



DAFTAR PUSTAKA

- Ahmad .M., dan Benjakul .S. 2010. Extraction and characterisation of pepsin solubilized collagen from the skin of unicorn leatherjacket (*Aluterus monoceros*). *Food Chemistry* 120:817-824.
- Alhana. 2015. Ekstraksi dan Karakterisasi Kolagen dan Nano-Kolagen dari Daging Teripang Gamma. Tesis Sekolah Pascasarjana Institut Pertanian Bogor. Bogor.
- AOAC Association of Official Analytical Chemist. 2005. *Official Methods of Analysis (18 Edn)*. Mayland (US): Published by The Association of Official Analytical Chemist Inc.
- Bae I, Osatomi K, Yoshida A, Osako K, Yamaguchi A, Hara K. 2008. Biochemical properties of acid-soluble collagens extracted from the skins of underutilised fishes. *Food Chemistry* 108(1): 49–54.
- Balasuriya, B.W.N and H.P.V. Rupasinghe. 2011. Plant flavonoid as angiotensin converting enzyme inhibitory in regulation of hypertension. *Functional Food in Healthy and Disease*. 5: 172-188.
- BSN. Badan Standardisasi Nasional. 2014. Kolagen kasar dari sisik ikan-Syarat mutu dan pengolahan: SNI 8076-2014. Jakarta (ID): Badan Standardisasi Nasional.
- Cahyarini, R. D. 2004. Identifikasi keragaman genetik beberapa varietas local kedelai di Jawa berdasarkan analisis lisozim. Tesis. Universitas Sebelas Maret. Surakarta.
- Chai .H.J, Li .J.H., Huang .H.N., Li .T.L., Chan .Y.L., Shiau .C.Y., Wu .C.J. 2010. Effects of size and conformations of fish-scale collagen peptides on facial skin qualities and transdermal penetration efficiency. *Journal of Biomedicine and Biotechnology* 2010 :1-9.
- Cheung .I. W. Y., Ewnice .C .Y. L. 2017. Enzymatic production of protein hydrolysates from steelhead skin gelatin as inhibitors of dipeptidyl peptidase IV and Angiotensin I converting enzyme. *Journal of functional food* (28) :254-264.
- Cho S. S., H.K. Lee., C. Y. Yu., M. J. Kim., E. S. Seong., B. K. Ghimire., E. H. Son., M. G. Choung., and J. D.Lim. 2008. Isolation and characterization of bioactive peptides from Hwangtae (*yellowish dried Alaska Pollack*) protein hydrolysate. *Journal of Food Science and Nutrition* 13: 196-203.
- Coates J. 2000. Interpretation of infrared spectra, a practical approach. Di dalam: Meyers RA, editor. *Encyclopedia of Analytical Chemistry*. Chichester (GB): John Wiley & Sons Ltd.



- Davis, P.H., and Heywood, V.H. 2003. *Basic Methods in Molecular Biology*. 2nd Ed. Conecicut: Appleton & Lange Gehrig JSN, Willmann DE. *Foundation of Periodontics for the Dental Hygienist*. Philadelpia.
- Draelos ZD, Thaman LA. 2006. *Cosmetic Science and Technology Series*. Volume ke-30, *Cosmetic Formulation of Skin Care Products*. New York (US): Taylor & Francis Group.
- Fatmawati, U, Suranto, dan Sajidan. 2009. Ekspresi protein pada mikroorganisme resisten Cr dengan metode elektroforesis. *Bioteknologi*. 6 (1):1181-1189.
- Ferreira, I. M. P. L. V. O., Pinho, O., Mota, M. V., Tavares, P., Pereira, a., Gonçalves, M.P., Teixeira, J. a. 2007. Preparation of ingredients containing an ACE-inhibitory peptide by tryptic hydrolysis of whey protein concentrates. *International Dairy Journal*. 17(5):481–487.
- Fisher, N. 2009. Hidrolisat Protein Ikan. Tersedia pada : http://naKEd_fiSHer.archive.com. Diakses pada: 7 Juli 2019, pukul 18.29 WIB.
- FitzGerald R.J. and Meisel H. 2003. Caseinophosphopeptides (CPPs) as functional ingredients. In *Functional dairy products* Edited by Tiina Mattila-Sandholm and Maria Saarela. Woodhead Publishing Ltd and CRC Press LLC.
- Ismanto, A. 2014. Evaluasi Proses Hidrolisis Enzimatis Protein Ranggah Velvet Rusa Sambar (*Rusa Unicorn*) Sebagai Tahap Awal untuk Menghasilkan Peptida Bioaktif. *Prosiding Seminar Nasional Kimia*. Kalimantan Timur.
- Istika, D. 2009. Pemanfaatan enzim bromelin pada limbah kulit nanas dalam pengempukkan daging. Jurusan Biologi. Fakultas Matematika dan Ilmu Pengetahuan Alam. Universitas Sebelas Maret. Surakarta.
- Je, J. Y., K. H. Lee., M. H. Lee., and C. B. Ahn. 2009. Antioxidant and antihypertensive protein hydrolysates produced from tuna liver by enzymatic hydrolysis. *Food research international*. 42:1266-1272.
- Klanènik G, Medved J, Mrvar P. 2010. Differential thermal analysis (DTA) and differential scanning calorimetry (DSC) as a method of material investigation. *RMZ – Materials and Geoenvironment* 57(1):127-142.
- Kong J, Yu S. 2007. Fourier transform infrared spectroscopic analysis of protein secondary structures. *Acta Biochimica et Biophysica Sinica* 39(8):549- 559.
- Kristianawati, F., R. Ibrahim., dan L. Rianingsih. 2014. Penambahan enzim yang berbeda pada pengolahan kecap ikan dari isi rongga perut



- ikan manyung (*Arius thalassinus*) terhadap mutu produk. Jurnal saintek perikanan. 9(2):24-32.
- Kurniawati, I. T., dan T. Estiasih. 2015. Efek antihipertensi senyawa bioaktif dioscorin pada umbi-umbian keluarga dioscorea. Jurnal pangan dari agroindustry. 3(2):402-406.
- Laemmli, U. K. 1970. Cleavage of structural proteins during the assembly of the head of bacteriophage T4. *Nature* 227(5259): 680-685.
- Lawrie, R. A. 2003. Ilmu Daging. Edisi Kelima. Terjemahan: Aminuddin P. dan Yudha A. Universitas Indonesia Press. Jakarta.
- Lee CH, Singla A, Lee Y. 2001. Biomedical applications of collagen. *International Journal of Pharmaceutics* 221:1-22.
- Lehninger, A. L. 1990. Principles of Biochemistry. Pent. M. Thenawijaya. Jilid 2 Penerbit Erlangga Surabaya.
- Ling-ling. G. A. O., Wang. Z., Zhang. C., Zhang. P. 2018. The characterization of acid and pepsin soluble collagen from ovine bones. *Journal of Integrative Agriculture*. 17(3):704-711.
- Liu, J.B., Z.P. Yu, W.Z. Zhao., S.Y. Lin., E.L. Wang., Y. Zhang., H. Hao., Z.Z. Wang., and F.Chen. 2010. Isolation and identifikasi of angiotension-converting enzyme inhibiting peptide from egg white protein hydrolysates. *Food Chem.* 122:1159 – 1163.
- Mansjoer, A. 2009. Kapita Selekta Kedokteran. Media Aesculapius UI. Jakarta.
- Martianingsih N, Atmaja L. 2009. Analisis sifat kimia, fisik, dan termal gelatin dari ekstraksi kulit Ikan pari (*Himantura gerrardi*) melalui variasi jenis larutan asam. [Prosiding] *KIMIA FMIPA – ITS*.
- Mutmainah, S. F., dan T. Estiasih. 2016. Senyawa Bioaktif pada Umbi-umbian Lokal untuk Penurunan Tekanan Darah : Kajian Pustaka. *Jurnal Pangan dan Agroindustri*. Vol. 4. No. 1.
- Muyonga JH, Cole CGB, Duodu KG. 2004. Fourier transform infrared (FTIR) spectroscopic study of acid soluble collagen and gelatin from skins and bones of young and adult Nile perch (*Lates niloticus*). *Food Chemistry* 86:325-332.doi:10.1016/j.foodchem.2003.09.038.
- Nalinanon. S., Soottawat. B., Wonnop. V., Hideki. K. 2007. Use pepsin for collagen extraction from the skin of bigeye snapper. *Food chemistry* 104(2007) :593-601.
- Nelson, D. L. dan M. M. Cox. 2000. Lehninger Principles of Biochemistry. 3rd ed. Worth Pub. New York.
- Nikoo M, Xu X, Benjakul S, Xu G, Ramires-Suarez JC, Ehsani A, Kasankala LM, Duan X, Abass S. 2011. Characterization of gelatin



- from the skin of farmed Amur sturgeon *Acipenser schrenckii*. *International Aquatic Research* 3(2): 135-145.
- Peng Y, Glattauer V, Werkmeister JA, Ramshaw JAM. 2004. Evaluation for collagen products for cosmetic application. *Journal of Cosmestic Science* 55(4):327-341.
- Prasetyo, S.S., I. Suharto, A. Prima, J.R. Witono., I. Patra., Sherly. 2004. Kajian Awal Ekstraksi Kolagen dari Tulang Sapi secara Batch. Lembaga Peneliti dan Pengabdian kepada Masyarakat. Universitas Khatolik Parahyangan. Bandung.
- Rehn .M.T., Veikkola .E., Kukk., Valdre .H., Nakamura .M., Ilmomen., C. Lombardo. T., Pihlajaniemi. K. Alitalo and Vvori. 2001. Interaction of endostatin with integrins implicated in angiogenesis. *Proceedings of the National Academy of Sciences of the USA*. 98 :1024-1029.
- Sai KP, Babu M. 2001. Studies on *Rana tigerina* skin collagen. *Comparative Biochemistry and Physiology Part B: Biochemistry and Molecular Biology* 128(1):81-90.
- Samouillan V, Delaunay F, Dandurand J, Merbahi N, Gardou JP, Yousfi M, Gandaglia A, Spina M, Lacabanne C. 2011. The Use of thermal techniques for the characterization and selection of natural biomaterials. *Journal of Functional Biomaterials* 2:230-248.
- Singh P, Benjakul S, Maqsood S, Kishimura H. 2011. Isolation and characterisation of collagen extracted from the skin of striped catfish (*Pangasianodon hypophthalmus*). *Food Chemistry* 124(1):97-105.
- Sugiharsono, A. C., L. D.A. R. Dewanti., dan E. Sulistyani. 2014. Analisis profil protein ekstrak biji mimba (*Azadirachta Indica* A. Juzz) dengan pemanasan basah sebelum ekstraksi melalui metode SDS-PAGE. Fakultas Kedokteran Gigi Universitas Jember. Jember.
- Sunarto. 2011. Karakteristik pola pita protein anodonta woodianalesa akibat terpapar logam berat cadmium (Cd). *Jurnal Ekosains*. 3(1).
- Tabarestani SH, Maghsoudlou Y, Motamedzadegan A, Mahoonak SAR, Rostamzad H. 2012. Study on some properties of acid-soluble collagens isolated from fish skin and bones of rainbow trout (*Onchorhynchus mykiss*). *International Food Research Journal* 19(1):251-257.
- Tavano, O. L. 2013. Protein hydrolysis using proteases: an important tool for food biotechnology. Review. *J Molecular Catalysis B: Enzymatic*. 90:1-11.



- Toro, M. A. N. D., and F. L. G. Carreno. 2002. Evaluation of the Progress of Protein. *Current Protocols in Food Analytical Chemistry*.
- Wade, A., D.N. Hwheir., and A. Cameron. 2003. Using a Problem Detection Study (PDS) to Identify and Compare Health Care Priver and Consumer Views of Antihypertensive therapy. *Journal of Human Hypertension*. 17(6): 397.
- Wang.L.F., Rhim.J.W. 2015. Preparation and Application of agar, alginate, collagen ternary blend functional food packaging film. *Journal biological macromolecules* (1) : 252.
- Wang .L, An .X, Yang .F, Xin .Z, Zhao .L, Hu .Q. 2008. Isolation and characterization of collagen from the skin, scale and bone of deep-sea redfish (*Sebastes mentella*). *Food Chemistry*. 108(2): 616–623.