

DAFTAR PUSTAKA

- Abbas, H., Mohammed, S., Shawkat, D., & Baker, Y. (2016). Effect of *Lactobacillus* sp. crude bacteriocin (CB) and cell-free supernatant (CFS) against *E. coli* growth and adherence on vaginal epithelial cell surface. *International Journal of Advanced Research*, 4(1), 614–620.
- Abbasiliasi, S., Tan, J. S., Tengku Ibrahim, T. A., Bashokouh, F., Ramakrishnan, N. R., Mustafa, S., & Ariff, A. B. (2017). Fermentation factors influencing the production of bacteriocins by lactic acid bacteria: A review. *RSC Advances*, 7(47), 29395–29420.
- Adesina, I. A., & Enerijiofi, K. E. (2016). Effect of pH and heat treatment on bacteriocin activity of *Pediococcus pentosaceus* IO1, *Tetragenococcus halophilus* PO9 and *Lactobacillus cellobiosus* BE1. *Southeast Asia University Journal of Science and Technology*, 1(1), 113–118.
- Alvarez-Sieiro, P., Montalbán-López, M., Mu, D., & Kuipers, O. P. (2016). Bacteriocins of lactic acid bacteria: Extending the family. *Applied Microbiology and Biotechnology*, 100(7), 2939–2951.
- Amarantini, C., Prakasita, V. C., & Cahyani, L. E. (2021). The effect of temperatures and pH on bacteriocin activity of lactic acid bacteria strain Pr 4.3L from peda fish. *Proceedings of the 7th International Conference on Research, Implementation, and Education of Mathematics and Sciences*, 528, 28–34.
- Anandharaj, M., Sivasankari, B., Santhanakaruppu, R., Manimaran, M., Rani, R. P., & Sivakumar, S. (2015). Determining the probiotic potential of cholesterol-reducing *Lactobacillus* and *Weissella* strains isolated from gherkins (fermented cucumber) and south Indian fermented koozh. *Research in Microbiology*, 166(5), 428–439.
- Ashraf, R., & Shah, N. P. (2011). Selective and differential enumerations of *Lactobacillus delbrueckii* subsp. *bulgaricus*, *Streptococcus thermophilus*, *Lactobacillus acidophilus*, *Lactobacillus casei* and *Bifidobacterium* spp. in yoghurt - A review. *International Journal of Food Microbiology*, 149(3), 194–208.
- Astuti, R. T., Yufidasari, H. S., Nursyam, H., & Eko, W. (2022). Seleksi bakteri asam laktat penghasil enzim lipase, protease, dan amilase asal bekasam berbagai ikan air tawar. *Prosiding Seminar Nasional Perikanan Dan Kelautan*, 149–154.
- Baum, D. (2008) Reading a phylogenetic tree: The meaning of monophyletic groups. *Nature Education*, 1(1).
- Behera, S. S., El Sheikha, A. F., Hammami, R., & Kumar, A. (2020). Traditionally

fermented pickles: How the microbial diversity associated with their nutritional and health benefits? *Journal of Functional Foods*, 70(April), 103971.

Bikaki, M., Shah, R., Müller, A., & Kuhnert, N. (2021). Heat induced hydrolytic cleavage of the peptide bond in dietary peptides and proteins in food processing. *Food Chemistry*, 357(June 2020), 129621.

Bintsis, T. (2018). Lactic acid bacteria: Their applications in foods. *Journal of Bacteriology & Mycology*, 6(2), 89–94.

Björkroth, J., & Koort, J. (2016). Lactic acid bacteria: Taxonomy and biodiversity. *Reference Module in Food Science*, 1–4.

Budhiraja, A., Nepali, K., Sapra, S., Gupta, S., Kumar, S., & Dhar, K. L. (2013). Bioactive metabolites from an endophytic fungus of *Aspergillus* species isolated from seeds of *Gloriosa superba* Linn. *Medicinal Chemistry Research*, 22(1), 323–329.

Cappuccino, J. & Sherman, N. (2014). *Microbiology: A Laboratory Manual 10th Edition*. New York: Pearson Education.

Chandra, N., & Kumar, S. (2017). Antibiotics producing soil microorganisms. *Antibiotics and Antibiotics Resistance Genes in Soils*, 1–18.

Chekabab, S. M., Paquin-Veillette, J., Dozois, C. M., & Harel, J. (2013). The ecological habitat and transmission of *Escherichia coli* O157:H7. *Federation of European Microbiological Societies Microbiology Letters*, 341(1), 1–12.

Chen, Y., Wu, H., Lo, H., Lin, W., Hsu, W., Lin, C., Lin, P., & Yanagida, F. (2012). Isolation and characterisation of lactic acid bacteria from Jiang-gua (fermented cucumbers), a traditional fermented food in Taiwan. *Journal of the Science of Food and Agriculture*, 92(10), 2069–2075.

Corry, J. E. L., Curtis, G. D. W., & Baird, R. M. (2003). De man, rogosa and sharpe (MRS) agar. *Progress in Industrial Microbiology*, 34(C), 362–363.

Daba, G. M., & Elkhateeb, W. A. (2020). Bacteriocins of lactic acid bacteria as biotechnological tools in food and pharmaceuticals: Current applications and future prospects. *Biocatalysis and Agricultural Biotechnology*, 28(August), 101750.

Dallal, S. M. M., Zamaniahari, S., Davoodabadi, A., Hosseini, M., & Rajabi, Z. (2017). Identification and characterization of probiotic lactic acid bacteria isolated from traditional persian pickled vegetables. *German Medical Science Hygiene and Infection Control*, 12, 1–7.

De Man, J. C., Rogosa, M., & Sharpe, E. M. (1960). A readily prepared medium

for the cultivation of the lactobacilli. *Journal of Applied Bacteriology*, 23(1), 130–135.

Delves-Broughton, J., & Weber, G. (2011). Nisin, natamycin and other commercial fermentates used in food biopreservation. In *Protective Cultures, Antimicrobial Metabolites and Bacteriophages for Food and Beverage Biopreservation*. Woodhead Publishing Limited.

Desmarchelier, P., & Fegan, N. (2016). Pathogens in milk: *Escherichia coli*. In *Reference Module in Food Science*. Elsevier.

Dharmayanti, I. (2011). Filogenetika molekuler: Metode taksonomi organisme berdasarkan sejarah evolusi. *Wartazoa*, 21(1), 1–10.

Di Cagno, R., & Coda, R. (2014). Fermented foods: Fermented vegetable products. In *Encyclopedia of Food Microbiology: Second Edition*.

Doyle, M. P. (2012). Food safety: Bacterial contamination. *Encyclopedia of Human Nutrition*, 2–4(1), 322–330.

Dwijastuti, N. M. S., Sujaya, I. N., & Fatmawati, N. N. D. (2021). Isolation and identification of bacteriocin-producing lactic acid bacteria from Urutan, Balinese traditional fermented sausage. *Metamorfosa: Journal of Biological Sciences*, 8(1), 81–88.

Elyass, M. E., Shigidi, M. T., Attitalla, I. H., & Mahdi, A. A. (2017). Characterization and optimization of bacteriocin from *Lactobacillus plantarum* isolated from fermented beef (shermout). *Open Journal of Applied Sciences*, 7(3), 83–97.

Ferrari, R. G., Panzenhagen, P. H. N., & Conte-Junior, C. A. (2017). Phenotypic and genotypic eligible methods for *Salmonella typhimurium* source tracking. *Frontiers in Microbiology*, 8(December), 1–21.

Florou-Paneri, P., Christaki, E., & Bonos, E. (2013). Lactic acid bacteria as source of functional ingredients. *Lactic Acid Bacteria - Research & Development for Food, Health and Livestock Purposes*, 1(2), 70.

Gao, Y., Li, B., Li, D., & Zhang, L. (2016). Purification and characteristics of a novel bacteriocin produced by *Enterococcus faecalis* L11 isolated from Chinese traditional fermented cucumber. *Biotechnology Letters*, 38(5), 871–876.

Gariyban, L., & Avashia, N. (2013). Research techniques made simple: Polymerase chain reaction (PCR). *Journal of Investigative Dermatology*, 133(3), 1–8.

Goraya, M. U., Ashraf, M., Ur-Rahman, S., & Habib, A. (2013). Determination of antibacterial activity of bacteriocins of lactic acid producing bacteria. *Journal*

of Infection and Molecular Biology, 1(1), 8–10.

- Haro, G., Iksen, I., & Nasri, N. (2020). Identification, characterization and antibacterial potential of probiotic lactic acid bacteria isolated from naniura (A traditional batak fermented food from carp) against *Salmonella typhi*. *Rasayan Journal of Chemistry*, 13(1), 464–468.
- Hols, P., Ledesma-García, L., Gabant, P., & Mignolet, J. (2019). Mobilization of microbiota commensals and their bacteriocins for therapeutics. *Trends in Microbiology*, 27(8), 690–702.
- Horiike, T. (2016). An introduction to molecular phylogenetic analysis. *Reviews in Agricultural Science*, 4, 36–45.
- Hu, C. H., Ren, L. Q., Zhou, Y., & Ye, B. C. (2019). Characterization of antimicrobial activity of three *Lactobacillus plantarum* strains isolated from Chinese traditional dairy food. *Food Science and Nutrition*, 7(6), 1997–2005.
- Johnson, J. S., Spakowicz, D. J., Hong, B. Y., Petersen, L. M., Demkowicz, P., Chen, L., Leopold, S. R., Hanson, B. M., Agresta, H. O., Gerstein, M., Sodergren, E., & Weinstock, G. M. (2019). Evaluation of 16S rRNA gene sequencing for species and strain-level microbiome analysis. *Nature Communications*, 10(1), 1–11.
- Jung, J. Y., Lee, S. H., & Jeon, C. O. (2014). Kimchi microflora: History, current status, and perspectives for industrial kimchi production. *Applied Microbiology and Biotechnology*, 98(6), 2385–2393.
- Kadariya, J., Smith, T. C., & Thapaliya, D. (2014). *Staphylococcus aureus* and Staphylococcal food-borne disease: An ongoing challenge in public health. *BioMed Research International*, 2014.
- Karpíski, T. M., & Szkaradkiewicz, A. K. (2015). Bacteriocins. *Encyclopedia of Food and Health*, 312–319.
- Kasi, P. D., Ariandi, & Tenriawaru, E. P. (2019). Identifikasi bakteri asam laktat dari limbah cair sagu dengan gen 16S rRNA. *Majalah Ilmiah Biologi Biosfera*, 36(1), 35–40.
- Khalid, K. (2011). An overview of lactic acid bacteria. *International Journal of Biosciences*, 1(3), 1–13.
- Khoo, K. K., & Norton, R. S. (2012). Role of disulfide bonds in peptide and protein conformation. *Amino Acids, Peptides and Proteins in Organic Chemistry*, 5, 395–417.
- Kingkaew, E., Konno, H., Hosaka, Y., Phongsopitanun, W., & Tanasupawat, S. (2023). Characterization of lactic acid bacteria from fermented fish (pla-

paeng-daeng) and their cholesterol-lowering and immunomodulatory effects. *Microbes and Environments*, 38(1), 1–11.

Klaenhammer, T. R. (1993). Genetics of bacteriocins produced by lactic acid bacteria. *Federation of European Microbiological Societies Microbiology Reviews*, 12(1–3), 39–85.

Knox, J., Uhlemann, A. C., & Lowy, F. D. (2015). *Staphylococcus aureus* infections: Transmission within households and the community. *Trends in Microbiology*, 23(7), 437–444.

Kristensen, K., Ward, L. M., Lause, M., & Cichosz, S. L. (2020). Using image processing and automated classification models to classify microscopic Gram stain images. *Computer Methods and Programs in Biomedicine Update*, 3(December 2022).

Kumariya, R., Garsa, A. K., Rajput, Y. S., Sood, S. K., Akhtar, N., & Patel, S. (2019). Bacteriocins: Classification, synthesis, mechanism of action and resistance development in food spoilage causing bacteria. *Microbial Pathogenesis*, 128(October), 171–177.

Kurniati, T. H., Rahayu, S., Nathania, I. R. B., & Sukmawati, D. (2021). Antibacterial activity of lactic acid bacteria isolated from oncom, a traditional Indonesian fermented food. *American Institute of Physics Conference Proceedings*, 2331.

Kürzel, K., Kaiser, S., Lörz, A. N., Rossel, S., Paulus, E., Peters, J., Schwentner, M., Martinez Arbizu, P., Coleman, C. O., Svavarsson, J., & Brix, S. (2022). Correct species identification and its implications for conservation using haploniscidae (crustacea, isopoda) in Icelandic waters as a proxy. *Frontiers in Marine Science*, 8(January), 1–21.

Leung, Y. L. (2014). *Staphylococcus aureus*. In *Encyclopedia of Toxicology: Third Edition* (Third Edit, Vol. 4). Elsevier.

Li, T. T., Liu, D. D., Fu, M. L., & Gu, C. T. (2020). Proposal of *Lactobacillus kosoi* Chiou et al. 2018 as a later heterotypic synonym of *Lactobacillus micheneri* McFrederick et al. 2018, elevation of *Lactobacillus plantarum* subsp. *argenteratensis* to the species level as *Lactobacillus argenteratensis* sp. nov. *International Journal of Systematic and Evolutionary Microbiology*, 70(5), 3123–3133.

Lin, T. H., & Pan, T. M. (2019). Characterization of an antimicrobial substance produced by *Lactobacillus plantarum* NTU 102. *Journal of Microbiology, Immunology and Infection*, 52(3), 409–417.

MacDonald, R., Reitmeier, C., MacDonald, R., & Reitmeier, C. (2017). Food Processing. In *Understanding Food Systems*.

- Madigan, M. T., Martinko, J. M., & Parker, J. (2019). *Brock Biology of Microorganisms 15th Edition*. New Jersey: Prentice Hall.
- Marchesi, J. R., Sato, T., Weightman, A. J., Martin, T. A., Fry, J. C., Hiom, S. J., & Wade, W. G. (1998). Design and evaluation of useful bacterium-specific PCR primers that amplify genes coding for bacterial *16S rRNA*. *Applied and Environmental Microbiology*, *64*(2), 795–799.
- Marco, M. L., Heeney, D., Binda, S., Cifelli, C. J., Cotter, P. D., Foligné, B., Gänzle, M., Kort, R., Pasin, G., Pihlanto, A., Smid, E. J., & Hutkins, R. (2017). Health benefits of fermented foods: microbiota and beyond. *Current Opinion in Biotechnology*, *44*, 94–102.
- Mariadassou, M., Bar-Hen, A., & Kishino, H. (2018). Tree evaluation and robustness testing. *Encyclopedia of Bioinformatics and Computational Biology: ABC of Bioinformatics*, 1–3, 736–745.
- Matti, A., Utami, T., Hidayat, C., & S. Rahayu, E. (2019). Isolation, screening, and identification of proteolytic lactic acid bacteria from indigenous chao product. *Journal of Aquatic Food Product Technology*, *28*(7), 781–793.
- Meade, E., Slattery, M. A., & Garvey, M. (2020). Bacteriocins, potent antimicrobial peptides and the fight against multi drug resistant species: Resistance is futile? *Antibiotics*, *9*(1).
- Miteva, V. I. (2011). Microorganisms associated with glaciers. *Encyclopedia of Earth Sciences Series*, *3*, 741–744.
- Mohania, D., Nagpal, R., Kumar, M., Bhardwaj, A., Yadav, M., Jain, S., Marotta, F., Singh, V., Parkash, O., & Yadav, H. (2008). Molecular approaches for identification and characterization of lactic acid bacteria. *Journal of Digestive Diseases*, *9*(4), 190–198.
- Mojgani, N., & Vaccine, R. (2016). Detection and characterization of a heat stable bacteriocin (Lactocin LC-09) produced by a clinical isolate of Lactobacilli. *Medical Journal of Islamic Academy of Sciences*, *5*(October), 67–71.
- Mokoena, M. P. (2017). Lactic acid bacteria and their bacteriocins: Classification, biosynthesis and applications against uropathogens: A mini-review. *Molecules*, *22*(8).
- Montet, D., Ray, R. C., & Zakhia-Rozis, N. (2014). Lactic acid fermentation of vegetables and fruits. *Microorganisms and Fermentation of Traditional Foods*, November, 108–140.
- Mora-Villalobos, J. A., Montero-Zamora, J., Barboza, N., Rojas-Garbanzo, C., Usaga, J., Redondo-Solano, M., Schroedter, L., Olszewska-Widdrat, A., &

- López-Gómez, J. P. (2020). Multi-product lactic acid bacteria fermentations: A review. *Fermentation*, 6(1), 1–21.
- Mozzi, F. (2015). Lactic acid bacteria. *Encyclopedia of Food and Health*, 501–508.
- Muhalidin, B. J., Hassan, Z., & Saari, N. (2018). In vitro antifungal activity of lactic acid bacteria low molecular peptides against spoilage fungi of bakery products. *Annals of Microbiology*, 68(9), 557–567.
- Muzzazinah. (2017). Metode filogenetik pada Indigofera. *Prosiding Seminar Nasional Pendidikan Biologi Dan Biologi*, 25–40.
- Nazari, M., & Smith, D. L. (2020). A PGPR-produced bacteriocin for sustainable agriculture: A review of thuricin 17 characteristics and applications. *Frontiers in Plant Science*, 11(July).
- Negash, A. W., & Tsehai, B. A. (2020). Current applications of bacteriocin. *International Journal of Microbiology*, 2020, 1–7.
- Newell, P. D., Fricker, A. D., Roco, C. A., Chandrangsu, P., & Merkel, S. M. (2013). A small-group activity introducing the use and interpretation of BLAST. *Journal of Microbiology & Biology Education*, 14(2), 238–243.
- Ouchari, L., Boukeskase, A., Bouizgarne, B., & Ouhdouch, Y. (2019). Antimicrobial potential of actinomycetes isolated from the unexplored hot Merzouga desert and their taxonomic diversity. *Biology Open*, 8(2).
- Pan, X., Chen, F., Wu, T., Tang, H., & Zhao, Z. (2009). The acid, bile tolerance and antimicrobial property of *Lactobacillus acidophilus* NIT. *Food Control*, 20(6), 598–602.
- Perez, R. H., Zendo, T., & Sonomoto, K. (2014). Novel bacteriocins from lactic acid bacteria (LAB): Various structures and applications. *Microbial Cell Factories*, 13(Suppl 1), 1–13.
- Pircalabioru, G. G., Popa, L. I., Marutescu, L., Gheorghe, I., Popa, M., Czobor Barbu, I., Cristescu, R., & Chifiriuc, M. C. (2021). Bacteriocins in the era of antibiotic resistance: rising to the challenge. *Pharmaceutics*, 13(2), 1–15.
- Piwowarek, K., Lipińska, E., Hać-Szymańczuk, E., Kieliszek, M., & Ścibisz, I. (2018). *Propionibacterium* spp.—source of propionic acid, vitamin B12, and other metabolites important for the industry. *Applied Microbiology and Biotechnology*, 102(2), 515–538.
- Purwandhani, S. N., Utami, T., Milati, R., & Rahayu, E. S. (2018). Isolation, characterization and screening of folate-producing bacteria from traditional fermented food (dadih). *International Food Research Journal*, 25(2), 566–572.

- Putri, A. L., & Kusdiyantini, E. (2018). Isolasi dan identifikasi bakteri asam laktat dari pangan fermentasi berbasis ikan (Inasua) yang diperjualbelikan di Maluku-Indonesia. *Jurnal Biologi Tropika*, 1(2), 6.
- Qiao, X., Du, R., Wang, Y., Han, Y., & Zhou, Z. (2020). Isolation, characterisation and fermentation optimisation of bacteriocin-producing *Enterococcus faecium*. *Waste and Biomass Valorization*, 11(7), 3173–3181.
- Quinto, E. J., Jiménez, P., Caro, I., Tejero, J., Mateo, J., & Girbés, T. (2014). Probiotic lactic acid bacteria: A review. *Food and Nutrition Sciences*, 5(18), 1765–1775.
- Raccach, M. (2014). *Pediococcus*. *Encyclopedia of Food Microbiology: Second Edition*, 3, 1–5.
- Radha, K. R., & Tallapragada, P. (2015). Purification, characterization and application of bacteriocin for improving the shelf-life of sprouts: An approach to biopreservation. *International Journal of ChemTech Research*, 8(8), 265–277.
- Rahayu, H. M., & Setiadi, A. E. (2023). Isolation and characterization of indigenous lactic acid bacteria from pakatikng rape, Dayak's traditional fermented food. *Jurnal Penelitian Pendidikan IPA*, 9(2), 920–925.
- Ramith, R., Shirahatti, P., Aishwarya, D., Prasad, A., Kumuda, J., Lochana, M. S., Zameer, F., Dhananjaya, B. L., & Prasad, N. (2020). Bacteriocins and their applications in food preservation. *Critical Reviews in Food Science and Nutrition*, 60(18), 1–42.
- Reiner, K. (2010). Catalase Test Protocol. *American Society for Microbiology*, November 2010, 1–9.
- Ren, S., Yuan, X., Liu, F., Fang, F., Iqbal, H. M. N., Zahran, S. A., & Bilal, M. (2022). Bacteriocin from *Lactocaseibacillus rhamnosus* sp. A5: Isolation, purification, characterization, and antibacterial evaluation for sustainable food processing. *Sustainability (Switzerland)*, 14(15).
- Rossetti, L., & Giraffa, G. (2005). Rapid identification of dairy lactic acid bacteria by M13-generated, RAPD-PCR fingerprint databases. *Journal of Microbiological Methods*, 63(2), 135–144.
- Ruiz-Rodríguez, L. G., Mohamed, F., Bleckwedel, J., Medina, R., De Vuyst, L., Hebert, E. M., & Mozzi, F. (2019). Diversity and functional properties of lactic acid bacteria isolated from wild fruits and flowers present in northern Argentina. *Frontiers in Microbiology*, 10(May).
- Safari, M. S., Keyhanfar, M., & Shafiei, R. (2019). Investigating the antibacterial

effects of some *Lactobacillus*, *Bifidobacterium* and *Acetobacter* strains killed by different methods on *Streptococcus mutans* and *Escherichia coli*. *Molecular Biology Research Communications*, 8(3), 103–111.

Santra, K., Song, A., Petrich, J. W., & Rasmussen, M. A. (2021). The degradation of chlorophyll pigments in dairy silage: the timeline of anaerobic fermentation. *Journal of the Science of Food and Agriculture*, 101(7), 2863–2868.

Sari, R., Apridamayanti, P., & Octaviani, M. (2018). Optimasi aktivitas bakteriosin yang dihasilkan oleh bakteri *Lactobacillus plantarum* dari minuman ce hun tiau. *Pharmaceutical Sciences and Research*, 5(1), 1–6.

Schillinger, U., Holzappel, W. H., & Björkroth, K. J. (2006). Lactic acid bacteria. In *Food spoilage microorganisms*. Woodhead Publishing Limited.

Scott, A. D., & Baum, D. A. (2016). Phylogenetic tree. *Encyclopedia of Evolutionary Biology*, 3, 270–276.

Setiarto, R. H. B., Anshory, L., & Wardana, A. A. (2023). Biosynthesis of nisin, antimicrobial mechanism and its applications as a food preservation: A review. *IOP Conference Series: Earth and Environmental Science*, 1169(1).

Shukla, R., & Goyal, A. (2014). Probiotic potential of *Pediococcus pentosaceus* CRA3: A new isolate from fermented cucumber. *Probiotics and Antimicrobial Proteins*, 6, 11–21.

Siangpro, N., Chuakrut, S., Sirimanapong, W., Tanasupawat, S., Phongsopitanun, W., Meksiriporn, B., Boonnorat, J., Sarin, S., Kucharoenphaibul, S., & Jutakanoke, R. (2023). *Lactiplantibacillus argentoratensis* and *Candida tropicalis* isolated from the gastrointestinal tract of fish exhibited inhibitory effects against pathogenic bacteria of Nile tilapia. *Veterinary Sciences*, 10(2).

Simons, A., Alhanout, K., & Duval, R. E. (2020). Bacteriocins, antimicrobial peptides from bacterial origin: Overview of their biology and their impact against multidrug-resistant bacteria. *Microorganisms*, 8(5).

Srinivasan, R., Karaoz, U., Volegova, M., MacKichan, J., Kato-Maeda, M., Miller, S., Nadarajan, R., Brodie, E. L., & Lynch, S. V. (2015). Use of *16S rRNA* gene for identification of a broad range of clinically relevant bacterial pathogens. *Public Library of Science*, 10(2), 1–22.

Steinkraus, K. H. (1994). Nutritional significance of fermented foods. *Food Research International*, 27(3), 259–267.

Surati, S. (2021). Bacteriocin, antimicrobial as a new natural food preservative: Its potential and challenges. *Eruditio: Indonesia Journal of Food and Drug Safety*, 1(1), 63–82.

- Sure, K. P., Kotnis, P. V., Bhagwat, P. K., Ranveer, R. C., Dandge, P. B., & Sahoo, A. K. (2016). Production and characterization of bacteriocin produced by *Lactobacillus viridescence* (NICM 2167). *Brazilian Archives of Biology and Technology*, 59(December), 1–7.
- Swain, M. R., Anandharaj, M., Ray, R. C., & Parveen Rani, R. (2014). Fermented fruits and vegetables of Asia: A potential source of probiotics. *Biotechnology Research International*, 2014, 1–19.
- Tan, D. K., Davis, D. A., Miller, D. A., Williams, R. O., & Nokhodchi, A. (2020). Innovations in thermal processing: Hot-melt extrusion and kinetisol dispersing. *American Association of Pharmaceutical Scientists*, 21(8).
- Thairu, Y., Usman, Y., & Nasir, I. (2014). Laboratory perspective of gram staining and its significance in investigations of infectious diseases. *Sub-Saharan African Journal of Medicine*, 1(4), 168.
- Thieman, W.J. & Palladino, M.A. (2020). *Introduction to Biotechnology 4th Edition*. New York: Pearson Education.
- Turgis, M., Vu, K. D., Millette, M., Dupont, C., & Lacroix, M. (2016). Influence of environmental factors on bacteriocin production by human isolates of *Lactococcus lactis* MM19 and *Pediococcus acidilactici* MM33. *Probiotics and Antimicrobial Proteins*, 8(1), 53–59.
- Urry, L.A., Cain, M.L., Wasserman, S.A., Minorsky, P.V., Orr, R.B., & Campbell, N.A. (2020). *Campbell Biology 12th Edition*. New York: Pearson.
- Wafula, E. N., Kuja, J. O., Wekesa, T. B., & Wanjala, P. M. (2023). Isolation and identification of autochthonous lactic acid bacteria from commonly consumed African indigenous leafy vegetables in Kenya. *Bacteria*, 2(1), 1–20.
- Wahyuningrum, M. R., & Probosari, E. (2012). Pengaruh pemberian buah pepaya (*Carica papaya* L.) terhadap kadar trigliserida pada tikus Sprague Dawley dengan hiperkolesterolemia. *Journal of Nutrition College*, 1(1), 192–198.
- Wang, Y., Qin, Y., Xie, Q., Zhang, Y., Hu, J., & Li, P. (2018). Purification and characterization of plantaricin LPL-1, a novel class IIa bacteriocin produced by *Lactobacillus plantarum* LPL-1 isolated from fermented fish. *Frontiers in Microbiology*, 9(September), 1–12.
- Wayah, S. B., & Philip, K. (2018). Purification, characterization, mode of action, and enhanced production of Salivaricin mmaye1, a novel bacteriocin from *Lactobacillus salivarius* SPW1 of human gut origin. *Electronic Journal of Biotechnology*, 35, 39–47.
- Yang, E., Fan, L., Yan, J., Jiang, Y., Doucette, C., Fillmore, S., & Walker, B. (2018). Influence of culture media, pH and temperature on growth and

bacteriocin production of bacteriocinogenic lactic acid bacteria. *Applied Microbiology and Biotechnology*, 8(1).

Yang, S. C., Lin, C. H., Sung, C. T., & Fang, J. Y. (2014). Antibacterial activities of bacteriocins: Application in foods and pharmaceuticals. *Frontiers in Microbiology*, 5(May), 1–10.

Yi, L., Qi, T., Hong, Y., Deng, L., & Zeng, K. (2020). Screening of bacteriocin-producing lactic acid bacteria in Chinese homemade pickle and dry-cured meat, and bacteriocin identification by genome sequencing. *LWT - Food Science and Technology*, 125(February), 109177.

Yolanda, B., & Meitiniarti, V. I. (2017). Isolasi bakteri asam laktat dari kimchi dan kemampuannya menghasilkan senyawa anti bakteri. *Scripta Biologica*, 4(September), 165–169.

Yu, A. O., Leveau, J. H. J., & Marco, M. L. (2020). Abundance, diversity and plant-specific adaptations of plant-associated lactic acid bacteria. *Environmental Microbiology Reports*, 12(1), 16–29.

Zacharof, M. P., & Lovitt, R. W. (2012). Bacteriocins produced by lactic acid bacteria: A review article. *Asia-Pacific Chemical, Biological & Environmental & Engineering Society Procedia*, 2, 50–56.

Zhang, D., Kan, X., Huss, S. E., Jiang, L., Chen, L. Q., & Hu, Y. (2018). Using phylogenetic analysis to investigate eukaryotic gene origin. *Journal of Visualized Experiments*, 2018(138).

Zhao, S., Han, J., Bie, X., Lu, Z., Zhang, C., & Lv, F. (2016). Purification and characterization of plantaricin JLA-9: A novel bacteriocin against *Bacillus* spp. produced by *Lactobacillus plantarum* JLA-9 from Suan-Tsai, a traditional Chinese fermented cabbage. *Journal of Agricultural and Food Chemistry*, 64(13), 2754–2764.

Zheng, J., Wittouck, S., Salvetti, E., Franz, C. M. A. P., Harris, H. M. B., Mattarelli, P., O'toole, P. W., Pot, B., Vandamme, P., Walter, J., Watanabe, K., Wuyts, S., Felis, G. E., Gänzle, M. G., & Lebeer, S. (2020). A taxonomic note on the genus *Lactobacillus*: Description of 23 novel genera, emended description of the genus *Lactobacillus* beijerinck 1901, and union of *Lactobacillaceae* and *Leuconostocaceae*. *International Journal of Systematic and Evolutionary Microbiology*, 70(4), 2782–2858.

Zielinski, H., Surma, M., & Zielinska, D. (2017). The naturally fermented sour pickled cucumbers. *Fermented Foods in Health and Disease Prevention*, 503–516.