

DAFTAR PUSTAKA

- Aceña, J., Stampachiachiere, S., Pérez, S., dan Barceló, D., 2015. Advances in liquid chromatography–high-resolution mass spectrometry for quantitative and qualitative environmental analysis. *Analytical and Bioanalytical Chemistry*, **407**: 6289–6299.
- Achet, D. dan He, X.W., 1995. Determination of the renaturation level in gelatin films. *Polymer*, **36**: 787–791.
- Alipal, J., Mohd Pu'ad, N.A.S., Lee, T.C., Nayan, N.H.M., Sahari, N., Basri, H., dkk., 2021. A review of gelatin: Properties, sources, process, applications, and commercialisation. *Materials Today: Proceedings*, **42**: 240–250.
- Aoun, I. dan Tournois, L., 2015. Building holistic brands: an exploratory study of Halal cosmetics. *Journal of Islamic Marketing*, **6**: 109–132.
- Bairoch, A. dan Apweiler, R., 2000. The SWISS-PROT protein sequence database and its supplement TrEMBL in 2000. *Nucleic Acids Research*, **28**: 45–48.
- Balkir, P., Kemahlioglu, K., dan Yucel, U., 2021. Foodomics: A new approach in food quality and safety. *Trends in Food Science & Technology*, **108**: 49–57.
- Benjakul, S., Oungbho, K., Visessanguan, W., Thiansilakul, Y., dan Roytrakul, S., 2009. Characteristics of gelatin from the skins of bigeye snapper, *Priacanthus tayenus* and *Priacanthus macracanthus*. *Food Chemistry*, **116**: 445–451.
- Bio-Rad, 2006. *Bio-Rad Real Time PCR Application Guide*. Bio-Rad Laboratories.
- Böhme, K., Calo-Mata, P., Barros-Velázquez, J., dan Ortea, I., 2019. Recent applications of omics-based technologies to main topics in food authentication. *TrAC Trends in Analytical Chemistry*, **110**: 221–232.
- Broeders, S., Huber, I., Grohmann, L., Berben, G., Taverniers, I., Mazzara, M., dkk., 2014. Guidelines for validation of qualitative real-time PCR methods. *Trends in Food Science & Technology*, **37**: 115–126.
- Broll, H., 2010. Quantitative Real Time PCR, dalam: Popping, B., Amigo, C.D., dan Hoenicke, K. (Editor), *Molecular Biological and Immunological Techniques and Applications for Food Chemists*. Wiley Online Library, hal. 59–83.
- Cavanna, D., Righetti, L., Elliott, C., dan Suman, M., 2018. The scientific challenges in moving from targeted to non-targeted mass spectrometric methods for food fraud analysis: A proposed validation workflow to bring about a harmonized approach. *Trends in Food Science & Technology*, **80**: 223–241.
- Chen, C., Hou, J., Tanner, J.J., dan Cheng, J., 2020. Bioinformatics Methods for Mass Spectrometry-Based Proteomics Data Analysis. *International Journal of Molecular Sciences*, **21**: 2873.
- Chew, Y.L. dan Lee, J.X., 2022. A Complete Solution for Gelatin Species Authentication in Routine Analysis Using ProteinWorks™ Auto-eXpress Digest Kit and Xevo™ TQ-XS.
- Chia, T., Boon, F.T.H., Cheah, C., Yang, C.T., dan Ghosh, D., 2020. Porcine

- Gelatin Peptide Detection in Cosmetic Products and Food Confectionery using a TSQ Altis Triple Quadrupole Mass Spectrometer 2020.
- Dairawan, M. dan Shetty, P.J., 2020. The Evolution of DNA Extraction Methods. *American Journal of Biomedical Science & Research*, **8**: 39.
- Domon, B. dan Aebersold, R., 2006. Mass spectrometry and protein analysis. *Science (New York, N.Y.)*, **312**: 212–217.
- Dorak, M.T., Owen, E., Lyons, K., dan Henderson, K. (Editor), 2006. *Real-Time PCR (Advanced Methods Series)*. United Kingdom: Oxford: Taylor & Francis.
- Eichhorn, P., Pérez, S., dan Barceló, D., 2012. Time-of-Flight Mass Spectrometry Versus Orbitrap-Based Mass Spectrometry for the Screening and Identification of Drugs and Metabolites, dalam: *Comprehensive Analytical Chemistry*. Elsevier, hal. 217–272.
- Foran, D.R., 2006. Relative degradation of nuclear and mitochondrial DNA: an experimental approach. *Journal of Forensic Sciences*, **51**: 766–770.
- Fraga, D., Meulia, T., dan Fenster, S., 2008. Real-Time PCR. *Current Protocols Essential Laboratory Techniques*, **00**: .
- Fung, B., Gopez, A., Servellita, V., Arevalo, S., Ho, C., Deucher, A., dkk., 2020. Direct Comparison of SARS-CoV-2 Analytical Limits of Detection across Seven Molecular Assays. *Journal of Clinical Microbiology*, **58**: 10.1128/jcm.01535-20.
- Gao, C., Yu, R., Zhang, X., Song, X., Che, L., Tang, Y., dkk., 2024. Unraveling novel umami peptides from yeast extract (*Saccharomyces cerevisiae*) using peptidomics and molecular interaction modeling. *Food Chemistry*, **453**: 139691.
- GMIA, 2012. *Gelatin Handbook*. Gelatin Manufacturers Institute of America.
- Grundy, H.H., Reece, P., Buckley, M., Solazzo, C.M., Dowle, A.A., Ashford, D., dkk., 2016. A mass spectrometry method for the determination of the species of origin of gelatine in foods and pharmaceutical products. *Food Chemistry*, **190**: 276–284.
- Hariyanto, I., Nurlaela, R.S., Maharani, S.N., dan DjuandaBogor, U., 2024. Studi Literatur : Nilai Sensoris dan Viskositas Skin Cream Menggunakan Gelatin Tulang Tuna Sebagai Pengemulsi dan Humektan **3**: .
- Hashim dan Mat Hashim, 2013. A Review of Cosmetic and Personal Care Products: Halal Perspective and Detection of Ingredient.
- Jia, W., Zhang, R., Zhu, Z., dan Shi, L., 2021. LC-Q-Orbitrap HRMS-based proteomics reveals potential nutritional function of goat whey fraction. *Journal of Functional Foods*, **82**: 104502.
- Kleinnijenhuis, A.J., van Holthoon, F.L., dan Herregods, G., 2018. Validation and theoretical justification of an LC-MS method for the animal species specific detection of gelatin. *Food Chemistry*, **243**: 461–467.
- Lee, C. dan Chan, L.Y., 2022. A Complete Discovery Workflow for Species-Specific Gelatin Identification.
- Li, Jinchun, Li, Jiapeng, Wei, Y., Xu, S., Xiong, S., Li, D., dkk., 2022. Application of family-specific primers in multiplex real-time PCR for meat categories screening. *Journal of Food Composition and Analysis*, **109**: 104418.

- Olsen, J.V., Ong, S.-E., dan Mann, M., 2004. Trypsin Cleaves Exclusively C-terminal to Arginine and Lysine Residues *. *Molecular & Cellular Proteomics*, **3**: 608–614.
- Orbayinah, S., Widada, H., Hermawan, A., Sudjadi, S., dan Rohman, A., 2019. Application of real-time polymerase chain reaction using species specific primer targeting on mitochondrial cytochrome-b gene for analysis of pork in meatball products. *Journal of Advanced Veterinary and Animal Research*, **6**: 260–265.
- Pandey, A. dan Mann, M., 2000. Proteomics to study genes and genomes. *Nature*, **405**: 837–846.
- Pathmasiri, W., Rushing, B.R., McRitchie, S., Choudhari, M., Du, X., Smirnov, A., dkk., 2024. Untargeted metabolomics reveal signatures of a healthy lifestyle. *Scientific Reports*, **14**: 13630.
- Peroza, E.A. dan Freisinger, E., 2008. Tris is a non-innocent buffer during intein-mediated protein cleavage. *Protein Expression and Purification*, **57**: 217–225.
- Pramesti, E.W. dan Syakur, A., 2023. Kesadaran Hukum Pelaku Usaha Masker Komedo di Kota Samarinda terhadap Pemilihan Gelatin yang Bersertifikasi Halal.
- Raja, M.H., Yaakob, C., Amin, I., dan Noorfaizan, A., 2011. Chemical and functional properties of bovine and porcine skin gelatin. *International Food Research Journal* **18**: 813-817 (2011), .
- Raymaekers, M., Smers, R., Maes, B., dan Cartuyvels, R., 2009. Checklist for optimization and validation of real-time PCR assays. *Int. J. Food Prop*, **23**: 145–151.
- Ririe, K.M., Rasmussen, R.P., dan Wittwer, C.T., 1997. Product differentiation by analysis of DNA melting curves during the polymerase chain reaction. *Analytical Biochemistry*, **245**: 154–160.
- Rochat, B., 2019. Quantitative and Qualitative LC-High-Resolution MS: The Technological and Biological Reasons for a Shift of Paradigm, dalam: Ince, M. dan Kaplan Ince, O. (Editor), *Recent Advances in Analytical Chemistry*. IntechOpen.
- Rogers-Broadway, K.-R. dan Karteris, E., 2015. Amplification efficiency and thermal stability of qPCR instrumentation: Current landscape and future perspectives. *Experimental and Therapeutic Medicine*, **10**: 1261–1264.
- Rohman, A. dan Che Man, Y.B., 2012. Analysis of Pig Derivatives for Halal Authentication Studies. *Food Reviews International*, **28**: 97–112.
- Rohman, A., Orbayinah, S., Hermawan, A., Sudjadi, S., Windarsih, A., dan Handayani, S., 2022. The development of real-time polymerase chain reaction for identification of beef meatball. *Applied Food Research*, **2**: 100148.
- Rohman, A., Windarsih, A., Erwanto, Y., dan Zakaria, Z., 2020. Review on analytical methods for analysis of porcine gelatine in food and pharmaceutical products for halal authentication. *Trends in Food Science & Technology*, **101**: 122–132.
- Salamah, N., Erwanto, Y., Martono, S., dan Rohman, A., 2021. The Employment

- of Real-Time Polymerase Chain Reaction Using Species-Specific Primer Targeting on D-Loop Mitochondria for Identification of Porcine Gelatin in Soft Candy. *Indonesian Journal of Chemistry*, **21**: 852.
- Sambrook, J. dan Russel, D.W., 2001. *Molecular Cloning: A Laboratory Manual*. Cold Spring Harbor laboratory Press.
- Sambrook, J. dan Russell, D.W., 2006. Purification of nucleic acids by extraction with phenol:chloroform. *CSH protocols*, **2006**: pdb.prot4455.
- Shukor, M.S.A., Abdullah, M.F.F., Ismail, A., Abidin, S.A.S.Z., dan Yuswan, M.H., 2024. Bioinformatics Tools Assist in The Screening of Potential Porcine-Specific Peptide Biomarkers of Gelatin and Collagen For Halal Authentication. *Malaysian Applied Biology*, **53**: 255–266.
- Silva, A.N.B.D., Souza, R.D.C.M.D., Honorato, N.R.M., Martins, R.R., Câmara, A.C.J.D., Galvão, L.M.D.C., dkk., 2020. Comparison of phenol-chloroform and a commercial deoxyribonucleic acid extraction kit for identification of bloodmeal sources from triatomines (Hemiptera: Reduviidae). *Revista da Sociedade Brasileira de Medicina Tropical*, **53**: e20200189.
- Sultana, S., Hossain, M.A.M., Azlan, A., Johan, M.R., Chowdhury, Z.Z., dan Ali, Md.E., 2020. TaqMan probe based multiplex quantitative PCR assay for determination of bovine, porcine and fish DNA in gelatin admixture, food products and dietary supplements. *Food Chemistry*, **325**: 126756.
- Thermo Fisher Scientific, 2020. Proteome Discoverer 2.2 User Guide.
- Van Biesen, N., Cools, P., dan Meyers, E., 2025. Comparison and Optimization of DNA Extraction Methods for Human DNA from Dried Blood Spot Samples. *Pediatric Reports*, **17**: 30.
- van Doorn, N.L., Hollund, H., dan Collins, M.J., 2011. A novel and non-destructive approach for ZooMS analysis: ammonium bicarbonate buffer extraction. *Archaeological and Anthropological Sciences*, **3**: 281–289.
- Vandermarliere, E., Mueller, M., dan Martens, L., 2013. Getting intimate with trypsin, the leading protease in proteomics. *Mass Spectrometry Reviews*, **32**: 453–465.
- Viljoen, G.J., Nel, L.H., dan Crowther, J.R., 2005. *Molecular Diagnostic PCR Handbook*. Springer Science & Business Media.
- Vuckovic, D., 2013. Sample Preparation in Global Metabolomics of Biological Fluids and Tissues, dalam: *Proteomic and Metabolomic Approaches to Biomarker Discovery*. Elsevier, hal. 51–75.
- Wang, H., Zhao, M., Zhen Wu, Z., Qin, N., Fu, Y., dan Guo, S., 2024. Nutrient composition and functional constituents of daylily from different producing areas based on widely targeted metabolomics. *Food Chemistry: X*, **21**: 101239.
- Wardani, H.S., 2015. Analisis DNA Babi dalam Cangkang Kapsul Menggunakan Primer D-Loop DNA Mitokondria Babi dengan Metode Real Time Polymerase Chain Reaction. *Tesis, M.Sc, Fakultas Farmasi, Universitas Gadjah Mada, Yogyakarta*.
- Windarsih, A., Bakar, N.K.A., Rohman, A., dan Erwanto, Y., 2024a. Analysis of dog meat adulteration in beef meatballs using non-targeted UHPLC–Orbitrap HRMS metabolomics and chemometrics for halal authentication

- study. *Analytical Sciences*, **40**: 385–397.
- Windarsih, A., Bakar, N.K.A., Rohman, A., dan Erwanto, Y., 2024b. Analysis of dog meat adulteration in beef meatballs using non-targeted UHPLC–Orbitrap HRMS metabolomics and chemometrics for halal authentication study. *Analytical Sciences*, **40**: 385–397.
- Windarsih, A., Suratno, Warmiko, H.D., Indrianingsih, A.W., Rohman, A., dan Ulumuddin, Y.I., 2022. Untargeted metabolomics and proteomics approach using liquid chromatography–Orbitrap high resolution mass spectrometry to detect pork adulteration in *Pangasius hypophthalmus* meat. *Food Chemistry*, **386**: 132856.
- Wu, L., Takatsu, A., Park, S.-R., Yang, B., Yang, H., Kinumi, T., dkk., 2015. Development and co-validation of porcine insulin certified reference material by high-performance liquid chromatography–isotope dilution mass spectrometry. *Analytical and Bioanalytical Chemistry*, **407**: 3125–3135.
- Yilmaz, M.T., Kesmen, Z., Baykal, B., Sagdic, O., Kulen, O., Kacar, O., dkk., 2013. A novel method to differentiate bovine and porcine gelatins in food products: NanoUPLC-ESI-Q-TOF-MSE based data independent acquisition technique to detect marker peptides in gelatin. *Food Chemistry*, **141**: 2450–2458.
- Zabidi, A.R., Fauzi, F.N., Abd Razak, F.N., Rosli, D., Jamil, M.Z.M., Wan Ibrahim, W.K., dkk., 2020. Screening porcine DNA in collagen cream cosmetic products. *Food Research*, **4**: 151–156.
- Zhang, G., Liu, T., Wang, Q., Chen, L., Lei, J., Luo, J., dkk., 2009. Mass spectrometric detection of marker peptides in tryptic digests of gelatin: A new method to differentiate between bovine and porcine gelatin. *Food Hydrocolloids*, **23**: 2001–2007.
- Zhu, X., Gu, S., Guo, D., Huang, X., Chen, N., Niu, B., dkk., 2023. Determination of porcine derived components in gelatin and gelatin-containing foods by high performance liquid chromatography-tandem mass spectrometry. *Food Hydrocolloids*, **134**: 107978.
- Zia, Q., Alawami, M., Mokhtar, N.F.K., Nhari, R.M.H.R., dan Hanish, I., 2020. Current analytical methods for porcine identification in meat and meat products. *Food Chemistry*, **324**: 126664.