References

Al-Mustafa, A. H., & Al-Thunibat, O. Y. (2008). Antioxidant Activity of Some Jordanian Medicinal Plants Used Traditionally for Treatment of Diabetes. *Pakistan Journal of Biological Sciences, 11*(3), 351–358

Al-Shahrani, M. H., Mahfoud, M., Anvarbatcha, R., Athar, M. T., & Al Asmari, A. (2017). Evaluation of Antifungal Activity and Cytotoxicity of *Thymus vulgar*is Essential Oil. *Pharmacognosy Communications*, *7*(1).

Alu'datt, M. H., Rababah, T., Johargy, A., Gammoh, S., Ereifej, K., Alhamad, M. N., Brewer, M. S., Saati, A. A., Kubow, S., & Rawshdeh, M. (2016). Extraction, Optimisation and Characterisation of Phenolics From *Thymus vulgaris* L.: Phenolic Content and Profiles in Relation to Antioxidant, Antidiabetic and Antihypertensive Properties. *International Journal of Food Science & Technology*, *51*(3), 720-730.

Ardiani, M., Puspita, N., Goenadi, F. A., Septisetyani, E. P., and Meiyanto, E. (2008). The Ethanolic Extract of *Citrus Reticulata's* Peels Induces Proliferation And COX-2 Expression in WiDr Colon Cancer Cells, in *Transformation of Science and Technology in Pharmaceutical Professional Practice: Proceeding of the XVI Indonesian Pharmacy Association Scientific Congress 2008*, edited by Pudjono, *Indonesian Pharmacy Association*, Yogyakarta, Indonesia. ISBN: 978-979- 95108-6-0. pp. 193-198 (in Indonesian)

Arnao, M. B. (2000). Some Methodological Problems in The Determination of Antioxidant Activity Using Chromogen Radicals: A Practical Case. *Trends in Food Science & Technology*, *11*(11), 419-421.

Aslan, O., & Mevlüt, G. Ü. L. (2017). Economic Structure and The Problems of Thyme Producer Farms in Denizli. *International Journal of Social and Economic Sciences*, *7*(1), 64-69.

Aslantürk, Ö. S. (2018). *In Vitro* Cytotoxicity and Cell Viability Assays: Principles, Advantages, and Disadvantages (Vol. 2, P. 64). Intech.

Aurogene. (n.d). MTT Cell Proliferation Kit INSTRUCTION MANUAL. [Online] Available At: <http://www.aurogene.eu/public/aurogene/files/mtt_kit_oz_biosciences_protocol.pdf> [Accessed 25 August 2020].

Awika, J. M., Rooney, L. W., Wu, X., Prior, R. L., & Cisneros-Zevallos, L. (2003). Screening Methods to Measure Antioxidant Activity of Sorghum (*Sorghum bicolor*) and Sorghum Products. *Journal of Agricultural and Food Chemistry*, *51*(23), 6657-6662.

Bailey, L. O., Washburn, N. R., Simon Jr, C. G., Chan, E. S., & Wang, F. W. (2004). Quantification of Inflammatory Cellular Responses Using Real-Time Polymerase Chain Reaction. *Journal of Biomedical Materials Research Part A: An Official Journal of The Society for Biomaterials, The Japanese Society for Biomaterials, and the Australian Society for Biomaterials and The Korean Society for Biomaterials*, *69*(2), 305-313.

Ballester-Costa, C., Sendra, E., Fernández-López, J., Pérez-Álvarez, J. A., & Viuda-Martos, M. (2017). Assessment of Antioxidant and Antibacterial Properties on Meat Homogenates of Essential Oils Obtained from Four *Thymus* Species Achieved from Organic Growth. *Foods*, *6*(8), 59.

Begrow, F., Engelbertz, J., Feistel, B., Lehnfeld, R., Bauer, K., & Verspohl, E. J. (2010). Impact of Thymol in Thyme Extracts on Their Antispasmodic Action and Ciliary Clearance. *Planta Medica*, *76*(04), 311-318.

Benzie, I. F., & Devaki, M. (2018). The Ferric Reducing/Antioxidant Power (FRAP) Assay for Non-Enzymatic Antioxidant Capacity: Concepts, Procedures, Limitations and Applications. *Measurement of Antioxidant Activity & Capacity*, 77-106.

Bhalodia, N. R., Nariya, P. B., Acharya, R. N., & Shukla, V. J. (2013). *In Vitro* Antioxidant Activity of Hydro Alcoholic Extract from the Fruit Pulp of *Cassia fistula* Linn. *Ayu*, *34*(2), 209.

Bhandari, K., Singla, R. K., De, B., Ghosh, B. C., Katakam, P., Khushwaha, D. K., Gundamaraju, R., Sen, G., Saha, G., & Mitra, A. (2015). Chemometrics Based Extraction of Polyphenolics from Fresh Tea Leaves and Processed Tea Showing In-Silicodocking And Anti-Oxidative Theronostic Dietary Adjuvant in Alzheimer. *Indo Glob J Pharm Sci*, *5*(3), 171-191.

Bhuyan, D. J., & Basu, A. (2017). Phenolic Compounds Potential Health Benefits and Toxicity. In *Utilisation Of Bioactive Compounds from Agricultural and Food Production Waste* (Pp. 27-59). CRC Press.

Blainski, A., Lopes, G. C., & De Mello, J. C. P. (2013). Application and Analysis of The Folin Ciocalteau Method for the Determination of the Total Phenolic Content from *Limonium brasiliense* L. *Molecules*, *18*(6), 6852-6865.

Brand-Williams, W., Cuvelier, M. E., & Berset, C. L. W. T. (1995). Use of A Free Radical Method to Evaluate Antioxidant Activity. *LWT-Food Science and Technology*, *28*(1), 25-30.

Bounatirou, S., Smiti, S., Miguel, M. G., Faleiro, L., Rejeb, M. N., Neffati, M., Costa, M. M., Figueiredo, A. C., Barroso, J. G., & Pedro, L. G. (2007). Chemical Composition, Antioxidant and Antibacterial Activities of The Essential Oils Isolated from Tunisian *Thymus capitatus* Hoff. Et Link. *Food Chemistry*, *105*(1), 146-155.

Bouyahya, A., Chamkhi, I., Fatima-Ezzahrae, G., Benali, T., Balahbib, A., El Omari, N., Taha, D., El-Shazly, M., & Menyiy, N. E. (2020). Ethnomedicinal Use, Phytochemistry, Pharmacology, And Food Benefits of *Thymus capitatus. Journal of Ethnopharmacology*, 112925.

Casanova, C. M., Calzado, A. M. Á., Mir, P. C., & Esteban, C. V. (2019). New Cases of Star Anise Poisoning: Are We Providing Enough Information? *Neurologia*, *34*(3), 211-213.

Chen, N., Song, Z. M., Tang, H., Xi, W. S., Cao, A., Liu, Y., & Wang, H. (2016). Toxicological Effects of Caco-2 Cells Following Short-Term and Long-Term Exposure to Ag Nanoparticles. *International Journal of Molecular Sciences*, *17*(6), 974.

Durgadevi, P., & Kalava, S. V. (2013). Investigation on the *In Vitro* Antioxidant, Antimutagenic And Cytotoxic Potential of *Thymus vulgaris* L. Hydro-Alcoholic Extract. *International Journal of Pharmaceutical Sciences and Research*, *4*(8), 3157.

Dušan, F., Marián, S., Katarína, D., & Dobroslava, B. (2006). Essential Oils—Their Antimicrobial Activity Against *Escherichia Coli* and Effect on Intestinal Cell Viability. *Toxicology In Vitro*, *20*(8), 1435-1445.

El-Jalel, L. F., Elkady, W. M., Gonaid, M. H., & El-Gareeb, K. A. (2018). Difference in Chemical Composition and Antimicrobial Activity of *Thymus capitatus* L. Essential Oil at Different Altitudes. *Future Journal of Pharmaceutical Sciences*, *4*(2), 156-160.

Faleiro, L., Miguel, G., Gomes, S., Costa, L., Venâncio, F., Teixeira, A., Figuiredo, A. C., Barroso, J. G., & Pedro, L. G. (2005). Antibacterial and antioxidant activities of essential oils isolated from *Thymbra capitata* L. (Cav.) and *Origanum vulgare* L. *Journal of Agricultural and Food Chemistry*, *53*(21), 8162-8168.

Firuzi, O., Lacanna, A., Petrucci, R., Marrosu, G., & Saso, L. (2005). Evaluation of The Antioxidant Activity of Flavonoids By "Ferric Reducing Antioxidant Power" Assay and Cyclic Voltammetry. *Biochimica et Biophysica Acta (BBA)-General Subjects*, *1721*(1-3), 174-184.

Gavarić, N., Kladar, N., Mišan, A., Nikolić, A., Samojlik, I., Mimica-Dukić, N., & Božin, B. (2015). Postdistillation Waste Material of Thyme (*Thymus vulgaris* L., Lamiaceae) As A Potential Source of Biologically Active Compounds. *Industrial Crops and Products*, *74*, 457-464.

Gedikoğlu, A., Sökmen, M., & Çivit, A. (2019). Evaluation of *Thymus vulgaris* and *Thymbra spicata* Essential Oils and Plant Extracts for Chemical Composition, Antioxidant, And Antimicrobial Properties. *Food Science & Nutrition*, *7*(5), 1704-1714.

Goudjil, M. B., Zighmi, S., Hamada, D., Mahcene, Z., Bencheikh, S. E., & Ladjel, S. (2020). Biological Activities of Essential Oils Extracted from *Thymus capitatus* (Lamiaceae). *South African Journal of Botany*, *128*, 274-282.

Guo, J. J., Hsieh, H. Y., & Hu, C. H. (2009). Chain-Breaking Activity of Carotenes in Lipid Peroxidation: A Theoretical Study. *The Journal of Physical Chemistry B*, *113*(47), 15699-15708.

Hanana, M., Mansour, M. B., Algabr, M., Amri, I., Gargouri, S., Romane, A., Jamoussi, B., & Hamrouni, L. (2017). Potential Use of Essential Oils from Four Tunisian Species of Lamiaceae: Biological Alternative for Fungal and Weed Control. *Records of Natural Products*, *11*(3).

Hazzit, M., Baaliouamer, A., Faleiro, M. L., & Miguel, M. G. (2006). Composition of The Essential Oils of *Thymus* and *Origanum* Species from Algeria and Their Antioxidant and Antimicrobial Activities. *Journal of Agriculture and Food Chemistry*, *54*, 6314–6321

Hikariastri, P., Winarno, H., Kusmardi, K., Laksmitawati, D. R., & Abdillah, S. (2019). Aktivitas Antiinflamasi Crude Extract Fukoidan Dari Sargassum Crassifolium Pada Sel RAW 264.7 yang Diinduksi LPS. *Jurnal Kefarmasian Indonesia*, 97-105.

Huang, D., Ou, B., & Prior, R. L. (2005). The Chemistry Behind Antioxidant Capacity Assays. *Journal of Agricultural and Food Chemistry*, *53*(6), 1841-1856.

Hwang, J. H., Ma, J. N., Park, J. H., Jung, H. W., & Park, Y. K. (2019). Anti-Inflammatory and Antioxidant Effects Of MOK, A Polyherbal Extract, On Lipopolysaccharide-Stimulated RAW 264.7 Macrophages. *International Journal of Molecular Medicine*, *43*(1), 26-36.

Iauk, L., Acquaviva, R., Mastrojeni, S., Amodeo, A., Pugliese, M., Ragusa, M., Loizzo, M. R., Menichini, F., & Tundis, R. (2015). Antibacterial, Antioxidant and Hypoglycaemic Effects of *Thymus capitatus* (L.) Hoffmanns. Et Link leaves' fractions. *Journal of Enzyme Inhibition and Medicinal Chemistry*, *30*(3), 360-365.

Jabri-Karoui, I., Bettaieb, I., Msaada, K., Hammami, M., & Marzouk, B. (2012). Research on The Phenolic Compounds and Antioxidant Activities of Tunisian *Thymus capitatus*. *Journal of Functional Foods*, *4*(3), 661-669.

Jaouadi, R., Silva, A., Boussaid, M., Yahia, I. B., Cardoso, S. M., & Zaouali, Y. (2019). Differentiation of Phenolic Composition Among Tunisian *Thymus algeriensis* Boiss. et Reut.(Lamiaceae) Populations: Correlation To Bioactive Activities. *Antioxidants*, *8*(11), 515.

Kedare, S. B., & Singh, R. P. (2011). Genesis and Development of DPPH Method of Antioxidant Assay. *Journal of food science and technology*, *48*(4), 412-422.

Kong, L., Smith, W., & Hao, D. (2019). Overview of RAW264. 7 For Osteoclastogensis Study: Phenotype and Stimuli. *Journal of Cellular and Molecular Medicine*, *23*(5), 3077-3087.

Kosińska, A., & Andlauer, W. (2012). Cocoa Polyphenols Are Absorbed in Caco-2 Cell Model of Intestinal Epithelium. *Food Chemistry*, *135*(3), 999-1005.

Kumar, R., Gupta, A., Ganguly, R., & Pandey, A. K. (2019). In-vitro Models to Assess Antioxidant Potential. In *Phytochemistry: An in-silico and in-vitro Update* (pp. 237-250). Springer, Singapore.

Lea, T., Verhoeckx, K., Cotter, P., López-Expósito, I., Kleiveland, C., & Mackie, A. (2015). *The Impact of Food Bioactives On Health: In Vitro And Ex Vivo Models*.

Lewoyehu, M., & Amare, M. (2019). Comparative Evaluation of Analytical Methods for Determining the Antioxidant Activities of Honey: A Review. *Cogent Food & Agriculture*, *5*(1), 1685059.

Li, S., Chen, G., Zhang, C., Wu, M., Wu, S., & Liu, Q. (2014). Research Progress of Natural Antioxidants in Foods for The Treatment of Diseases. *Food Science and Human Wellness*, *3*(3-4), 110-116.

Liu, Y., Chen, P., Zhou, M., Wang, T., Fang, S., Shang, X., & Fu, X. (2018). Geographic Variation in The Chemical Composition and Antioxidant Properties of Phenolic Compounds from *Cyclocarya paliurus* (Batal) Iljinskaja Leaves. *Molecules*, *23*(10), 2440.

Lodish, H., Berk, A., Kaiser, C. A., Krieger, M., Scott, M. P., Bretscher, A., Ploegh, H., & Matsudaira, P. (2008). *Molecular Cell Biology*. Macmillan.

Marc, F., Davin, A., Deglène-Benbrahim, L., Ferrand, C., Baccaunaud, M., & Fritsch, P. (2004). Studies of Several Analytical Methods for Antioxidant Potential Evaluation in Food. *Medecine Sciences: M/S*, *20*(4), 458-463.

Meeran, N., Fizur, M., Javed, H., Al Taee, H., Azimullah, S., & Ojha, S. K. (2017). Pharmacological Properties and Molecular Mechanisms of Thymol: Prospects for Its Therapeutic Potential and Pharmaceutical Development. *Frontiers in Pharmacology*, *8*, 380.

Mehta, S. K., & Gowder, S. J. T. (2015). Members of Antioxidant Machinery and Their Functions. *Basic Principles and Clinical Significance of Oxidative Stress*, 59-85.

Moniruzzaman, M., Khalil, M. I., Sulaiman, S. A., & Gan, S. H. (2012). Advances in The Analytical Methods for Determining the Antioxidant Properties of Honey: A Review. *African Journal of Traditional, Complementary and Alternative Medicines*, *9*(1), 36-42.

Nguyen, T. Q., Duy Binh, T., Pham, T. L., Nguyen, Y. D., Dai Trang, T. X., Nguyen, T. T., Kanaori, K., & Kamei, K. (2020). Anti-Inflammatory Effects of *Lasia spinosa* Leaf Extract in Lipopolysaccharide-Induced RAW 264.7 Macrophages. *International Journal of Molecular Sciences*, *21*(10), 3439.

Numpaque, M. A., Oviedo, L. A., Gil, J. H., García, C. M., & Durango, D. L. (2011). Thymol and Carvacrol: Biotransformation and Antifungal Activity Against the Plant Pathogenic Fungi *Colletotrichum acutatum* and *Botryodiplodia theobromae*. *Tropical Plant Pathology*, *36*(1), 3-13.

Ormancey, X. (2001). Formulation of Essential Oils in Functional Perfumery. *Parfums, Cosmetiques, Actualites*, *157*, 30-40.

Pham-Huy, L. A., He, H., & Pham-Huy, C. (2008). Free Radicals, Antioxidants in Disease and Health. *International Journal of Biomedical Science: IJBS*, *4*(2), 89.

Pokorný, J., & Parkányiová, J. (2004). Advantages and Disadvantages of Natural Antioxidants in Comparison with Synthetic Antioxidants. In *4th Euro Fed Lipid Congress ''Oils, Fats and Lipids for A Healthier Future* (Pp. 1-4).

Prasanth Reddy, V., Ravi Vital, K., Varsha, P. V., & Satyam, S. (2014). Review on *Thymus Vulgaris* Traditional Uses and Pharmacological Properties. *Medical & Aromatic Plants*, *3*, 164.

Prior, R. L., Wu, X., & Schaich, K. (2005). Standardized Methods for The Determination of Antioxidant Capacity and Phenolics In Foods and Dietary Supplements. *Journal of Agricultural and Food Chemistry*, *53*(10), 4290-4302.

Pluhár, Z., Szabó, D., & Sárosi, S. (2016). Effects of Different Factors Influencing the Essential Oil Properties of *Thymus vulgaris* L. *Plant Science Today*, *3*(3), 312-326.

Raschke, W. C., Baird, S., Ralph, P., & Nakoinz, I. (1978). Functional Macrophage Cell Lines Transformed by Abelson Leukemia Virus. *Cell*, *15*(1), 261-267.

Riss, T. L., Moravec, R. A., Niles, A. L., Duellman, S., Benink, H. A., Worzella, T. J., & Minor, L. (2016). Cell Viability Assays. *In Assay Guidance Manual [Internet]. Eli Lilly & Company and The National Center for Advancing Translational Sciences.*

Rodrigues, V., Cabral, C., Evora, L., Ferreira, I., Cavaleiro, C., Cruz, M. T., & Salgueiro, L. (2019). Chemical Composition, Anti-Inflammatory Activity and Cytotoxicity of *Thymus zygis L. Subsp. Sylvestris* (Hoffmanns. & Link) Cout. Essential Oil and Its Main Compounds. *Arabian Journal Of Chemistry*, *12*(8), 3236-3243.

Salah-Fatnassi, K. B. H., Slim-Bannour, A., Harzallah-Skhiri, F., Mahjoub, M. A., Mighri, Z., Chaumont, J. P., & Aouni, M. (2010). Activités Antivirale Et Antioxydante *In Vitro* D'huiles Essentielles De *Thymus capitatus* (L.) Hoffmans. & Link de Tunisie. *Acta Botanica Gallica*, *157*(3), 433-444.

Sánchez-Moreno, C. (2002). Methods Used to Evaluate the Free Radical Scavenging Activity in Foods and Biological Systems. *Food Science and Technology International*, *8*(3), 121-137.

Sertel, S., Eichhorn, T., Plinkert, P. K., & Efferth, T. (2011). Cytotoxicity of *Thymus Vulgaris* Essential Oil Towards Human Oral Cavity Squamous Cell Carcinoma. *Anticancer research*, *31*(1), 81-87.

Shah, P., & Modi, H. A. (2015). Comparative Study of DPPH, ABTS and FRAP Assays for Determination of Antioxidant Activity. *Int J Res Appl Sci Eng Technol*, *3*(6), 636-41.

Shahidi, F., & Zhong, Y. (2015). Measurement of Antioxidant Activity. *Journal of functional foods*, *18*, 757-781.

Sharifi-Rad, M., Varoni, E. M., Iriti, M., Martorell, M., Setzer, W. N., Del Mar Contreras, M., Salehi, B., Soltani-Nejad, A., Rajabi, S., & Sharifi-Rad, J. (2018). Carvacrol and Human Health: A Comprehensive Review. *Phytotherapy Research*, *32*(9), 1675-1687.

Silva, T. C., De Andrade, P. B., Paiva-Martins, F., Valentão, P., & Pereira, D. M. (2017). *In Vitro* Anti-Inflammatory and Cytotoxic Effects of Aqueous Extracts from The Edible Sea Anemones Anemonia Sulcata And Actinia Equina. *International Journal of Molecular Sciences*, *18*(3), 653.

Sochor, J., Ryvolova, M., Krystofova, O., Salas, P., Hubalek, J., Adam, V., Trnkova, L., Havel, L., Beklova, M., Zchnalek, J., & Provaznik, I. (2010). Fully Automated Spectrometric Protocols for Determination of Antioxidant Activity: Advantages and Disadvantages. *Molecules*, *15*(12), 8618-8640.

Sokmen, A., Gulluce, M., Akpulat, H. A., Daferera, D., Tepe, B., Polissiou, M., Sokmen, M., & Sahin, F. (2004). The *In Vitro* Antimicrobial and Antioxidant Activities of The Essential Oils and Methanol Extracts of Endemic *Thymus spathulifolius*. *Food control*, *15*(8), 627-634.

Stahl-Biskup, E., & Sáez, F. (Eds.). (2002). *Thyme: The Genus Thymus*. CRC Press.

Suda, I. (2000). Antioxidant Activity. *The Methods of Food Functions Analysis*, 218-220.

Tabti, L., Dib, M. E. A., Gaouar, N., Samira, B., & Tabti, B. (2014). Antioxidant and Antifungal Activity of Extracts of The Aerial Parts of *Thymus capitatus* (L.) Hoffmanns Against Four Phytopathogenic Fungi of Citrus Sinensis. *Jundishapur Journal of Natural Pharmaceutical Products*, *9*(1), 49.

Timoshnikov, V. A., Kobzeva, T. V., Polyakov, N. E., & Kontoghiorghes, G. J. (2020). Redox Interactions of Vitamin C and Iron: Inhibition of the Pro-Oxidant Activity by Deferiprone. *International Journal of Molecular Sciences*, *21*(11), 3967.

Tsao, R. (2010). Chemistry and Biochemistry of Dietary Polyphenols. *Nutrients*, *2*(12), 1231-1246.

UCSD Signaling Gateway. (n.d). Passage Procedure for RAW 264.7 Cells AFCS Procedure Protocol PP00000159 Version 1, 08/20/03. Retrieved 22 September 2020, From http://www.signaling-gateway.org/data/cgi-bin/protocolfile.cgi/afcs_pp00000159.pdf?pid=pp00000159

Ude, V. C., Brown, D. M., Viale, L., Kanase, N., Stone, V., & Johnston, H. J. (2017). Impact of Copper Oxide Nanomaterials on Differentiated and Undifferentiated Caco-2 Intestinal Epithelial Cells; Assessment of Cytotoxicity, Barrier Integrity, Cytokine Production and Nanomaterial Penetration. *Particle and Fibre Toxicology*, *14*(1), 1-16.

Ündeğer, Ü., Başaran, A. R. İ. F., Degen, G. H., & Başaran, N. (2009). Antioxidant Activities of Major Thyme Ingredients and Lack of (Oxidative) DNA Damage in V79 Chinese Hamster Lung Fibroblast Cells at Low Levels of Carvacrol and Thymol. *Food and Chemical Toxicology*, *47*(8), 2037-2043.

Van Breemen, R. B., & Li, Y. (2005). Caco-2 Cell Permeability Assays to Measure Drug Absorption. *Expert Opinion on Drug Metabolism & Toxicology*, *1*(2), 175-185.

Wang, H., Cao, G., & Prior, R. L. (1996). Total Antioxidant Capacity of Fruits. *Journal of Agricultural and Food Chemistry*, *44*(3), 701-705.

Xu, X., Li, H., Hou, X., Li, D., He, S., Wan, C., Yin, P., Liu, M., Liu, F., & Xu, J. (2015). Punicalagin Induces Nrf2/HO-1 Expression Via Upregulation of PI3K/AKT Pathway and Inhibits LPS-Induced Oxidative Stress in RAW264. 7 Macrophages. *Mediators of Inflammation*, *2015*.

Yanishlieva, N. V., Marinova, E. M., Gordon, M. H., & Raneva, V. G. (1999). Antioxidant Activity and Mechanism of Action of Thymol and Carvacrol in Two Lipid Systems. *Food Chemistry*, *64*(1), 59-66.