory respiratory diseases. *Frontiers in Pharmacology*, 16.
<https://doi.org/10.3389/fphar.2025.1720824>
- SUSANTO, S., SUMARPO, A., PARIKESIT, A. A., PUTRA, A. B. N., ISHIDA, E., TABUCH, K., & SUGAHARA, T. (2018). Short Communication: Immunostimulatory effect of tempoyak (fermented durian) on inducing cytokine production (IL-6 and TNF- α) by RAW 264.7 cells. *Biodiversitas Journal of Biological Diversity*, 19(1), 318–322. <https://doi.org/10.13057/biodiv/d190143>
- Taciak, B., Białasek, M., Braniewska, A., Sas, Z., Sawicka, P., Kiraga, Ł., Rygiel, T., & Król, M. (2018). Evaluation of phenotypic and functional stability of RAW 264.7 cell line through serial passages. *PLOS ONE*, 13(6), e0198943. <https://doi.org/10.1371/journal.pone.0198943>
- Tagashira, A., Nishi, K., Matsumoto, S., & Sugahara, T. (2018). Anti-inflammatory effect of lysozyme from hen egg white on mouse peritoneal macrophages. *Cytotechnology*, 70(3), 929–938.
<https://doi.org/10.1007/s10616-017-0184-2>
- Tanaka, T., Narazaki, M., & Kishimoto, T. (2014). IL-6 in Inflammation, Immunity, and Disease. *Cold Spring Harbor Perspectives in Biology*, 6(10), a016295–a016295.
<https://doi.org/10.1101/cshperspect.a016295>
- Tang, D., Kang, R., Coyne, C. B., Zeh, H. J., & Lotze, M. T. (2012). PAMPs and DAMPs: signal Os that spur autophagy and immunity. *Immunological Reviews*, 249(1), 158–175.
<https://doi.org/10.1111/j.1600-065x.2012.01146.x>
- Tantipaiboonwong, P., Pintha, K., Chaiwangyen, W., Suttajit, M., Khanaree, C., & Khantamat, O. (2023). Bioefficacy of Nga-Mon (*Perilla frutescens*) Fresh and Dry Leaf: Assessment of

- Antioxidant, Antimutagenicity, and Anti-Inflammatory Potential. *Plants*, 12(11), 2210. <https://doi.org/10.3390/plants12112210>
- Tiedje, C., Diaz-Muñoz, M. D, Philipp, T., Ahlfors, H., Laaß, K., Blackshear, P. J., Turner, M., & Matthias, G. (2016). The RNA-binding protein TTP is a global post-transcriptional regulator of feedback control in inflammation. *Nucleic Acids Research*, 44(15), 7418–7440. <https://doi.org/10.1093/nar/gkw474>
- Tigner, A., Ibrahim, S. A., & Murray, I. (2022). *Histology, white blood cell*. PubMed; StatPearls Publishing. <https://www.ncbi.nlm.nih.gov/books/NBK563148/>
- Tipsuwan, W., & Chaiwangyen, W. (2018). Preventive effects of polyphenol-rich perilla leaves on oxidative stress and haemolysis. *ScienceAsia*, 44(3), 162. <https://doi.org/10.2306/scienceasia1513-1874.2018.44.162>
- Tiquia-Arashiro, S. M., Li, X., Pokhrel, K., Kassem, A., Abbas, L., Coutinho, O. P., Kasperek, D., Najaf, H., & Opara, S. (2023). Applications of Fourier Transform-Infrared spectroscopy in microbial cell biology and environmental microbiology: advances, challenges, and future perspectives. *Frontiers in Microbiology*, 14. <https://doi.org/10.3389/fmicb.2023.1304081>
- Todorov, H., Kollar, B., Bayer, F., Brandão, I., Mann, A., Mohr, J., Pontarollo, G., Formes, H., Stauber, R., Kittner, J. M., Endres, K., Watzer, B., Nockher, W. A., Sommer, F., Gerber, S., & Reinhardt, C. (2020). α -Linolenic Acid-Rich Diet Influences Microbiota Composition and Villus Morphology of the Mouse Small Intestine. *Nutrients*, 12(3), 732–732. <https://doi.org/10.3390/nu12030732>
- Torres, A., Dalzon, B., Collin-Faure, V., & Rabilloud, T. (2020). Repeated vs. Acute Exposure of RAW264.7 Mouse Macrophages to Silica Nanoparticles: A Bioaccumulation and Functional Change Study. *Nanomaterials*, 10(2), 215. <https://doi.org/10.3390/nano10020215>
- Tungmunnithum, D., Thongboonyou, A., Pholboon, A., & Yangsabai, A. (2018). Flavonoids and Other Phenolic Compounds from Medicinal Plants for Pharmaceutical and Medical Aspects: An Overview. *Medicines*, 5(3), 93. <https://doi.org/10.3390/medicines5030093>

- Turner, M. D., Nedjai, B., Hurst, T., & Pennington, D. J. (2014). Cytokines and chemokines: at the Crossroads of Cell Signalling and Inflammatory Disease. *Biochimica et Biophysica Acta (BBA) - Molecular Cell Research*, 1843(11), 2563–2582. <https://doi.org/10.1016/j.bbamcr.2014.05.014>
- Uciechowski, P., & Dempke, W. C. M. (2020). Interleukin-6: A Masterplayer in the Cytokine Network. *Oncology*, 98(3), 131–137. <https://doi.org/10.1159/000505099>
- Vaillant, A. A. J., & Qurie, A. (2021). Interleukin. PubMed; StatPearls Publishing. <https://pubmed.ncbi.nlm.nih.gov/29763015/>
- van Loo, G., & Bertrand, M. J. M. (2022). Death by TNF: a road to inflammation. *Nature Reviews Immunology*, 23(5). <https://doi.org/10.1038/s41577-022-00792-3>
- Wang, J., Liu, Y.-T., Xiao, L., Zhu, L., Wang, Q., & Yan, T. (2014). Anti-Inflammatory Effects of Apigenin in Lipopolysaccharide-Induced Inflammation in Acute Lung Injury by Suppressing COX-2 and NF- κ B Pathway. *Inflammation*, 37(6), 2085–2090. <https://doi.org/10.1007/s10753-014-9942-x>
- Wang, W., Yan, L., Zhao, C., He, C., & Gao, X.-H. (2026). Glycolytic reprogramming and immune responses in macrophages: A crosstalk driven by bacterial infection [Review of *Glycolytic reprogramming and immune responses in macrophages: A crosstalk driven by bacterial infection*]. *Frontiers in Immunology*, 17. <https://doi.org/10.3389/fimmu.2026.1783266>
- Wang, X., Zhao, J., Li, Y., Gao, S., & Su, L. (2025). Luteolin as a multifaceted immunomodulator: insights into its effects on diverse immune cell populations and therapeutic implications. *Frontiers in Immunology*, 16. <https://doi.org/10.3389/fimmu.2025.1621367>
- Wei, J., Liu, Z., Sun, H., & Xu, L. (2024). Perillaldehyde Ameliorates Lipopolysaccharide-induced Acute Lung Injury via Suppressing the cGAS/STING Signaling Pathway. *Int Immunopharmacol.* <https://doi.org/10.1016/j.intimp.2024.111641>
- Wu, T., Zhou, J., Qiu, J., Song, Y., Guo, W., Cui, L., Song, X., & Sun, Y. (2022). Tumor necrosis factor- α mediated inflammation versus apoptosis in age-related hearing loss. *Frontiers in Aging Neuroscience*, 14. <https://doi.org/10.3389/fnagi.2022.956503>

- Wu, X., Dong, S., Chen, H., Guo, M., Sun, Z., & Luo, H. (2023). Perilla frutescens: A traditional medicine and food homologous plant. *Chinese Herbal Medicines*.
<https://doi.org/10.1016/j.chmed.2023.03.002>
- Wu, Z., Lee, S., Kang, B., Lee, S., Koo, K., Lee, J., & Lim, S. (2023). Determination of Luteolin 7-Glucuronide in Perilla frutescens (L.) Britt. Leaf Extracts from Different Regions of China and Republic of Korea and Its Cholesterol-Lowering Effect. *Molecules/Molecules Online/Molecules Annual*, 28(20), 7007–7007. <https://doi.org/10.3390/molecules28207007>
- Xia, Y., Inoue, K., Zheng, T., Qin, Y., & Zhao, B. (2024). Reciprocal suppression between $\text{TGF}\beta$ signaling and TNF stimulation finetunes the macrophage inflammatory response. *The FASEB Journal*, 38(13). <https://doi.org/10.1096/fj.202302230r>
- Xiang, L., Hu, Y.-F., Wu, J.-S., Wang, L., Huang, W.-G., Xu, C.-S., Meng, X.-L., & Wang, P. (2018). Semi-Mechanism-Based Pharmacodynamic Model for the Anti-Inflammatory Effect of Baicalein in LPS-Stimulated RAW264.7 Macrophages [Review of *Semi-Mechanism-Based Pharmacodynamic Model for the Anti-Inflammatory Effect of Baicalein in LPS-Stimulated RAW264.7 Macrophages*]. *Frontiers in Pharmacology*, 9. <https://doi.org/10.3389/fphar.2018.00793>
- Xie, L., Dai, Z., Pang, C., Lin, D., & Zheng, M. (2018). Cellular glucose metabolism is essential for the reduction of cell-impermeable water-soluble tetrazolium (WST) dyes. *International Journal of Biological Sciences*, 14(11), 1535–1544. <https://doi.org/10.7150/ijbs.25629>
- Yan, Y., Xie, T., An, R., Yao, G., Huang, M., & Xiong, K. (2025). Traditional processing unlocks anti-atherogenic potential of perilla fruit via PPAR- γ activation by luteolin. *Bioresources and Bioprocessing*, 12(1). <https://doi.org/10.1186/s40643-025-00957-7>
- Yi, D., Wang, Z., & Peng, M. (2025). Comprehensive Review of Perilla frutescens: Chemical Composition, Pharmacological Mechanisms, and Industrial Applications in Food and Health Products. *Foods*, 14(7), 1252. <https://doi.org/10.3390/foods14071252>

- Yin, Z., He, Q., Yang, H., Morisseau, C., El-Sheikh, E.-S. A., Li, D., & Hammock, B. D. (2023). Development of a sandwich ELISA for the specific quantitation of hemagglutinin (HA)-tagged proteins during their inducible expression in *Escherichia coli*. *Analytical and Bioanalytical Chemistry*, 415(23), 5563–5574. <https://doi.org/10.1007/s00216-023-04846-w>
- You, K., Gu, H., Yuan, Z., & Xu, X. (2021). Tumor Necrosis Factor Alpha Signaling and Organogenesis. *Frontiers in Cell and Developmental Biology*, 9. <https://doi.org/10.3389/fcell.2021.727075>
- Yousef, A., Salem, S. S., Ragab, A., El Shahaly, O. M., Rateb, H. O., El-Esawy, R. A., Elakraa, A. M., Abd El Hamid, E. S., & Ibrahim, S. (2025). *Mentha spicata*-mediated silver nanoparticles for combating *Streptococcus mutans* and oral cancer cells. *Scientific Reports*, 15(1). <https://doi.org/10.1038/s41598-025-23852-9>
- Yu, J., Jing, N., Yang, F., Wang, S., Yan, J., Ma, Y., & Wei, A. (2023). Effects of packaging and storage temperatures on the bioactive compounds and antioxidant capacity of dried *Zanthoxylum bungeanum* Maxim. During long-term storage. *Scientia Horticulturae*, 321, 112231. <https://doi.org/10.1016/j.scienta.2023.112231>
- Yu, Y. G., Kamaruzaman, P. D. I., Ganaprakasam, S. W., Bakar, N. A. A., Amin, E. S. R., & Yusof, M. J. M. (2026). Chemometric Analysis of Fourier Transform Infrared Spectra for the Detection of Cotinine in Fingernails of E-Cigarette Users. *Molecules*, 31(5), 791. <https://doi.org/10.3390/molecules31050791>
- Zhang, C., Gu, F., Hu, W., Wu, G., Chen, W., Dong, C., & Niu, Z. (2022). Effect of extraction technique on chemical compositions and antioxidant activities of freeze-dried green pepper. *Frontiers in Nutrition*, 9. <https://doi.org/10.3389/fnut.2022.998840>
- Zhang, Q., Wei, W., & Tian, H. (2026). Identification and characterization of the DREB family in Chinese yam and functional study of DoDREB28 under drought stress. 26. <https://doi.org/https://doi.org/10.1186/s12870-026-08286-3>

- Zhou, J., Wu, Z., & Zhao, P. (2024). Luteolin and its antidepressant properties: From mechanism of action to potential therapeutic application. *Journal of Pharmaceutical Analysis*, 15(4), 101097. <https://doi.org/10.1016/j.jpha.2024.101097>
- Zhu, M., Bao, J., Liang, P., Zhang, C., Li, S., & Hu, F. (2025). Extraction of flavonoids and phenolic acids from poplar-type propolis: optimization of maceration process, evaluation of antioxidant and antimicrobial activities. *LWT*, 233, 118481. <https://doi.org/10.1016/j.lwt.2025.118481>