



DAFTAR PUSTAKA

- Aguilar, M.I., 2004, Reversed-Phase High-Performance Liquid Chromatography, *Methods Mol. Biol.*, 251, 9-22.
- Ali, A. M., and Ibrahim, A. M. A., 2018, Castor and camphor essential oils alter hemocyte populations and induce biochemical changes in larvae of *Spodoptera littoralis* (Boisduval) (Lepidoptera: Noctuidae). *J. Asia Pac. Entomol.*, 21(2), 631–637.
- Al-Mamun, M. A., Akter, Z., Uddin, M. J., Ferdaus, K. M. K. B., Hoque, K. M. F., Ferdousi, Z., and Reza, M. A., 2016, Characterization and evaluation of antibacterial and antiproliferative activities of crude protein extracts isolated from the seed of *Ricinus communis* in Bangladesh, *BMC Complement Altern Med.*, 16(1).
- Alu'datt, M. H., Rababah, T., Alhamad, M. N., Alodat, M., Al-Mahasneh, M. A., Gammoh, S., Ereifej, K., Almajwal, A., and Kubow, S., 2017, Molecular characterization and bio-functional property determination using SDS-PAGE and RP-HPLC of protein fractions from two Nigella species. *Food Chem.*, 230, 125–134.
- Anjani, K., 2012, Castor genetic resources: A primary gene pool for exploitation, *Ind. Crops Prod.*, (35)1, 1–14.
- Arakawa, T., Tsumoto, K., Ejima, D., Kita, Y., Yonezawa, Y., and Tokunaga, M., 2007, Induced binding of proteins by ammonium sulfate in affinity and ionexchange column chromatography, *J. Biochem. Biophys Methods*, 70(3), 493–498.
- Atmawati, D. R., Andriana, Z., Swasono, R. T., and Raharjo, T. J., 2022, Antibacterial Peptide From Solid Phase Extraction (Spe) Fractionation On Trypsin Hydrolysis Of Jatropha (*Ricinus Communis*) Seed Protein Acid Extract. *Rasayan J. Chem.*, 15(2), 1288–1295.
- Audi, J., Belson, M., Patel, M., Schier, J., and Osterloh, J., 2005, Ricin Poisoning AComprehensive Review, *JAMA*, 294.
- Bagag, A., Jault, J. M., Sidahmed-Adrar, N., Réfrégiers, M., Giuliani, A., and le Naour, F., 201, Characterization of hydrophobic peptides in the presence of detergent by photoionization mass spectrometry. *PLoS ONE*, 8(11).
- Bahamondes, C., Álvaro, G., Wilson, L., and Illanes, A., 2017, Effect of enzyme load and catalyst particle size on the diffusional restrictions in reactions of synthesis and hydrolysis catalyzed by α -chymotrypsin immobilized into glyoxalagarose. *Process Biochem.*, 53, 172–179.
- Ballatore, M. B., Bettoli, M. del R., vanden Braber, N. L., Aminahuel, C. A., Rossi, Y. E., Petroselli, G., Erra-Balsells, R., Cavagliari, L. R., and Montenegro, M.A., 2020, Antioxidant and cytoprotective effect of peptides produced by hydrolysis of whey protein concentrate with trypsin. *Food Chem.*, 319, 75.



- Balti, R., Bougherra, F., Bougatef, A., Hayet, B. K., Nedjar-Arroume, N., Dhulster, P., Guillochon, D., and Nasri, M., 2012, Chymotrypsin from the hepatopancreas of cuttlefish (*Sepia officinalis*) with high activity in the hydrolysis of long chain peptide substrates: Purification and biochemical characterisation. *Food Chem.*, 130(3), 475–484.
- Bao, Y., Wang, J., Li, C., Li, P., Wang, S., and Lin, Z., 2016, A preliminary study on the antibacterial mechanism of *Tegillarca granosa* hemoglobin by derived peptides and peroxidase activity. *Fish & Shellfish Immunol.*, 51, 9–16.
- Baudhh, K., Singh, K., Singh, B., and Singh, R. P., 2015, *Ricinus communis*: A robust plant for bio-energy and phytoremediation of toxic metals from contaminated soil. *Ecol. Eng.*, 84, 640–652).
- Beaulieu, L., Bondu, S., Doiron, K., Rioux, L. E., and Turgeon, S. L., 2015, Characterization of antibacterial activity from protein hydrolysates of the macroalga *Saccharina longicurvis* and identification of peptides implied in bioactivity. *J. Funct. Foods*, 17, 685–697.
- Bender, M. L., Kezdy, F. J., and Wedler, F. C., 1967, a-chymotryprin: Enzyme Concentration and Kinetics, *J. Chem. Educ.*, 84-88.
- Bhattarai, A., Niraula, T. P., and Chatterjee, S., 2014, Sodium dodecyl sulphate: A very useful surfactant for Scientific Invetigations, *J. Knowl. Innov.*, 2(1),111-113.
- Boone, C., and Adamec, J., 2016, Top-Down Proteomics. *Proteomic Profiling and Analytical Chemistry: The Crossroads: Second Edition*, 175–191.
- Brogden, K. A., 2005, Antimicrobial peptides: Pore formers or metabolic inhibitors in bacteria. *Nat. Rev. Microbiol.*, 3(3),238–250.
- Brooks, G., Carroll, K. C., Butel, S., Morse, S., dan Mietzner,T., 2012, *Jawetz, Melnick & Adelbergs Medical Microbiology*, 26, McGraw-Hill Publishing, New York.
- Büyükkiraz, M.E., and Kesmen, Z., 2022, Antimicrobial peptides (AMPs): A promising class of antimicrobial compounds, *J. Appl. Microbiol.*, 132(3), 1573-1596.
- Canene-Adams, K., 2013, Reverse-phase hplc analysis and purification of small molecules, *Methods Enzymol.*, 533, 291–301.
- Carr, D., 2002, *HPLC Columns A Guide to the Analysis and Purification of Proteins and Peptides by Reversed-Phase HPLC*, www.harvardapparatus.com
- Carr, D., and Nguyen, R., 2013, *Protein and Peptide Analysis and Purification Reversed Phase Handbook*, 2, Vydac.
- Cashman-Kadri, S., Lagüe, P., Fliss, I., and Beaulieu, L., 2022, Determination of the Relationships between the Chemical Structure and Antimicrobial



Activity of a GAPDH-Related Fish Antimicrobial Peptide and Analogs Thereof. *Antibiotics*, 11(3).

- Chambi, H. N. M., Lacerda, R. S., Makishi, G. L. A., Bittante, A. M. Q. B., Gomide, C. A., and Sobral, P. J. A., 2014, Protein extracted from castor bean (*Ricinus communis* L.) cake in high pH results in films with improved physical properties. *Ind. Crops Prod.*, 61, 217–224.
- Chen, Y., Guarnieri, M. T., Vasil, A. I., Vasil, M. L., Mant, C. T., and Hodges, R. S., 2007, Role of peptide hydrophobicity in the mechanism of action of α -helical antimicrobial peptides, *Antimicrob. Agents and Chemother.*, 51(4), 1398–1406.
- Danlami, J. M., Arsal, A., and Zaini, M. A. A., 2015, Characterization and process optimization of castor oil (*Ricinus communis* L.) extracted by the soxhlet method using polar and non-polar solvents. *J. Taiwan Inst. Chem. Eng.*, 47, 99–104.
- Danlami, J. M., Zaini, M. A. A., Arsal, A., and Yunus, M. A. C., 2015, A parametric investigation of castor oil (*Ricinus communis* L) extraction using supercritical carbon dioxide via response surface optimization. *J. Taiwan Inst. Chem. Eng.*, 53, 32–39.
- Diastuti, H., Syah, Y. M., Dewi Juliawaty, L., and Singgih, M., 2014, Antibacterial Activity Of Germacrane Type Sesquiterpenes From *Curcuma Heyneana* Rhizomes, *Indo. J. Chem.*, 14(1).
- Doellinger, J., Schneider, A., Hoeller, M., and Lasch, P., 2018, Sample Preparation by Easy Extraction and Digestion (SPEED) - A Universal, Rapid, and Detergent-free Protocol for Proteomics based on Acid Extraction, *Mol. Cell. Proteomics*.
- Doellinger, J., Schneider, A., Hoeller, M., and Lasch, P., 2020, Sample preparation by easy extraction and digestion (SPEED) - A universal, rapid, and detergentfree protocol for proteomics based on acid extraction, *Mol. Cell. Proteomics*, 19(1), 209–222.
- Edwards, I.A., Elliot, A.G., Kavanagh, A.M., Zuegg, J., Blaskovich, M.A.T., and Cooper, M.A., 2016, Contribution of Amphipathicity and Hydrophobicity to the Antimicrobial Activity and Cytotoxicity of β -Hairpin peptides, *ACS Infect. Dis.*, 2, 442-450.
- Fajr, A., 2019, Hidrolisis protein dari Biji Jarak kepyar (*Ricinus communis* L) dengan enzim tripsin USP dan uji Aktivitas Antibakteri Peptida yang dihasilkan, *Skripsi*, Program Studi Kimia Fakultas Matematikan dan Ilmu pengetahuan Alam Universitas Gadjah Mada, Yogyakarta.
- Farsang, E., Horváth, K., Beck, A., Wang, Q., Lauber, M., Guillarme, D., and Fekete, S., 2020, Impact of the column on effluent pH in cation exchange pH gradient chromatography, a practical study. *J. Chromatogr. A*, 1626.



- Farzaneh, P., Ehsani, M. R., Khanahmadi, M., and Sharifan, A. (2019). Characterization of bio-peptides purified from *Terfezia claveryi* hydrolysate and their antibacterial effect on raw milk. *LWT-Food Sci. Technol.*, 116.
- Feist, P., and Hummon, A. B., 2015, Proteomic challenges: Sample preparation techniques for Microgram-Quantity protein analysis from biological samples, *Int. J. Mol. Sci.*, 16(2), 3537–3563
- Feng, A., Jiang, F., Huang, G., and Liu, P., 2020, Synthesis of the cationik fluorescent probes for the detection of anionik surfactants by electrostatic selfassembly, *Spectrochim. Acta A Mol. Biomol. Spectrosc.*, 224. 77
- Firdaus, A., 2022, Identifikasi Peptida Antibakteri Hasil Fraksinasi hidrolisat Tripsin Protein Ekstrak Aseton Biji Jarak Kepyar (*Ricinus communis L.*), *Skripsi*, Program Studi Kimia Fakultas Matematikan dan Ilmu pengetahuan AlamUniversitas Gadjah Mada, Yogyakarta.
- Fjell, C. D., Hiss, J. A., Hancock, R. E. W., and Schneider, G, 2012, Designing antimicrobial peptides: Form follows function, *Nat. Rev. Drug Discov.*, 11(1), 37–51).
- Franca-Oliveira, G., Fornari, T., and Hernández-Ledesma, B., 2021, A review on the extraction and processing of natural source-derived proteins through ecoinnovative approaches, *Processes*, 9(9), 1-24.
- Gilar, M., Olivova, P., Daly, A. E., and Gebler, J. C., 2005, Two-dimensional separation of peptides using RP-RP-HPLC system with different pH in first and second separation dimensions. *J. Sep. Sci.*, 28(14), 1694–1703.
- Guo, M., Shi, T., Duan, Y., Zhu, J., Li, J., and Cao, Y., 2015, Investigation of amino acids in wolfberry fruit (*Lycium barbarum*) by solid-phase extraction and liquid chromatography with precolumn derivatization. *J. Food Compost. Anal.*, 42, 84–90.
- Hendayana,S., 2006, *Kimia pemisahan : metode kromatografi dan elektroforesis modern* , Remaja Rosdakarya, Bandung
- Hermawan, A., Eliyani, H., and Tyasningsih, W., 2007, *Pengaruh Ekstrak Daun Sirih (*Piper betle L.*) Terhadap Pertumbuhan *Staphylococcus Aureus* Dan *Escherichia Coli* Dengan Metode Difusi Disk*, Fakultas Kedokteran Hewan Universitas Airlangga, Surabaya.
- Hewavitharana, G. G., Perera, D. N., Navaratne, S. B., and Wickramasinghe, I., 2020, Extraction methods of fat from food samples and preparation of fatty acid methyl esters for gas chromatography: A review, *Arab. J. Chem.*, 13(8), 6865–6875.
- Houen, G., 1996, The solubility of proteins in organic solvents. *Acta Chem. Scand.*, 50(1), 68–70.



- Huan, Y., Kong, Q., Mou, H., and Yi, H., 2020, Antimicrobial Peptides: Classification, Design, Application and Research Progress in Multiple Fields, *Front. Microbiol.*, 11.
- Jeewanthi, R. K. C., Lee, N. K., and Paik, H. D., 2015, Improved functional characteristics of whey protein hydrolysates in food industry, *Korean J.Food Sci. Anim. Resour.*, 35(3), 350–359.
- Jelinska, A., Zagozdzon, A., Recki, M. G., Wisniewska, A., Frelek, J., and Holyst, R., 2017, Denaturation of proteins by surfactants studied by the taylor dispersion analysis, *PLoS ONE*, 12(4).
- Jorgensen, J. H., and Ferraro, M. J., 2009, Antimicrobial susceptibility testing: A review of general principles and contemporary practices, *Clin. Infect. Dis.*, 49(11), 1749–1755.
- Jung, K. H., Choi, Y. C., Chun, J. Y., Min, S. G., and Hong, G. P., 2014, Effects of concentration and reaction time of Trypsin, Pepsin, and Chymotrypsin on the hydrolysis efficiency of porcine placenta, *Korean J.Food Sci. Anim. Resour.*, 34(2), 151–157.
- Kachuk, C., Faulkner, M., Liu, F., and Doucette, A. A., 2016. Automated SDS depletion for mass spectrometry of intact membrane proteins though transmembrane electrophoresis, *J. Proteome Res.*
- Kadariya, J., Smith, T. C., and Thapaliya, D., 2014, Staphylococcus aureus and Staphylococcal Food-Borne Disease: An Ongoing Challenge in Public Health, *Biomed Res. Int.*, 2014.
- Kanaujia, P. K., Tak, V., Pardasani, D., Gupta, A. K., and Dubey, D. K., 2008, Application of cation-exchange solid-phase extraction for the analysis of amino alcohols from water and human plasma for verification of Chemical Weapons Convention, *J. Chromatogr. A*, 1185(2), 167–177.
- Kawaroe, M., Soedarma, D., Effendi, H., Nurhayati, T., and Safrina Dyah Hardiningtyas, 2010, Antibacterial Activities of Fragmented and Non Fragmented Extracts of Soft Coral *Sarcophyton* sp. from Pramuka Island, Kepulauan Seribu, Jakarta, *Biota*, 15(3), 340–347.
- Keil, B., 1992, *Specificity of Proteolysis*, Springer-Verlag, Berlin.
- Kinsella, J. E., 1979, *Functional Properties of Soy Proteins*, Department of Food Science Cornell University, New York.
- Kobbi, S., Nedjar, N., Chihib, N., Balti, R., Chevalier, M., Silvain, A., Chaabouni, S., Dhulster, P., and Bougatef, A., 2018, Synthesis and antibacterial activity of new peptides from Alfalfa RuBisCO protein hydrolysates and mode of action via a membrane damage mechanism against *Listeria innocua*. *Microb.Pathog.*, 115, 41–49.
- Kumar Roy, V., Senthil Kumar, N., and Gurusubramanian, G., 2012, *Proteinsstructure, properties and their separation by SDS-polyacrylamide gel electrophoresis*. www.sciencevision.org



- Kyte, J., and Doolittle, R. F., 1982, A Simple Method for Displaying the Hydropathic Character of a Protein, *J. Mol. Biol.*, 157.
- Langfield, R. D., Scarano, F. J., Heitzman, M. E., Kondo, M., Hammond, G. B., and Neto, C. C., 2004, Use of a modified microplate bioassay method to investigate antibacterial activity in the Peruvian medicinal plant *Peperomia galloides*, *J. Ethnopharmacol.*, 94(2–3), 279–281.
- Le, C. F., Fang, C. M., and Sekaran, S. D., 2017, Intracellular targeting mechanisms by antimicrobial peptides. *Antimicrob. Agents and Chemother.*, 61(4).
- Lee, C. H., 2017, A simple outline of methods for protein isolation and purification. *Endocrinol. Metab.*, 32(1), 18–22.
- Leni, G., Soetemans, L., Jacobs, J., Depraetere, S., Gianotten, N., Bastiaens, L., Caligiani, A., and Sforza, S., 2020, Protein hydrolysates from *Alphitobius diaperinus* and *Hermetia illucens* larvae treated with commercial proteases, *J. Insects Food and Feed*, 6(4), 393–404.
- Li, D. F., Ding, H. C., and Zhou, T., 2013, Covalent immobilization of mixed proteases, trypsin and chymotrypsin, onto modified polyvinyl chloride microspheres, *J. Agric. Food Chem.*, 61(44), 10447–10453.
- Lombard-Banek, C., Moody, S. A., and Nemes, P., 2016, High-sensitivity mass spectrometry for probing gene translation in single embryonic cells in the early frog (*Xenopus*) embryo, *Front. Cell Dev. Biol.*,
- Ma, W., Tang, C., and Lai, L., 2005, Specificity of trypsin and chymotrypsin: Loopmotion-controlled dynamic correlation as a determinant. *Biophys. J.*, 89(2), 1183–1193.
- Mant, C. T., Chen, Y., Yan, Z., Popa, T. v., Kovacs, J. M., Mills, J. B., Tripet, B. P., and Hodges, R. S., 2007, HPLC Analysis and Purification of Peptides, *Methods Mol. Biol.*, 386.
- Moghadam, M., Salami, M., Mohammadian, M., Emam-Djomeh, Z., Jahanbani, R., and Moosavi-Movahedi, A. A., 2020, Physicochemical and bio-functional properties of walnut proteins as affected by trypsin-mediated hydrolysis. *Food Biosci.*, 36.
- Mojsoska, B., and Jenssen, H., 2015, Peptides and peptidomimetics for antimicrobial drug design. *Pharmaceuticals*, 8(3), 366–415.
- Moldoveanu, S. C., and David, V., 2017, *Selection of the HPLC Method in Chemical Analysis*, 279–328. Elsevier.
- Müller, T., and Winter, D., 2017, *Systematic Evaluation of Protein Reduction and Alkylation Reveals Massive Unspecific Side Effects by Iodine-containing Reagents Systematic Evaluation of Reduction and Alkylation*, The American Society for Biochemistry and Molecular Biology, Inc.



- Nasri, M., 2017, Protein Hydrolysates and Biopeptides: Production, Biological Activities, and Applications in Foods and Health Benefits A Review, *Adv. Food Nutr. Res.*, 81, 109–159.
- Niu, L., Yuan, H., Gong, F., Wu, X., and Wang, W. (2018). Protein extraction methods shape much of the extracted proteomes. *Frontiers in Plant Science*, 9.
- Okubo, K., Ikeda, K., Oaku, A., Hiruta, Y., Nagase, K., and Kanazawa, H., 2018, Protein purification using solid-phase extraction on temperature-responsive hydrogel-modified silica beads, *J. Chromatogr. A*, 1568, 38–48.
- Omotehinse, S. A., Bokolo, A., and Okagbare, G. O., 2022, Optimization of Process Conditions affecting Percentage Oil Yield from Big Seeded Varieties of castor-oil plant, (*Ricinus communis*) Seed, *J. Appl. SCI. Environ. Manag.*, 26(4), 639–646.
- O'Neill, Jim., 2016, *Tackling Drug-Resistant Infections Globally: Final Report And Recommendations The Review On Antimicrobial Resistance Chaired By Jim O'neill.*
- Patel, V. R., Dumancas, G. G., Viswanath, L. C. K., Maples, R., and Subong, B. J. J., 2016, Castor oil: Properties, uses, and optimization of processing parameters in commercial production, *Lipid Insights*, 9(1).
- Perdomo, F. A., Acosta-Osorio, A. A., Herrera, G., Vasco-Leal, J. F., MosqueraArtamonov, J. D., Millan-Malo, B., and Rodriguez-Garcia, M. E., 2013, Physicochemical characterization of seven Mexican *Ricinus communis* L. seeds and oil contents, *Biomass and Bioenergy*, 48, 17–24.
- Perea-Flores, M. J., Chanona-Pérez, J. J., Garibay-Febles, V., Calderón-Dominguez, G., Terrés-Rojas, E., Mendoza-Pérez, J. A., and Herrera-Bucio, R., 2011, Microscopy techniques and image analysis for evaluation of some chemical and physical properties and morphological features for seeds of the castor oil plant (*Ricinus communis*), *Ind. Crops Prod.*, 34(1), 1057–1065.
- Phong, W. N., Le, C. F., Show, P. L., Lam, H. L., and Ling, T. C., 2016, Evaluation of different solvent types on the extraction of proteins from microalgae, *Chem. Eng. Trans.*, 52, 1063–1068.
- Pizzo, E., Pane, K., Bosso, A., Landi, N., Ragucci, S., Russo, R., Gaglione, R., Torres, M. D. T., de la Fuente-Nunez, C., Arciello, A., di Donato, A., Notomista, E., and di Maro, A., 2018, Novel bioactive peptides from PD-L1/2, a type 1 ribosome inactivating protein from *Phytolacca dioica* L. Evaluation of their antimicrobial properties and anti-biofilm activities, *Biochim. Biophys. Acta Biomembr.*, 1860(7), 1425–1435.
- Pratiwi, S. T., 2008, *Mikrobiologi Farmasi*, Erlangga, Jakarta.
- Prestinaci, F., Pezzotti, P., and Pantosti, A., 2015, Antimicrobial resistance: A global multifaceted phenomenon, *Pathog. Glob. Health*, 109(7), 309–318.



- Purich, D. L., 2010, *An Introduction to Enzyme Science, Enzyme Kinetics: Catalysis & Control*, 1–51, Elsevier.
- Raharjo, T., Murti Utami, W., Fajr, A., Haryadi, W., and Tri Swasono, R., 2020, Antibacterial Peptides from Tryptic Hydrolysate of *Ricinus communis* Seed Protein Fractionated Using Cation Exchange Chromatography, *Indonesian J. Pharm.*, 32(1).
- Rampadarath, S., and Puchooa, D., 2016, In vitro antimicrobial and larvicidal properties of wild *Ricinus communis* L. in Mauritius, *Asian Pac. J. Trop. Biomed.*, 6(2), 100–107.
- Restiani, R., 2016, Hidrolisis Secara Enzimatis Protein Bungkil Biji Nyamplung (*Calophyllum inophyllum*) Menggunakan Bromelain, *Biota*, 1(3), 103-110.
- Amersha, 1999, *Reversed Phase Chromatography Principles and Methods*, Pharmacia Biotech.
- Rita, W. S., Swantara, M. D., Asih, I. A. R. A., and Sinarsih, N. K., 2018, Antibacterial Activity Of Samanea Saman Leaf Ethanol Extract Against *Escherichia coli* And *Staphylococcus aureus* And Its Total Flavonoid And Phenolic Contents, *Jurnal Kimia*, 12(2), 121-127.
- Román-Figueroa, C., Cea, M., Paneque, M., and González, M. E., 2020, Oil content and fatty acid composition in castor bean naturalized accessions under mediterranean conditions in Chile, *Agronomy*, 10(8).
- Sahidi, F., 2005, *Bailey's Industrial Oil and Fat Products*, 6th ed, John Wiley & Sons, Inc., Publication, Canada.
- Sani, M. A., and Separovic, F., 2016, How Membrane-Active Peptides Get into Lipid Membranes, *Acc. Chem. Res.*, 49(6), 1130–1138.
- Sarkar, T., Chetia, M., and Chatterjee, S., 2021, Antimicrobial Peptides and Proteins: From Nature's Reservoir to the Laboratory and Beyond, *Front. Chem.*, 9,
- Sbihi, H. M., Nehdi, I. A., Mokbli, S., Romdhani-Younes, M., and Al-Resayes, S. I., 2018, Hexane and ethanol extracted seed oils and leaf essential compositions from two castor plant (*Ricinus communis* L.) varieties, *Ind. Crops Prod.*, 122, 174–181.
- Sbroggio, M. F., Montilha, M. S., Figueiredo, V. R. G. de, Georgetti, S. R., and Kurozawa, L. E., 2016, Influence of the degree of hydrolysis and type of enzyme on antioxidant activity of okara protein hydrolysates. *Food SCI Technol.*, 36(2), 375–381.
- Schieltz, D. M., McGrath, S. C., McWilliams, L. G., Rees, J., Bowen, M. D., Kools, J. J., Dauphin, L. A., Gomez-Saladin, E., Newton, B. N., Stang, H. L., Vick, M. J., Thomas, J., Pirkle, J. L., and Barr, J. R., 2011, Analysis of active ricin and castor bean proteins in a ricin preparation, castor bean extract, and surface swabs from a public health investigation, *Forensic Sci. Int.*, 209(1–3), 70–79.



- Schlegel, H. G. and K. Schmidt, 1994, *Microbiology Six Edition*. (Terjemahan Mikrobiologi Umum edisi Keenam diterjemahkan Oleh Tedjo Baskoro). Gajah Mada University Press. Yogyakarta
- Schmid, M., Prinz, T. K., Stäbler, A., and Sängerlaub, S., 2017, Effect of sodium sulfite, sodium dodecyl sulfate, and urea on the molecular interactions and properties of whey protein isolat-based films. *Front. Chem.*
- Schmidtchen, A., Pasupuleti, M., and Malmsten, M., 2014, Effect of hydrophobic modifications in antimicrobial peptides, *Adv. Colloid Interface Sci.*, 205, 265–274.
- Sebaugh, J. L., 2011, Guidelines for accurate EC50/IC50 estimation. *Pharm. Stat.*, 10(2), 128–134.
- Song, G., Hsu, P. Y., and Walley, J. W., 2018, Assessment and Refinement of Sample Preparation Methods for Deep and Quantitative Plant Proteome Profiling, *Proteomics*, 18(17).
- Song, W., Kong, X., Hua, Y., Chen, Y., Zhang, C., and Chen, Y., 2020, Identification of antibacterial peptides generated from enzymatic hydrolysis of cottonseed proteins, *LWT-Food Sci. Technol.*, 125.
- Sornwatana, T., Roytrakul, S., Wetprasit, N., and Ratanapo, S., 2013, Brucin, an antibacterial peptide derived from fruit protein of fructus bruceae, *Brucea javanica* (L.) Merr. *Lett. Appl. Microbiol.*, 57(2), 129–136.
- Srinivasan, J. R., 2012, Serin Protease (Chymotrypsin) From Nocardiopsis Prasina Expressed In *Bacillus licheniformis*, *Chemical and Technical Assessment*, 76th JECFA.
- Stirpe, F., and Barbieri, L. 1986, Ribosome-inactivating proteins up to date, *FEBS letters*, 195(1-2).
- Tapal, A., and Tiku, P. K., 2018, *Nutritional and nutraceutical improvement by enzymatic modification of food proteins*, *Enzymes in Food Biotechnology: Production, Applications, and Future Prospects*, 471–481, Elsevier.
- Tavano, O. L., 2013, Protein hydrolysis using proteases: An important tool for food biotechnology, *J. Mol. Catal. B Enzym.*, 90, 1–11.
- Tendencia, E. A., 2004, *Laboratory Manuals Disk diffusion method*, Aquaculture Department Southeast Asian Fisheries Development Center, Philippines.
- Ten-Doménech, I., Simó-Alfonso, E. F., and Herrero-Martínez, J. M., 2017, Isolation of human milk whey proteins by solid phase extraction with a polymeric material modified with gold nanoparticles, *Microchem. J.*, 133, 320–326.
- Thermo, S., 2014, *Sample Preparation Method*, MZ-Analysentechnik GmbH, Germany.



- Valgas, C., Machado De Souza, S., Elza, Smânia, F. A., and Smânia, A., 2007, Screening Methods To Determine Antibacterial Activity Of Natural Products, *Braz. J. Microbiol.*, 38, 369–380.
- Vogelsang-O'dwyer, M., Sahin, A. W., Arendt, E. K., and Zannini, E., 2022, Enzymatic Hydrolysis of Pulse Proteins as a Tool to Improve TechnoFunctional Properties, *Foods*, 11(9).
- Wallace, G. M. A., and McCord, J. P., 2020, High-resolution mass spectrometry. *Breathborne Biomarkers and the Human Volatileome*, 253–270, Elsevier.
- Wang, X., Mishra, B., Lushnikova, T., Narayana, J. L., and Wang, G., 2018, Amino Acid Composition Determines Peptide Activity Spectrum and Hot-Spot-Based Design of Merocidin, *Adv. Biosyst.*, 2(5).
- Wiśniewski, J. R., 2016, Quantitative Evaluation of Filter Aided Sample Preparation (FASP) and Multienzyme Digestion FASP Protocols. *Anal. Chem.*, 88(10), 5438–5443.
- Wu, I. L., Turnipseed, S. B., Andersen, W. C., and Madson, M. R., 2020, Analysis of peptide antibiotic residues in milk using liquid chromatography-high resolution mass spectrometry (LC-HRMS), *Food Addit. Contam. Part A Chem. Anal. Control Expoand Risk Assess*, 37(8), 1264–1278.
- Wu, X., Gong, F., and Wang, W., 2014, Protein extraction from plant tissues for 2DE and its application in proteomic analysis. *Proteomics*, 14(6), 645–658.
- Wu, X., Xiong, E., Wang, W., Scali, M., and Cresti, M., 2014, Universal sample preparation method integrating trichloroacetic acid/acetone precipitation with phenol extraction for crop proteomic analysis, *Nature Protocols*, 9(2), 362–374.
- Yeboah, A., Ying, S., Lu, J., Xie, Y., Amoanimaa-Dede, H., Boateng, K. G. A., Chen, M., and Yin, X., 2021, Castor oil (*Ricinus communis*): A review on the chemical composition and physicochemical properties. *Food SCI Technol.*, 41, 399–413.
- Yusuf, A. K., Mamza, P. A. P., Ahmed, A. S., and Agunwa, U., 2015, Extraction And Characterization Of Castor Seed Oil From Wild *Ricinus Communis* Linn, *Int. J. Environ. Sci. Technol.*, 4(5), 1392-1404.
- Zahedifard, F., Lee, H., No, J. H., Salimi, M., Seyed, N., Asoodeh, A., and Rafati, S., 2020, Comparative study of different forms of Jellein antimicrobial peptide on Leishmania parasite, *Exp. Parasitol.*, 209.
- Zheng, L., Zhang, T., Xie, L., Karrar, E., Shi, L., Jin, J., Wang, X., and Jin, Q., 2020, Physicochemical characteristics of *Actinostemma lobatum* Maxim. kernel oil by supercritical fluid extraction and conventional methods, *Ind. Crops Prod.*, 152.
- Zhou, J. Y., Dann, G. P., Shi, T., Wang, L., Gao, X., Su, D., Nicora, C. D., Shukla, A. K., Moore, R. J., Liu, T., Camp, D. G., Smith, R. D., and Qian, W. J.,