

DAFTAR PUSTAKA

- Anonim, 2011, *The Future of The Global Muslim Population Projections on 2010-2030*, Pew Research Center, Washington DC.
- Anonim, 2015, *A Global Strategic Business Report*, Global Industry Analysts Inc., San Jose.
- Agustina, F. W., 2017, Uji Kinerja Real-Time Polymerase Chain Reaction (RT-PCR) Probe Taqman Spesifik Gen ATPase6 untuk Deteksi Cemaran Daging Babi pada Bakso, *Skripsi*, Departemen Kimia FMIPA UGM, Yogyakarta.
- Azilawati, M. I., Hashim, D. M., Jamilah, B., and Amin, I., 2015, RP-HPLC Method using 6-Aminoquinolyl-N-Hydroxysuccinimidyl Carbamate Incorporated with Normalization Technique in Principal Component Analysis to Differentiate The Bovine, Porcine and Fish Gelatins, *Food Chem.*, 172, 368-376.
- Azira, T. N., Man, Y. B. C., Hafidz, R. N. R.M., Aina, M. A., and Amin, I., 2014, Use of Principal Component Analysis for Differentiation of Gelatine Sources Based on Polypeptide Molecular Weights, *Food Chem.*, 151, 286-292.
- Bairoch, A., and Apweiler, R., 2000, The SWISS-PROT Protein Sequence Database and Its Supplement TrEMBL in 2000, *Nucleic Acids Res.*, 28(1), 45-48.
- Baziwane, D., and He, Q., 2003, Gelatin: The Paramount Food Additive, *Food Rev. Int.*, 19(4), 423-435.
- Biemann, K., 1992, Mass spectrometry of Peptides and Proteins, *Annu. Rev. Biochem.*, 61, 977-1010.
- Bogdan, A. T., Brem, G., Seregi, I., Groza, I., Ipate, I., Gutscher, M., and Toba, G. F., 2009, Management of DNA Information Bank Using Typifix Method for Microsatellite Analysis and snp Assays in Order to Ensure Safety Food by Animal Filiations and Traceability For Farm Animal Biodiversity Under The New Circumstances of The Eco-economy Paradigm, *Vet. Med.*, 66(1), 1-2.
- Boran, G., Lawless, H., and Regenstien, J., 2010, Effects of Extraction Conditions on The Sensory and Instrumental Characteristics of Fish Gelatin Gels, *J. Food Sci.*, 75(9), 469-476.
- Burkhart, J. M., Schumbrutzki, C., Wolterkamp, S., Sickmann, A., and Zahedi, R., 2012, Systematic and Quantitative Comparison of Digest Efficiency and Specifity Reveals The Impact of Trypsin Quality on MS-based Proteomics, *J. Proteomics*, 75(4), 1454-1462.
- Cai, H., Gu, X. L., Scanlan, M. S., Ramatlapeng, D. H., and Lively, C. R., 2012, Real-time PCR Assays for Detection and Quantitation of Porcine and Bovine DNA in Gelatin Mixtures and Gelatin Capsules, *J. Food Compos. Anal.*, 25(1), 83-87.

- Cebi, N., Durak, M. Z., Toker, O. S., Sagdic, O., and Arici, M., 2016, An Evaluation of Fourier Transforms Infrared Spectroscopy Method for The Classification and Discrimination of Bovine, Porcine and Fish Gelatins, *Food Chem.*, 190, 1109-1115.
- Chudori, Y. N. C., 2017, Design and performance Study of Taqman Probe Real-Time Polymerase Chain Reaction Assay Spesific to Pork (*Sus Scrofa*) Based on ATPase6 gene, *Undergraduate Thesis*, Chemistry Department FMIPA UGM, Yogyakarta.
- Crokill, G., and Rapley, R., 2009, *The Manipulation of Nucleic Acids: Basic Tools and Techniques*, in: *Molecular Biomethods*, Walker, J. M., and Rapley, R., 2nd Ed., Humana Press, New York.
- Demirhan, Y., Ulca, P., and Senyuva, H.Z., 2012, Detection of Porcine DNA in Gelatine and Gelatine-Containing Processed Food Products Halal/Kosher Authentication, *Meat Sci.*, 90(3), 686-689.
- Domon, B., and Aebersold, R., 2006, Mass Spectrometry and Protein Analysis, *Sci.*, 312(5771), 212-217.
- Gasteiger, E., Hoogland C., Gattiker A., Duvaud S., Wilkins M.R., Appel R.D., and Bairoch A., 2005, *Protein Identification and Analysis Tools on the ExPASy Server*, in: *The Proteomics Protocols Handbook*, Walker, J. M., Humana Press, Totowa.
- Gómez-Estaca, J., Montero, P., Fernández-Martín, F., and Gómez-Guillén, M., 2009, Physico-Chemical and Film-Forming Properties of Bovine-Hide and Tuna-Skin Gelatin: A Comparative Study, *J. of Food Eng.*, 90(4), 480-486.
- Grundy, H. H., Reece, P., Buckley, M., Solazzo, C. M., Dowle, A. A., Ashford, D., Charlton, A. J., Wadsley, M. K., and Collins, M. J., 2016, A Mass Spectrometry Method for The Determination of The Species of Origin of Gelatine in Foods and Pharmaceutical Products, *Food Chem.*, 190, 276-284.
- Guo, D., Mant, C. T., and Hodges, R. S., 1987, Effects of Ion-Pairing Reagents on The Prediction of Peptide Retention in Reversed-Phase High-Performance Liquid Chromatography, *J. Chromatogr.*, 386, 205-222.
- Han, X., Aslanian, A., and Yates, J. R., 2008, Mass Spectrometry for Proteomics, *Curr. Opin. Chem. Biol.*, 12(5), 483-490.
- Hashim, D., Man, Y., Norakasha, R., Shuhaimi, M., Salmah, Y., and Syahariza, Z., 2010, Potential Use of Fourier Transform Infrared Spectroscopy for Differentiation of Bovine and Porcine Gelatins, *Food Chem.*, 118(3), 856-860.
- Hermanto, S., and Fatimah, W., 2013, Differentiation of Bovine and Porcine Gelatin Based on Spectroscopic and Electrophoretic Analysis, *J. Food Pharm. Sci.*, 1(3), 68-73.

- Hidaka, S., and Liu, S. Y., 2003, Effects of Gelatins on Calcium Phosphate Precipitation: A Possible Application for Distinguishing Bovine Bone Gelatin from Porcine Skin Gelatin, *J. Food Compos. Anal.*, 16(4), 477-483.
- Hofmann, K., Fischer, K., Mueller, E., and Babel, W., 1999, ELISA Test for Cooked Meat Species Identification on Gelatine and Gelatine Products, *Food/Nahrung*, 43, 406–409.
- Hunter, G. K., Nyburg, S. C., and Pritzker, K. P. H., 1986, Hydroxyapatite Formation in Collagen, Gelatin, and Agarose, *Coll. Relat. Res.*, 6, 229–238.
- Isola, D., Marzban, G., Selbmann, L., Onofri, S., Laimer, M., and Sterflinger, K., 2011, Sample Preparation and 2-DE Procedure for Protein Expression Profiling of Black Microcolonial Fungi, *Fungal Biol.*, 115(10), 971-977.
- Juan, D. L., and de la Mora, J. F., 1997, Charge and Size Distributions of Electrospray Drops, *J. Colloid Interface Sci.*, 186, 280-293.
- Kalli, A., Smith, G T., Sweredoski, M. J., and Hess, S., 2013, Evaluation and Optimization of Mass Spectrometric Settings during Data-Dependent Acquisition Mode: Focus on LTQ-Orbitrap Mass Analyzers, *J. Proteome Res.*, 12(7), 3071–3086.
- Karim, A. A., and Bhat, R., 2009, Fish Gelatin: Properties, Challenges, and Prospects as An Alternative To Mammalian Gelatins, *Food Hydrocol.*, 23, 563–576.
- Keenan, T. R., 1997, *Gelatin*, in: *Handbook of Biodegradable Polymers*, Domb, A. J., Kost, J., and David, M. W., Harwood Academic Publishers under Overseas Publishers Association, Amsterdam.
- Langen, H., and Berndt, P., 2001, *Proteomics Databases*, in: *Proteome Research: Mass Spectrometry*, James, P., Springer, New York.
- López-Calleja, I., Alonso, I. G., Fajardo, V., Rodríguez, M. A., Hernández, P. E., García, T., and Martín, R., 2005, PCR Detection of Cows' Milk in Water Buffalo Milk and Mozzarella Cheese, *Int. Dairy J.*, 15, 1122–1129.
- López-Andreo, M., Garrido-Pertierra, A., and Puyet, A., 2006, Evaluation of Postpolymerase Chain Reaction Melting Temperature Analysis for Meat Species Identification in Mixed DNA Samples, *J. of Agric. Food Chem.*, 54(21), 7973–7978.
- Lu, D., Liu, R. Z., Izumi, V., Fenstermacher, D., Haura, E. B., Koomen, J., and Eschrich, S.A., 2008, IPEP: An In Silico Tool to Examine Proteolytic Peptides for Mass Spectrometry, *Bioinformatics*, 24(23), 2801–2802.
- Lubis, H. N., Mohd-Naim, N. F., Alizul, N. N., and Ahmed, M. U., 2016, From Market to Food Plate: Current Trusted Technology and Innovations in Halal Food Analysis, *Trends in Food Sci. Technol.*, 58, 55-68.

- McLafferty, F. W., Breuker, K., Jin, M., Han, X., Infusini, G., Jiang, H., Kong, X., and Begley, T. P., 2007, Top-Down MS, A Powerful Complement to The High Capabilities of Proteolysis Proteomics, *FEBS J.*, 274, 6256–6268.
- Michalski, A., Damoc, E., Hauschild, J., Lange, O., Wiegand, A., Makarov, A., Nagaraj, N., Cox, J., Mann, M., and Horning, S., 2011, Mass Spectrometry-based Proteomics Using Q Exactive, a High-performance Benchtop Quadrupole Orbitrap Mass Spectrometer, *Mol. Cell. Proteomics*, 10(9), M111.011015.
- Mohd, S. A. M., Fadly, L., Norrakiah, A. S., Aminah, A., Wan Aida, W. M., Ma'aruf Mohd, A. G., and Khan A., 2012, Halal Market Surveillance of Soft and Hard Gel Capsules in Pharmaceutical Products using PCR and Southern-Hybridization on The Biochip Analysis. *Int. Food Res. J.*, 19(1), 371–375.
- Mutalib, A. S., Muin, N. M., Abdullah, A., Hassan, O., Mustapha, W. A. W., Sani, N. A., and Maskat, M. Y., 2015, Sensitivity of Polymerase Chain Reaction (PCR)-Southern Hybridization and Conventional PCR Analysis for Halal authentication of Gelatin Capsules, *Lwt. Food Sci. Technol.*, 63(1), 714-719.
- Nakyinsige, K., Man, Y. B., and Sazili, A. Q., 2012, Halal Authenticity Issues in Meat and Meat Products, *Meat Sci.*, 91(3), 207-214.
- Nemati, M., Oveisi, M. R., Abdollahi, H., and Sabzevari, O., 2004, Differentiation of Bovine and Porcine Gelatins using Principal Component Analysis, *J. Pharm. Biomed. Anal.*, 34(3), 485-492.
- Nhari, R. M. H. R., Ismail, A., and Man, Y. B. C., 2012, Analytical Methods for Gelatin Differentiation from Bovine and Porcine Origins and Food Products, *J. Food Sci.*, 77(1), 42-46.
- Nijenhuis, K. T., 1997, Thermoreversible networks: viscoelastic properties and structure of gels, *Adv. Polym. Sci.*, 130, 1-267.
- Nishihara, J. C., and Champion, K. M., 2002, Quantitative Evaluation of Proteins in One-and Two-Dimensional Polyacrylamide Gels using A Fluorescent Stain, *Electrophoresis*, 23(14), 2203-2215.
- Orduna, A. R., Husby, E., Yang, C. T., Ghosh, D., and Beaudry, F., 2015, Assessment of Meat Authenticity using Bioinformatics, Targeted Peptide Biomarkers and High-Resolution Mass Spectrometry, *Food Addit. Contam. Part A Chem. Anal. Control Expo Risk Assess*, 32(10), 1709-1717.
- Orduna, A. R., Husby, E., Yang, C. T., Ghosh, D., and Beaudry, F., 2017, Detection of Meat Species Adulteration using High-Resolution Mass Spectrometry and A Proteogenomics Strategy, *Food Addit. Contam. Part A Chem. Anal. Control Expo Risk Assess*, 34(7), 1110-1120.
- Ortea, I., O'Connor, G., and Maquet, A., Review on Proteomics for Food Authentication, *J. Proteomics*, 147, 212–225.

- Pandey, A., and Mann, M., 2000, Proteomics to Study Genes and Genomes, *Nature*, 405, 837–846.
- Ramanathan, R., Zhong, R., Blumenkrantz, N., Chowdhury, S. K., and Alton, K. B., 2007, Response Normalized Liquid Chromatography Nanospray Ionization Mass Spectrometry, *J. Am. Soc. Mass Spectrom.*, 18, 1891–1899.
- Roepstorff, P., and Fohlman, J., 1984, Proposal for A Common Nomenclature for Sequence Ions in Mass Spectra of Peptides, *Biomed. Mass Spectrom.*, 11(11), 601.
- Saiki, R. K., Scharf, S. J., Faloona, F., Mullis, K. B., Horn, G. T., Erlich, H. A., and Arnheim, N., 1985, Enzymatic Amplification of B-globin Genomic Sequences and Restriction Site Analysis for Diagnosis of Sickle Cell Anemia, *Sci.*, 230(4732), 1350-1354.
- Sambrook, J., Fritsch, E.F., and Maniatis, T., 1989, *Molecular Cloning: A Laboratory Manual Vol 1-3*, 2nd Ed, Cold Spring Harbor Laboratory Press, New York.
- Sambrook, J., and Russell, D. W., 2001, *Molecular Cloning: A Laboratory Manual*, 3rd Ed, Cold Spring Harbor Laboratory Press, New York.
- Schrieber, R., and Gareis, H., 2007, *Gelatine Handbook: Theory and Industrial Practice*, WILEY-VCH Verlag GmbH & Co. KGaA, Weinheim.
- Shabani, H., Mehdizadeh, M., Mousavi, S. M., Dezfouli, E. A., Solgi, T., Khodaverdi, M., Rabiei, M., Rastegar, H., and Alebouyeh, M., 2015, Halal Authenticity of Gelatin using Species-Specific PCR, *Food Chem.*, 184, 203–206.
- Shoulders, M. D., and Raines, R. T., 2009, Modulating collagen triple-helix stability with 4-chloro, 4-fluoro and 4-methylprolines, *Annu. Rev. Biochem.*, 78, 929–958.
- Steen, H., Kuster, B., Fernandez, M., Pandey, A., and Mann, M., 2001, Detection of Tyrosine Phosphorylated Peptides by Precursor Ion Scanning Quadrupole TOF Mass Spectrometry in Positive Ion Mode, *Anal. Chem.*, 73, 1440–1448.
- Tabb, D. L., Eng, J. K., and Yates, J. R., 2001, *Protein Identification by SEQUEST*, in: *Proteome Research: Mass Spectrometry*, James, P., Springer, New York.
- Tasara, T., Schumacher, S., and Stephan, R., 2005, Conventional and Real-Time PCR Based Approaches for Molecular Detection and Quantitation of Bovine Species Material in Edible Gelatin, *J. Food Prot.*, 68(11), 2420–2426.
- Termine, J. D., Peckauskas, R. A., and Posner, A. S., 1970, Calcium Phosphate Formation In Vitro II. Effects of Environment on Amorphous-Crystalline Transformation, *Arch. Biochem. Biophys.* 140, 318–325.

- Tukiran, N. A., Ismail, A., Mustafa, S., and Hamid, M., 2016, Determination of Porcine Gelatin in Edible Bird's Nest by Competitive Indirect ELISA Based on Anti-Peptide Polyclonal Antibody. *Food Cont.* 59, 561-566.
- Venien, A., and Levieux, D., 2005, Differentiation of Bovine from Porcine Gelatins Using Polyclonal Anti-Peptida Antibodies in Indirect and Competitive Indirect ELISA, *J. Pharm Biomed. Anal.*, 39, 418-424.
- Venugopal, J., Low, S., Choon, A. T., and Ramakrishna, S., 2008, Interaction of Cells and Nanofiber Scaffolds in Tissue Engineering, *J. Biomed. Mater. Res. B Appl. Biomater.*, 84(1), 34-48.
- Walker, J. M., and Rapley, R., 2000, *Molecular Biology and Biotechnology*, 4th Edition, Athanalum Press Ltd, Cambridge.
- Walker, J. A., Hughes, D. A., Anders, B. A., Swehale, J., Sinha, S. K., and Bazzar, M. A., 2003, Quantitative Intra Short Interspersed Element PCR for Species-Specific DNA Identification, *Anal. Biochem.*, 316, 259-269.
- Weber, P., Steinhart, H., and Paschke, A., 2009, Competitive Indirect ELISA for the Determination of Parvalbumins from Various Fish Species in Food Grade Fish Gelatins and Isinglass with PARV-19 Anti Parvalbumin Antibodies, *J. Agr. Food Chem.*, 57(23), 11328-11334.
- Wilm, M., Mann, M., 1996, Analytical Properties of the Nanoelectrospray Ion Source, *Anal. Chem.*, 68, 1-8.
- Yilmaz, M. T., Kesmen, Z., Baykal, B., Sagdic, O., Kulen, O., Kacar, O., Yetim, H., and Baykal, A. T., 2013, A Novel Method to Differentiate Bovine and Porcine Gelatins in Food Products: NanoUPLC-ESIQ-TOF-MS(E) based Data Independent Acquisition Technique to Detect Marker Peptides in Gelatin, *Food Chem.*, 141(3), 2450-2458.
- Yuwono, T., 2006, *Teori dan Aplikasi Polymerase Chain Reaction*, Penerbit Andi, Yogyakarta.
- Zakary, E. M., Nassif, M. Z., and Mohammed, G. M. O., 2011, Detection of *Staphylococcus aureus* in Bovine Milk and Its Product by Real Time PCR Assay, *G. J. Biotechnol. & Biochem.*, 6, 171-177.
- Zhang, Z., 2004, Prediction of Low-Energy Collision-Induced Dissociation Spectra of Peptides, *Anal. Chem.*, 76, 3908-3922.
- Zhang, G.-F., Liu, T., Wang, Q., Lei, J.-D., Ma, G.-H., and Su, Z.-G., 2008, Identification of Marker Peptides in Digested Gelatins by High Performance Liquid Chromatography/Mass Spectrometry, *Chinese J. Anal. Chem.*, 36(11), 1499-1504.
- Zhang, G.-F., Liu, T., Wang, Q., Chen, L., Lei, J.-D., Luo, J., Ma, G.-H., and Su, Z.-G., 2009, Mass Spectrometric Detection of Marker Peptides in Tryptic Digests of Gelatin: A New Method to Differentiate Between Bovine and Porcine Gelatin, *Food Hydrocol.*, 23(7), 2001-2007.