

DAFTAR PUSTAKA

- Abdullah, D., Poddar, S., Rai, R. P., Purwati, E., Dewi, N. P. dan Pratama, Y. E. (2022). Molecular Identification of Lactic Acid Bacteria an Approach to Sustainable Food Security. *Journal of Public Health Research*, 10(2):2021-2058. doi: 10.4081/jphr.2021.2508
- Abedi, E., dan Hashemi, S. M. B. (2020). Lactic acid production – producing microorganisms and substrates sources-state of art. *Heliyon*, 6(10), e04974. doi: 10.1016/j.heliyon.2020.e04974
- Abiyah, A., Oktavia, Y., Jumsurizal, dan Wulandari. (2025). Isolation and Characterisation of Lactic Acid Bacteria in Cincalok from Pengujan Village, Riau Islands. *Sriwijaya Journal of Environment*, 10(1):17-21. DOI:10.22135/sje.2025.10.1.17-21
- Aehle, W., Bott, R. dan Graycar, T. (2009). Proteolytic Cleavage, Reaction Mechanisms. *Encyclopedia of Industrial Biotechnology: Bioprocess, Bioseparation, and Cell Technology*. John Wiley & Sons, New Jersey.
- Ahmadi, K. E., Allaoui, H. E., Bouhrim, M., Shahat, A. A., Haboubi, K., Hammoudani, Y. E., Eto, B. dan Herqash, R. N. (2025). Isolation and preliminary screening of lactic acid bacteria for antimicrobial potential from raw milk. *Frontiers in Microbiology*. <https://doi.org/10.3389/fmicb.2025.1565016>
- Ahmad, M. S., El-Salam, B. A. A., Yaser, M. M. dan Taha, S. S. (2018). Optimization and characterization of bacterial proteinase enzyme using whey as a fermentation medium. *Journal of Pharmacy Education & Research*, 8(2):63-76.
- Alnahdi, H. S. (2012). Isolation and screening of extracellular proteases produced by new Isolated Bacillus sp. *Journal of Applied Pharmaceutical Science*, 2(9):71-74. DOI: 10.7324/JAPS.2012.2915
- Alrosan, M., Tan, T. C., Koh, W. Y., Easa, A. M., Gammoh, S. dan Alu'datt, M. H. (2023). Overview of fermentation process: structure-function relationship on protein quality and non-nutritive compounds of plant-based proteins and carbohydrates. *Critical Reviews in Food Science and Nutrition*, 62(25):7677-7691. doi: 10.1080/10408398.2022.2049200.
- Anumudu, C. K., Miri, T., dan Onyeaka, H. (2024). Multifunctional Applications of Lactic Acid Bacteria: Enhancing Safety, Quality, and Nutritional Value in Foods and Fermented Beverages. *Foods*, 13(23). <https://doi.org/10.3390/foods13233714>
- Ariaeenejad, S. Kavousi, K., Mamaghani, A. S. A., Ghasemitabesh, R. dan Salekdeh, C. H. (2022). Simultaneous hydrolysis of various protein-rich industrial wastes by a naturally evolved protease from tannery wastewater microbiota. *Science of The Total Environment*. doi: 10.1016/j.scitotenv.2021.152796.
- Bai, C., Fan, B., Hao, J., Yao, Y., Ran, S., Wang, H., Li, H., dan Wei, R. (2025). Changes in Microbial Community Diversity and the Formation Mechanism of Flavor Metabolites in Industrial-Scale Spontaneous Fermentation of Cabernet Sauvignon Wines. *Foods*, 14(2):235. DOI: 10.3390/foods14020235
- Besten, G. D., Eunen, K. V., Groen, A. K., Venema, K., Reijngoud, D. J. dan Bakker, B. M. (2013). The role of short-chain fatty acids in the interplay between diet, gut microbiota, and host energy metabolism. *Journal of Lipid Research*, 54(9):2325-2340. doi: 10.1194/jlr.R036012



- Berg, J.M., Tymoczko, J.L., Gatto Jr., G.J. and Stryer, L. (2015) Biochemistry. 8th Edition, W.H. Freeman & Company, New York, NY.
- Bintsis, T. (2018). Lactic acid bacteria as starter cultures: An update in their metabolism and genetics. *AIMS Microbiology*, 4(4):665-684. DOI: 10.3934/microbiol.2018.4.665
- Chadha, J. (2021). In vitro effects of sub-inhibitory concentrations of amoxicillin on physiological responses and virulence determinants in a commensal strain of *Escherichia coli*. *Journal of Applied Microbiology*, 131(2):682-694. <https://doi.org/10.1111/jam.14987>
- Chapot-Chartier, dan Kulakauskas, S. (2014). Cell wall structure and function in lactic acid bacteria. *Microbial Cell Factories*. 29(13). doi: 10.1186/1475-2859-13-S1-S9
- Chung, D., Yu, W. J., Lim, J. Y., Kang, N. S., Kwon, Y. M., Choi, G., Bae, S. S., Cho, K. dan Lee, D. S. (2021). Characterization of the Proteolytic Activity of a Halophilic *Aspergillus reticulatus* Strain SK1-1 Isolated from a Solar Saltern. *Microorganisms*. 10(1):29. doi: 10.3390/microorganisms10010029
- Di Gioia, D., Mazzola, G., Nikodinoska, I., Aloisio, I., Langerholc, T., Rossi, M., Raimondi, S., Melero, B., dan Rovira J. (2016). Lactic acid bacteria as protective cultures in fermented pork meat to prevent *Clostridium* spp. Growth. *International Journal of Food Microbiology*, 235:53-59. doi: 10.1016/j.ijfoodmicro.2016.06.019.
- DiPerte, G. L. A. (2017). Modeling and Visualizing Bacterial Colony Purification Without the Use of Bacteria or Laboratory Equipment. *Journal of Microbiology & Biology Education*, 28(2). <https://doi.org/10.1128/jmbe.v18i2.1308>
- Dempsey, E. dan Corr, S. C. (2022). *Lactobacillus* spp. for Gastrointestinal Health: Current and Future Perspectives. *Frontiers in Immunology*. doi: 10.3389/fimmu.2022.840245
- De Man, J. C., Rogosa, M. dan Sharpe, M. E. (1960). A MEDIUM FOR THE CULTIVATION OF *LACTOBACILLI*. *Journal of Applied Bacteriology*, 23(1):130-135. <https://doi.org/10.1111/j.1365-2672.1960.tb00188.x>
- De Souza, P. M. dan Magalhaes, P. O. (2010). Application of microbial α -amylase in industry – A review. *Brazilian Journal of Microbiology*, 41(4):850-861. doi: 10.1590/S1517-83822010000400004
- Deusdara, T. T., Felix, M. K. C., Brito, H. S., Ribeiro, D. R., Cangussu, E. W. S., Albuquerque, B., Santos, G. R., Chaves, J. R., Carvalho, W. C. R., Astolfi-Filhom S., Assuncao, E. N., Mariuba, L. A. M., Nogueira, P. A., Viana, K. F., Brandi, I. V. dan Cangussu, A. S. R. (2022). Resistance determinants of emerging pathogens isolated from an intensive care unit as a parameter of population health conditions of the Legal Amazon microregion. *Brazilian Journal of Biology*. <https://doi.org/10.1590/1519-6984.269778>
- El-Dein, A. N., El-Deen, A. N., Tolba, S., El-Shatoury, E., Awad, G., Ibrahim, M. dan Farid, M. (2017). Probiotic Properties and Bile Salt Hydrolase Activity of Some Isolated Lactic Acid Bacteria. *Egyptian Journal of Microbiology*, 52(1):87-100. DOI : 10.21608/ejm.2017.1336.1025
- Eom, H. J., Seo, D. M. dan Han, N. S. (2007). Selection of psychrotrophic *Leuconostoc* spp. producing highly active dextranase from lactate fermented vegetables. *International Journal of Microbiology*. 117(1). doi: 10.1016/j.ijfoodmicro.2007.02.027.
- Fitriyah, I. J., Aprilia, S., Manasikana, O. A., dan Muzzazinah. SUS-PDAT in Applied Science Learning: Making Red Oncom as a Food Innovation for a Healthy and Prosperous Life



- Without Hunger. *Jurnal IPA dan Pembelajaran IPA*, 8(2):183-201. <https://doi.org/10.24815/jipi.v8i2.39025>
- Foroughi, F., Keshavarz, T. dan Evans, C. S. (2005). Specificities of proteases for use in leather manufacture. *Journal of Chemical Technology & Biotechnology*, 81(3):257-261. <https://doi.org/10.1002/jctb.1367>
- Gadani, M., Upadhyay, R., Raut, S. dan Badak, S. (2022). Evaluation of Proprietary MDZenPro Formulation by Zenherb Labs in Mediating Protein Digestion under INFOGEST In-vitro Simulated Gastrointestinal Conditions. *International Journal of Multidisciplinary Research*, 4(4):129-138.
- Gautam, S. dan Mishra, D. (2012). Applications and Future Prospects of Proteases: An Overview. *IJFANS INTERNATIONAL JOURNAL OF FOOD AND NUTRITIONAL SCIENCES*, 11(8):5000-5005.
- Ge, Y., Yu, X., Zhao, X., Liu, C., Li, T., Mu, S., Zhang, L., Chen, Z., Zhang, Z., Song, Z., Zhao, H., Yao, S. dan Zhang, B. (2024). Fermentation characteristics and postacidification of yogurt by *Streptococcus thermophilus* CICC 6038 and *Lactobacillus delbrueckii* ssp. *bulgaricus* CICC 6047 at optimal inoculum ratio. *Journal of Dairy Science*, 107(1):123-140. doi: 10.3168/jds.2023-23817.
- Goa, T., Beyene, G., Mekonnen, M. dan Gorems, K. (2022). Isolation and Characterization of Lactic Acid Bacteria from Fermented Milk Produced in Jimma Town, Southwest Ethiopia, and Evaluation of their Antimicrobial Activity against Selected Pathogenic Bacteria. *International Journal of Food Science*. doi: 10.1155/2022/2076021
- Hanchi, H., Mottawea, W., Sebei, K. dan Hammami, R. (2018). The Genus *Enterococcus*: Between Probiotic Potential and Safety Concerns—An Update. *Frontiers in Microbiology*. doi: 10.3389/fmicb.2018.01791
- He, G., Deng, J., Wu, C. dan Huang, J. (2017). A partial proteome reference map of *Tetragenococcus halophilus* and comparative proteomic and physiological analysis under salt stress. *RSC Advance*. DOI: 10.1039/c6ra22521g
- Hill, C., Guarner, F., Reid, G., Gibson, G. R., Merenstein, D. J. Pot, B., Morelli, F., Canani, R. B., Flint, H. J., Salminen, S., Calder, P. C., dan Sanders, M. E. (2014). The International Scientific Association for Probiotics and Prebiotics consensus statement on the scope and appropriate use of the term probiotic. *Nature Reviews Gastroenterology & Hepatology*, 11:506-514. <https://doi.org/10.1038/nrgastro.2014.66>
- Host, H., Drobecq, H., Loch, C., dan Menozzi, F. D. (2007). Enzymatic methylation of the *Mycobacterium tuberculosis* heparin-binding haemagglutinin. *FEMS Microbiology Letters*, 268(2):144-150. <https://doi.org/10.1111/j.1574-6968.2007.00636.x>
- Hu, Y., Zhang, L., Wen, R., Chen, Q., dan Kong, B. (2022). Role of lactic acid bacteria in flavor development in traditional Chinese fermented foods: A review. *Critical Reviews in Food Science and Nutrition*. 62(10):2741-2755. <https://doi.org/10.1080/10408398.2020.1858269>
- Ibrahim, S. A., Ayivi, R. D., Zimmerman, T., Siddiqui, S. A., Altemimi, A. B., Fidan, H., Esatbeyoglu, T. dan Bakhshayesh, R. V. (2021). Lactic Acid Bacteria as Antimicrobial Agents: Food Safety and Microbial Food Spoilage Prevention. *Foods*, 10(12):3131. doi: 10.3390/foods10123131



- Im, S. T. dan Lee, S. H. (2023). Structure Characterization and Antihypertensive Effect of an Antioxidant Peptide Purified from Alcalase Hydrolysate of Velvet Antler. *Food Science of Animal Resources*, 43(1):184-194. DOI: <https://doi.org/10.5851/kosfa.2022.e70>
- Jaganmai, G. dan Jinka, R. (2017). Production of Lipases from Dairy Industry Wastes and its Applications. *International Journal of Current Microbiology and Applied Sciences*, 5:67-73.
- Khudair, A. J. D., Zaini, N. S. M., Jaafar, A. H., Hussin, A. S. M., Wan-Mohtar, W. A., Rahim, M. H. A. (2023). Production, Organoleptic, and Biological Activities of Belacan (Shrimp Paste) and Pekasam (Fermented Freshwater Fish), the Ethnic Food from the Malay Archipelago. *Sains Malaysians*, 52(4):1217-1230. <http://doi.org/10.17576/jsm-2023-5204-14>
- Khushboo, Karnwal, A. dan Malik, T. (2023). Characterization and selection of probiotic lactic acid bacteria from different dietary sources for development of functional foods. *Frontiers in Microbiology*. doi: 10.3389/fmicb.2023.1170725
- Kieliszek, M., Pobiega, K., Piwowarek, K., dan Kot, A. M. (2021). Characteristics of the Proteolytic Enzymes Produced by Lactic Acid Bacteria. *Molecules*, 26(7):1858. doi: 10.3390/molecules26071858
- Klanian, M.G. dan DiGianluca, S. O. (2022). Tempeh source of vegetable protein: nutritional composition and health benefits. *Boletim do Centro de Pesquisa de Processamento de Alimentos* 40(2):1-12.
- Kleerebezem, M. dan Vaughan, E. E. (2009). Probiotic and Gut Lactobacilli and Bifidobacteria: Molecular Approaches to Study Diversity and Activity. *Annual Review of Microbiology*, 63:269-290.
- Klug, C. Fehlhaber, K., Muller, U. dan Braun, P. (1998). [Combined effect of temperature a(W) and pH on proteases from Pseudomonas and Bacillus spp]. *Berl Munch Tierarztl Wochenschr*, 111(1):9-12.
- Kwofie, M. K., Bukari, N., Adeboye, O. (2020). Probiotics Potential of Yeast and Lactic Acid Bacteria Fermented Foods and the Impact of Processing: A Review of Indigenous and Continental Food Products. *Advances in Microbiology*, 10(9).
- Lahtinen, S., Ouwehand, A. C., Salminen, S., Wright, A. V. (2012). Lactic Acid Bacteria: Microbiological and Functional Aspects, Fourth Edition. CRC Press: Boca Raton. <https://doi.org/10.1201/b11503>
- Lana, A. dan Zolla, L. (2016). Proteolysis in meat tenderization from the point of view of each single protein: A proteomic perspective. *Journal of Proteomics*, 147. doi: 10.1016/j.jprot.2016.02.011.
- Law, J. dan Haandrikman, A. (1997). Proteolytic enzymes of lactic acid bacteria. *International Dairy Journal*, 7(1):1-11. [https://doi.org/10.1016/0958-6946\(95\)00073-9](https://doi.org/10.1016/0958-6946(95)00073-9)
- Lim, P. S., Loke, C. F., Ho, Y. W. dan Tan, H. Y. (2020). Cholesterol homeostasis associated with probiotic supplementation in vivo. *Journal of Applied Microbiology*, 129(5):1374-1388. DOI: 10.1111/jam.14678
- Liu, M., Bayjanov, J. R., Renckens, B., Nauta, A. dan Siezen, R. J. (2010). The proteolytic system of lactic acid bacteria revisited: a genomic comparison. *BMC Genomics*. doi: 10.1186/1471-2164-11-36



- Madigan, M. T., Bender, K. S., Buckley, D. H., Sattley, W. M. dan Stahl, D. A. (2019). Brock Biology of Microorganisms, 15th Global Edition. Pearson, London.
- Maitig, A. M. A., Alhoot, M. A. M. dan Tiwari, K. (2018). Isolation and Screening of Extracellular Protease Enzyme from Fungal Isolates of Soil. *Journal of Pure and Applied Microbiology*, 12(4):2059-2067. <http://dx.doi.org/10.22207/JPAM.12.4.42>
- Mak, W. S., Jones, C. P., McBride, K. E., Fritz, E. A. P., Hirsch, J., German, J. B. dan Siegel, J. B. (2024). Acid-active proteases to optimize dietary protein digestibility: a step towards sustainable nutrition. *Frontiers in Nutrition*. doi: 10.3389/fnut.2024.1291685
- Marathe, S. K., Vashistht, M. A., Prashanth, A., Parveen, N., Chakraborty, S. dan Nair, S. S. (2017). Isolation, partial purification, biochemical characterization and detergent compatibility of alkaline protease produced by *Bacillus subtilis*, *Alcaligenes faecalis* and *Pseudomonas aeruginosa* obtained from sea water samples. *Journal of Genetic Engineering and Biotechnology*, 16(1):39-46. doi: 10.1016/j.jgeb.2017.10.001
- Margono, T., Sumaryono, W., Malik, A. dan Sadikin, M. (2014). Characterization of Trypsin-Like Protease of *Lactobacillus plantarum* FNCC 0270. *HAYATI Journal of Bioscience*, 21(2):87-94. DOI: 10.4308/hjb.21.2.87
- Marokhazi, J., Lengyel, K., Pekar, S., Felfoldi, G., Patthy, A., Graf, L., Fodor, A. dan Venekei, I. (2004). Comparison of Proteolytic Activities Produced by Entomopathogenic *Photobacterium* Bacteria: Strain- and Phase-Dependent Heterogeneity in Composition and Activity of Four Enzymes. *Applied and Environmental Microbiology*, 70(12):7311-7320. doi: 10.1128/AEM.70.12.7311-7320.2004
- Mathur, H. Beresford, T. P. dan Cotter, P. D. (2020). Health Benefits of Lactic Acid Bacteria (LAB) Fermentates. *Nutrients*, 12(6). doi: 10.3390/nu12061679
- Matkawala, F., Nighojkar, S. dan Nighojkar, A. (2022). Next-generation nutraceuticals: bioactive peptides from plant proteases. *BioTechnologia*, 103(4):397-408. doi: 10.5114/bta.2022.120708
- Matthews, A., Grimaldi, A., Walker, M., Bartowsky, E., Grbin, P. dan Jiranek, V. (2004). Lactic Acid Bacteria as a Potential Source of Enzymes for Use in Vinification. *Applied and Environmental Microbiology*. 70(10):5715-5731. doi: 10.1128/AEM.70.10.5715-5731.2004
- Monnin, L., Nidelet, T., Noble, J., dan Galeote, V. Phenotypic variations of primary metabolites yield during alcoholic fermentation in the *Saccharomyces cerevisiae* species. *BioRxiv*. doi: <https://doi.org/10.1101/2023.02.24.529865>
- Murwani, R., Anggraeni, R., Setiawan, G. N. A., Astari, P. D., Cahyani, N. K. D., Sibero, M. T., dan Ambariyanto. (2024). Lactic Acid Bacteria Isolates and the Microbiome of Cincalok, Tempoyak, and Mandai: A Traditional Fermented Food from Kalimantan Island, Indonesia. *International Journal of Food Science*, 24(1). <https://doi.org/10.1155/2024/6589766>
- Murwani, R., Anggraeni, R. dan Ambariyanto. (2024). Probiotic candidates of lactic acid bacteria from fermented food cincalok and tempoyak from Kalimantan, Indonesia. *Biodiversitas*, 25(8):2705-2712. DOI: 10.13057/biodiv/d250843



- Napte, S. U. dan Dixit, P. P. (2024). Applications of cellulase enzyme in textile industry purified from *Bacillus paramycoides* S 5. *International Journal of Science and Research Archive*. 13(1):3359-3367. <https://doi.org/10.30574/ijrsra.2024.13.1.2033>
- Naveed, M., Nadeem, F., Mehmood, T., Bilal, M., Anwar, M., dan Amjad, F. (2020). Protease—A Versatile and Ecofriendly Biocatalyst with Multi-Industrial Applications: An Updated Review. *Catalysis Letters*. <https://doi.org/10.1007/s10562-020-03316-7>
- Nespolo, C. R. dan Brandelli, A. (2010). PRODUCTION OF BACTERIOCIN-LIKE SUBSTANCES BY LACTIC ACID BACTERIA ISOLATED FROM REGIONAL OVINE CHEESE. *Brazilian Journal of Microbiology*, 41:1009-1018.
- Nicosia, F. D., Puglisi, I., Pino, A., Caggia, C. dan Randazzo, C. L. (2022). Plant Milk-Clotting Enzymes for Cheesemaking. *Foods*, 11(6):871. doi: 10.3390/foods11060871
- Nofiani, R. dan Ardiningsih, P. (2018). PHYSICOCHEMICAL AND MICROBIOLOGICAL PROFILES OF COMMERCIAL CINCALOK FROM WEST KALIMANTAN. *Jurnal Pengolahan Hasil Perikanan Indonesia*, 21(2):243-249.
- Nyambane, B., Thari, W. M., Wangoh, J. dan Njage, P. M. K. (2014). Lactic acid bacteria and yeasts involved in the fermentation of amabere amaruranu, a Kenyan fermented milk. *Food Science & Nutrition*, 2(6):629-699. doi: 10.1002/fsn3.162
- O'Toole, G. A. (2016). Classic Spotlight: How the Gram Stain Works. *Journal of Bacteriology*. 198(23). <https://doi.org/10.1128/jb.00726-16>
- Phillip, C., Bagheri, B., Horacek, M., Eder, P., Bauer, F. F., Setati, M. E. (2021). Inoculation of grape musts with single strains of *Saccharomyces cerevisiae* yeast reduces the diversity of chemical profiles of wines. *PLOS ONE*, 16(7). <https://doi.org/10.1371/journal.pone.0254919>
- Phyu, H. E., Oo, Z. K. dan Aye, K. N. (2015). SCREENING ON PROTEOLYTIC ACTIVITY OF LACTIC ACID BACTERIA FROM VARIOUS YOGURTS AND FERMENTED MILK. *International Journal of Advances in Science Engineering and Technology*
- Plengvidhya, V., Breidt Jr, F., Lu, Z. dan Fleming, H. P. (2007). DNA Fingerprinting of Lactic Acid Bacteria in Sauerkraut Fermentations. *Applied & Environmental Microbiology*, 73(23):7697-7702. doi: 10.1128/AEM.01342-07
- Prayitno, S. F. A., Suprihadim A. dan Kusdiyantini, E. (2020). Identification of Gamma-Amino Butyric Acid Isolates Lactic Acid Bacteria Results from The Isolation of Rusip. *Biosaintifika*, 12(3):304-310. DOI: <http://dx.doi.org/10.15294/biosaintifika.v12i3.24995>
- Putri, N. dan Frannita, E. L. (2023). A REVIEW OF POTENTIAL ENZYMES: PROTEASE AND KERATINASE FOR DEHAIRING PROCESS AS CLEANER AND ECO-FRIENDLY LEATHER PROCESSING. *Leather and Footwear Journal*. <https://doi.org/10.24264/lfj.23.4.5>
- Putri, I., Jannah, S. N. dan Purwantisari, S. (2020). Isolation and characterization of lactic acid bacteria from *Apis mellifera* and their potential as antibacterial using in vitro test against growth of *Listeria monocytogenes* and *Escherichia coli*. *NICHE Journal of Tropical Biology*, 3(1):26-34.
- Rahayu, E. S. (2003). Lactic Acid Bacteria in Fermented Foods of Indonesian Origin. *agriTECH*, 23(2). <https://doi.org/10.22146/agritech.13515>



- Ramadhanti, N., Melia, S., Hellyward, J. dan Purwati, E. (2021). Characteristics of lactic acid bacteria isolated from palm sugar from West Sumatra, Indonesia and their potential as a probiotic. *Biodiversitas*, 22(5):2610-2616. DOI: 10.13057/biodiv/d220520
- Rao, M. B., Tanksale, A. M., Ghatge, M. S. dan Deshpande, V. V. (1998). Molecular and Biotechnological Aspects of Microbial Proteases. *Microbiology and Molecular Biology Reviews*, 62(3):597-635. doi: 10.1128/mmbr.62.3.597-635.1998
- Rawaliya, R. K., Patidar, P., Sharma, S. dan Hajela, K. (2022). Purification and biochemical characterization of protease from the seeds of *Cyamopsis tetragonoloba*. *Journal of Applied Biology & Biotechnology*, 10(1):172-180. DOI: 10.7324/JABB.2021.100121
- Riady, R. M., Fitriadi, R., Kasprijo, Ryandini, D., Palupi, M., Sukardi, P., Nurhafid, M., Musa, A. dan Asaf, R. (2024). Isolation and Screening of Proteolytic Bacteria from Rice-Fish Farming System Sediments. *International Journal of Design & Nature and Ecodynamics*, 19(3):795-803. DOI: <https://doi.org/10.18280/ij dne.190310>
- Rocha-Ramirez, L. M., Perez-Solano, R. A., Castanon-Alonsi, S. L., Guerrero, S. S. M., Pacheco, A. R., Garibay, M. G. dan Eslava, C. (2017). Probiotic *Lactobacillus* Strains Stimulate the Inflammatory Response and Activate Human Macrophages. *Journal of Immunology Research*. doi: 10.1155/2017/4607491
- Safford, C. E. dan Stark, C. N. (1935). The Advantages of Skim-Milk Agar for the Determination of the Sanitary Quality of Market Milk. *Journal of Dairy Science*, 18(8):539-546. [https://doi.org/10.3168/jds.S0022-0302\(35\)93171-X](https://doi.org/10.3168/jds.S0022-0302(35)93171-X)
- Sanders, E. R. (2012). Aseptic Laboratory Techniques: Plating Methods. *Journal of Visualized Experiments*. (63):3064. doi: 10.3791/3064
- Sanman, L. E. dan Bogyo, M. (2014). Activit-Based Profiling of Proteases. *Annual Reviews of Biochemical*, 83:249-273.
- Saryono, Ismawati, Pratiwi, N. W., Devi, S., Sipayung, M. Y. dan Suraya, N. (2023). Isolation and identification of lactic acid bacteria from traditional food sarobuung of Kuantan Singingi District, Riau, Indonesia. *Biodiversitas*, 24(4):2201-2206. DOI: 10.13057/biodiv/d240432
- Sasmita, N. dan Yudiarini, N. (2015). Bacteria in Fermented Foods of West Kalimantan (Cincalok). *Jurnal Pertanian dan Bioekonomi Indonesia*.
- Smith, A. C. dan Hussey, M. A. (2005). Gram stain protocols (Report No. 2886) [PDF]. American Society for Microbiology. <https://asm.org/getattachment/5c95a063-326b-4b2f-98ce-001de9a5ece3/gram-stain-protocol-2886.pdf>
- Solanki, P., Putatunda, C., Kumar, A., Bhatia, R. dan Walia, A. (2021). Microbial proteases: ubiquitous enzymes with innumerable uses. *3 Biotech*. 11(10):428. doi: 10.1007/s13205-021-02928-z
- Soleha, S. dan Hanifa, A. Q. (2024). A Polyphasic Approach to the Exploration of Lactic Acid Bacteria from Tempoyak in South Sumatra. *Jurnal Sains dan Teknologi*, 13(3):523-536. <https://doi.org/10.23887/jstundiksha.v13i3.85208>
- Song, P., Zhang, X., Wang, S., Xu, W., Wang, F., Fu, R. dan Wei, F. (2023). Microbial proteases and their applications. *Frontiers in Microbiology*. doi: 10.3389/fmicb.2023.1236368



- Sourvinos, G. (2022). Methods Involved in Aerobic and Anaerobic Fermentation. *Journal of Probiotics & Health*, 10(6)
- Steinkraus, K. H. (1992). Applications of Biotechnology to Fermented Foods: Report of an Ad Hoc Panel of the Board on Science and Technology for International Development. National Academic Press, Washington D.C. DOI: 10.17226/1939
- Stephen, J. M. dan Saleh, A. M. (2023). Homofermentative Lactobacilli isolated from organic sources exhibit potential ability of lactic acid production. *Frontiers Microbiology*. <https://doi.org/10.3389/fmicb.2023.1297036>
- Sulistyawati, dan Ulfah, M. (2023). The characteristics of tape with different packaging materials: a review. *ISST 2023*
- Tamang, J. P., Watanabe, K., dan Holzapfel, W. H. (2016). Review: Diversity of Microorganisms in Global Fermented Foods and Beverages. *Frontiers Microbiology*. <https://doi.org/10.3389/fmicb.2016.00377>
- Taye, Y., Degu, T., Fesseha, H. dan Mathewos, M. (2021). Isolation and Identification of Lactic Acid Bacteria from Cow Milk and Milk Products. *The World Scientific World Journal*. doi: 10.1155/2021/4697445
- Teneva, D. dan Denev, P. (2023). Biologically Active Compounds from Probiotic Microorganisms and Plant Extracts Used as Biopreservatives. *Microorganisms*, 11(8):1896. doi: 10.3390/microorganisms11081896
- Ter, Z. Y., Chang, L. S., Babji, A. S., Zaini, N. A. M., Fazry, S., Sarbini, S. R., Peterbauer, C. K. dan Lim, S. J. (2024). A review on proteolytic fermentation of dietary protein using lactic acid bacteria for the development of novel proteolytically fermented foods. *International Journal of Food Science and Technology*, 59:1213-1236. doi:10.1111/ijfs.16888
- Todorov, S. D., Dioso, C. M., Liong, M. T., Nero, L. A., Khosravi-Darani, K. dan Ivanova, I. V. (2022). Beneficial features of pediococcus: from starter cultures and inhibitory activities to probiotic benefits. *World Journal of Microbiology and Biotechnology*, 39(1):4. doi: 10.1007/s11274-022-03419-w
- Toe, C. J., Foo, H. L., Loh, T. C., Mohamad, R., Rahim, R. A. dan Idrus, Z. (2019). Extracellular Proteolytic Activity and Amino Acid Production by Lactic Acid Bacteria Isolated from Malaysian Foods. *International Journal of Molecular Sciences*, 20(7):1777. doi: 10.3390/ijms20071777
- Tripathi, N., Zubari, M. dan Sapra, A. (2025). Gram Staining. StatPearls Publishing, Treasure Island
- Utami, T., Cindarbhum, A., Khuangga, M. C., Rahayu, E. S., Cahyanto, M. N., Nurfiyanti, S., dan Zulaichah, E. (2020). Preparation of Indigenous Lactic Acid Bacteria Starter Cultures for Large Scale Production of Fermented Milk. *Digital Press Life Sciences 2*. <https://doi.org/10.29037/digitalpress.22327>
- Vazquez-Araujo, L. (2023). Analysis of Volatile Compounds during Food Fermentation. *Foods*, 12(19):3635. doi: 10.3390/foods12193635
- Venema, K. dan Surono, I. S. (2019). Microbiota composition of dadih – a traditional fermented buffalo milk of West Sumatra. *Letters in Applied Microbiology*, 68(1):234-240. <https://doi.org/10.1111/lam.13107>



- Vido, K., Bars, D. L., Mistou, M. Y., Anglade, P., Gruss, A. dan Gaudu, P. (2004). Proteome Analyses of Heme-Dependent Respiration in *Lactococcus lactis*: Involvement of the Proteolytic System. *Journal of Bacteriology*, 186(6):1648-1657. doi: 10.1128/JB.186.6.1648-1657.2004
- Vijayaraghavan, P. dan Vincent, S. G. P. (2013). A simple method for the detection of protease activity on agar plates using bromocresolgreen dye. *Journal of Biochemical Technology*, 4(3):628-630.
- Vinderola, G., Ouwehand, A., Salminen, S. Wright, A. V. (2019). *Lactic Acid Bacteria: Microbiological and Functional Aspects*. CRC Press, Boca Raton
- Voidarou, C., Antoniadou, M., Rozos, G., Tzora, A., Skoufos, I., Varzakas, T., Lagiou, A., dan Bezirtzoglou, E. (2020). Fermentative Foods: Microbiology, Biochemistry, Potential Human Health Benefits and Public Health Issues. *Foods*. 10(1):69. doi: 10.3390/foods10010069
- Wang, Y., Wu, J., Lv, M., Shao, Z., Hungwe, M., Wang, J., Bai, X., Xie, J., Wang, Y. dan Geng, W. (2021). Metabolism Characteristics of Lactic Acid Bacteria and the Expanding Applications in Food Industry. *Frontiers in Bioengineering and Biotechnology*. doi: 10.3389/fbioe.2021.612285
- Wang, Y., Zhang, C., Liu, F., Jin, Z., dan Xia, X. (2023). Ecological succession and functional characteristics of lactic acid bacteria in traditional fermented foods. *Critical Reviews in Food Science and Nutrition*, 63(22):5841-5855. doi: 10.1080/10408398.2021.2025035.
- Wang, M., Li, Z., Fang, X., Wang, L., dan Qu, Y. (2012). Cellulolytic enzyme production and enzymatic hydrolysis for second-generation bioethanol production. *Advances in Biochemical Engineering/Biotechnology*, 128:1-24. doi: 10.1007/10_2011_131.
- Widyastuti, Y., Rohmatussolihat, Febrisiantosa, A. (2014). The Role of Lactic Acid Bacteria in Milk Fermentation. *Food & Nutrition Sciences*. 5(4). DOI: 10.4236/fns.2014.54051
- Winter, J. D. S., Santos, R. P. D., Azambuja, A. Z., Cechinel, A. B. dan Goldani, L. Z. (2013). Microbiologic isolates and risk factors associated with antimicrobial resistance in patients admitted to the intensive care unit in a tertiary care hospital. *American Journal of Infection Control*, 41(9):846-8. doi: 10.1016/j.ajic.2012.11.010. \
- Wu, J. Y., Wee, S., Ler, S. G., Henry, C. J. dan Gunaratne, J. (2025). Unraveling the impact of tempeh fermentation on protein nutrients: An in vitro proteomics and peptidomics approach. *Food Chemistry*. doi: 10.1016/j.foodchem.2025.143154.
- Yamamoto, Y., Gaudu, P., dan Gruss, A. (2011). *Oxidative Stress and Oxygen Metabolism in Lactic Acid Bacteria*. Caister Academic Press, UK.
- Yap, T. W. C., Rabu, A., Bakar, F. D. A., Rahim, R.A., Mahadi, N. M., Illias, R. M. dan Murad, A. M. A. (2014). Growth Phase-Dependent Proteomes of the Malaysian Isolated *Lactococcus lactis* Dairy Strain M4 Using Label-Free Qualitative Shotgun Proteomics Analysis. *The Scientific World Journal*. doi: 10.1155/2014/642891
- Yusmarini, Indrati, R., Utami, T. dan Marsono, Y. (2010). AKTIVITAS PROTEOLITIK BAKTERI ASAM LAKTAT DALAM FERMENTASI SUSU KEDELAI. *Jurnal Teknologi dan Industri Pangan*, 11(2):129-134.



- Zaky, A. A., Simal-Gandara, J., Eun, J. B., Shim, J. H. dan El-Aty, A. M. A. (2022). Bioactivities, Applications, Safety, and Health Benefits of Bioactive Peptides From Food and By-Products: A Review. *Frontiers in Nutrition*. doi: 10.3389/fnut.2021.815640
- Zamanpour, S., Rezvani, R., Isfahani, A. J. dan Afshari, A. (2023). Isolation and some basic characteristics of lactic acid bacteria from beetroot (*Beta vulgaris* L.) —A preliminary study. *Canrea Journal: Food Technology, Nutritions, and Culinary*, 6(1):42-56. DOI 10.20956/canrea.v6i1.980
- Zapasnik, A., Sokolowska, B. dan Bryla, M. (2022). Role of Lactic Acid Bacteria in Food Preservation and Safety. *Foods*, 11(9). <https://doi.org/10.3390/foods11091283>
- Zhang, Y. Z., Zhang, W. X. dan Chen, X. L. (2020). Mechanisms for Induction of Microbial Extracellular Proteases in Response to Exterior Proteins. *Applied and Environmental Microbiology*, 86(19). doi: 10.1128/AEM.01036-20
- Zielinska, D. dan Kolozyn-Krajewska, D. (2018). Food-Origin Lactic Acid Bacteria May Exhibit Probiotic Properties: Review. *Biomed Research International*. doi: 10.1155/2018/5063185
- Zukiewicz-Sobczak, W., Wroblewska, P., Adamczuk, P. dan Silny, W. (2014). Probiotic lactic acid bacteria and their potential in the prevention and treatment of allergic diseases. *Central European Journal of Immunology*, 39(1): 104-108. doi: 10.5114/ceji.2014.42134