

6. DAFTAR PUSTAKA

- Abdollahi, M., Rezaei, M., Jafarpour, A., & Undeland, I. (2018). Sequential extraction of gel-forming proteins, collagen and collagen hydrolysate from gutted silver carp (*Hypophthalmichthys molitrix*), a biorefinery approach. *Food Chemistry*, 242, 568–578. <https://doi.org/10.1016/j.foodchem.2017.09.045>
- Abuine, R., Rathnayake, A. U., & Byun, H. G. (2019). Biological activity of peptides purified from fish skin hydrolysates. *Fisheries and Aquatic Sciences*, 22(1), 1–14. <https://doi.org/10.1186/s41240-019-0125-4>
- Adler-Nissen, J. (1977). Enzymatic hydrolysis of food proteins. *Process Biochem*, 8, 18–32.
- Aguirre-Cruz, G., León-López, A., Cruz-Gómez, V., Jiménez-Alvarado, R., & Aguirre-Álvarez, G. (2020). Collagen hydrolysates for skin protection: Oral administration and topical formulation. *Antioxidants*, 9(2). <https://doi.org/10.3390/antiox9020181>
- Ahmed, R., & Chun, B. S. (2018). Subcritical water hydrolysis for the production of bioactive peptides from tuna skin collagen. *Journal of Supercritical Fluids*, 141(October 2017), 88–96. <https://doi.org/10.1016/j.supflu.2018.03.006>
- Alemán, A., Giménez, B., Gómez-Guillén, M. C., & Montero, P. (2011). Enzymatic hydrolysis of fish gelatin under high pressure treatment. *International Journal of Food Science and Technology*, 46(6), 1129–1136. <https://doi.org/10.1111/j.1365-2621.2011.02590.x>
- Ao, J., & Li, B. (2012). Amino acid composition and antioxidant activities of hydrolysates and peptide fractions from porcine collagen. *Food Science and Technology International*, 18(5), 425–434. <https://doi.org/10.1177/1082013211428219>
- Asaduzzaman, A. K. M., Getachew, A. T., Cho, Y. J., Park, J. S., Haq, M., & Chun, B. S. (2020). Characterization of pepsin-solubilised collagen recovered from mackerel (*Scomber japonicus*) bone and skin using subcritical water hydrolysis. *International Journal of Biological Macromolecules*, 148, 1290–1297. <https://doi.org/10.1016/j.ijbiomac.2019.10.104>
- Azizah, N., Ochiai, Y., & Nurilmala, M. (2019). Collagen peptides from Pangasius fish skin as antioxidants. *IOP Conference Series: Earth and Environmental Science*, 404(1). <https://doi.org/10.1088/1755-1315/404/1/012055>
- Baumann, L. (2007). Skin Ageing and Its Treatment. *Journal of Pathology*, 211, 241–251. <https://doi.org/10.1002/path>
- Benjakul, S., Chantakun, K., & Karnjanapratum, S. (2018). Impact of retort process on characteristics and bioactivities of herbal soup based on hydrolyzed collagen from seabass skin. *Journal of Food Science and Technology*, 55(9), 3779–3791. <https://doi.org/10.1007/s13197-018-3310-z>
- Benson, H. (2005). Transdermal Drug Delivery: Penetration Enhancement Techniques. *Current Drug Delivery*, 2(1), 23–33. <https://doi.org/10.2174/1567201052772915>
- Bilek, S. E., & Bayram, S. K. (2015). Fruit juice drink production containing hydrolyzed

collagen. *Journal of Functional Foods*, 14, 562–569.
<https://doi.org/10.1016/j.jff.2015.02.024>

Bousopha, S., Nalinanon, S., & Sriket, C. (2016). Production of collagen hydrolysate with antioxidant activity from pharaoh cuttlefish skin. *Chiang Mai University Journal of Natural Sciences*, 15(2), 151–162. <https://doi.org/10.12982/cmujns.2016.00012>

Chen, M., Li, Y., & Huang, G. (2020). Potential health functions of collagen bioactive peptides: A review. *American Journal of Biochemistry and Biotechnology*, 16(4), 507–519. <https://doi.org/10.3844/ajbbsp.2020.507.519>

Chi, C. F., Cao, Z. H., Wang, B., Hu, F. Y., Li, Z. R., & Zhang, B. (2014). Antioxidant and functional properties of collagen hydrolysates from Spanish mackerel skin as influenced by average molecular weight. *Molecules*, 19(8), 11211–11230. <https://doi.org/10.3390/molecules190811211>

Chi, C., Hu, F., Li, Z., Wang, B., & Luo, H. (2016). Influence of Different Hydrolysis Processes by Trypsin on the Physicochemical, Antioxidant, and Functional Properties of Collagen Hydrolysates from *Sphyraena lewini*, *Dasyatis akjei*, and *Raja porosa*. *Journal of Aquatic Food Product Technology*, 25(5), 616–632. <https://doi.org/10.1080/10498850.2014.898004>

Cuevas-Acuña, D. A., Robles-Sánchez, R. M., Torres-Arreola, W., Marquez-Ríos, E., & Ezquerra-Brauer, J. M. (2016). Collagen from jumbo squid fin: Extracting conditions and influence of the protease system on collagen hydrolysate antioxidant activity. *CYTA - Journal of Food*, 14(2), 193–199. <https://doi.org/10.1080/19476337.2015.1080299>

de Paz-Lugo, P., Lupiáñez, J. A., & Meléndez-Hevia, E. (2018). High glycine concentration increases collagen synthesis by articular chondrocytes in vitro: acute glycine deficiency could be an important cause of osteoarthritis. *Amino Acids*, 50(10), 1357–1365. <https://doi.org/10.1007/s00726-018-2611-x>

Feng, M., & Betti, M. (2017). Transepithelial transport efficiency of bovine collagen hydrolysates in a human Caco-2 cell line model. *Food Chemistry*, 224(December), 242–250. <https://doi.org/10.1016/j.foodchem.2016.12.044>

Haq, M., Ho, T. C., Ahmed, R., Getachew, A. T., Cho, Y. J., Park, J. S., & Chun, B. S. (2020). Biofunctional properties of bacterial collagenolytic protease-extracted collagen hydrolysates obtained using catalysts-assisted subcritical water hydrolysis. *Journal of Industrial and Engineering Chemistry*, 81, 332–339. <https://doi.org/10.1016/j.jiec.2019.09.023>

Harnedy, P. A., Parthsarathy, V., McLaughlin, C. M., O'Keeffe, M. B., Allsopp, P. J., McSorley, E. M., O'Harte, F. P. M., & FitzGerald, R. J. (2018). Atlantic salmon (*Salmo salar*) co-product-derived protein hydrolysates: A source of antidiabetic peptides. *Food Research International*, 106, 598–606. <https://doi.org/10.1016/j.foodres.2018.01.025>

Hawker, S., Payne, S., Kerr, C., Hardey, M., & Powell, J. (2002). Appraising the evidence: Reviewing disparate data systematically. *Qualitative Health Research*, 12(9), 1284–1299. <https://doi.org/10.1177/1049732302238251>

- Hema, G. S., Joshy, C. G., Shyni, K., Chatterjee, N. S., Ninan, G., & Mathew, S. (2017). Optimization of process parameters for the production of collagen peptides from fish skin (*Epinephelus malabaricus*) using response surface methodology and its characterization. *Journal of Food Science and Technology*, 54(2), 488–496. <https://doi.org/10.1007/s13197-017-2490-2>
- Hong, G. P., Min, S. G., & Jo, Y. J. (2019). Anti-oxidative and anti-aging activities of porcine by-product collagen hydrolysates produced by commercial proteases: Effect of hydrolysis and ultrafiltration. *Molecules*, 24(6). <https://doi.org/10.3390/molecules24061104>
- Hong, H., Fan, H., Chalamaiyah, M., & Wu, J. (2019). Preparation of low-molecular-weight, collagen hydrolysates (peptides): Current progress, challenges, and future perspectives. *Food Chemistry*, 301(August), 125222. <https://doi.org/10.1016/j.foodchem.2019.125222>
- Hu, Z., Yang, P., Zhou, C., Li, S., & Hong, P. (2017). Marine collagen peptides from the skin of Nile Tilapia (*Oreochromis niloticus*): Characterization and wound healing evaluation. *Marine Drugs*, 15(4). <https://doi.org/10.3390/md15040102>
- Huang, C. Y., Tsai, Y. H., Hong, Y. H., Hsieh, S. L., & Huang, R. H. (2018). Characterization and antioxidant and angiotensin I-converting enzyme (ACE)-inhibitory activities of gelatin hydrolysates prepared from extrusion-pretreated milkfish (*chanos chanos*) scale. *Marine Drugs*, 16(10), 1–20. <https://doi.org/10.3390/md16100346>
- Huang, C. Y., Wu, C. H., Yang, J. I., Li, Y. H., & Kuo, J. M. (2015). Evaluation of iron-binding activity of collagen peptides prepared from the scales of four cultivated fishes in Taiwan. *Journal of Food and Drug Analysis*, 23(4), 671–678. <https://doi.org/10.1016/j.jfda.2014.06.009>
- Ibrahim, F. N., Ismail-Fitry, M. R., Yusoff, M. M., & Shukri, R. (2018). Effects of fish collagen hydrolysate (FCH) as fat replacer in the production of buffalo patties. *Journal of Advanced Research in Applied Sciences and Engineering Technology*, 11(1), 108–117.
- Ichikawa, S., Morifuji, M., Ohara, H., Matsumoto, H., Takeuchi, Y., & Sato, K. (2010). Hydroxyproline-containing dipeptides and tripeptides quantified at high concentration in human blood after oral administration of gelatin hydrolysate. *International Journal of Food Sciences and Nutrition*, 61(1), 52–60. <https://doi.org/10.3109/09637480903257711>
- Ishikawa, K. (1976). *Guide to Quality Control*. Asian Productivity & Organization.
- Iwai, K., Hasegawa, T., Taguchi, Y., Morimatsu, F., Sato, K., Nakamura, Y., Higashi, A., Kido, Y., Nakabo, Y., & Ohtsuki, K. (2005). Identification of food-derived collagen peptides in human blood after oral ingestion of gelatin hydrolysates. *Journal of Agricultural and Food Chemistry*, 53(16), 6531–6536. <https://doi.org/10.1021/jf050206p>
- Iwasaki, Y., Nakatogawa, M., Shimizu, A., Sato, Y., & Shigemura, Y. (2021). Comparison of gelatin and low-molecular weight gelatin hydrolysate ingestion on

hydroxyproline (Hyp), Pro-Hyp and Hyp-Gly concentrations in human blood. *Food Chemistry*, 369, 1–7. <https://doi.org/10.1016/j.foodchem.2021.130869>

Jia, J., Zhou, Y., Lu, J., Chen, A., Li, Y., & Zheng, G. (2010). Enzymatic hydrolysis of alaska pollack (*Theragra chalcogramma*) skin and antioxidant activity of the resulting hydrolysate. *Journal of the Science of Food and Agriculture*, 90(4), 635–640. <https://doi.org/10.1002/jsfa.3861>

Jung, K. H., Choi, Y. C., Chun, J. Y., Min, S. G., & Hong, G. P. (2014). Effects of concentration and reaction time of Trypsin, Pepsin, and Chymotrypsin on the hydrolysis efficiency of porcine placenta. *Korean Journal for Food Science of Animal Resources*, 34(2), 151–157. <https://doi.org/10.5851/kosfa.2014.34.2.151>

Khatri, M., Naughton, R. J., Clifford, T., Harper, L. D., & Corr, L. (2021). The effects of collagen peptide supplementation on body composition, collagen synthesis, and recovery from joint injury and exercise: a systematic review. *Amino Acids*, 53(10), 1493–1506. <https://doi.org/10.1007/s00726-021-03072-x>

Khiari, Z., Ndagijimana, M., & Betti, M. (2014). Low molecular weight bioactive peptides derived from the enzymatic hydrolysis of collagen after isoelectric solubilization/precipitation process of turkey by-products. *Poultry Science*, 93(9), 2347–2362. <https://doi.org/10.3382/ps.2014-03953>

Kim, H. K., Kim, M. G., & Leem, K. H. (2013). Osteogenic activity of collagen peptide via ERK/MAPK pathway mediated boosting of collagen synthesis and its therapeutic efficacy in osteoporotic bone by back-scattered electron imaging and microarchitecture analysis. *Molecules*, 18(12), 15474–15489. <https://doi.org/10.3390/molecules181215474>

Kim, S. K., Kim, Y. T., Byun, H. G., Nam, K. S., Joo, D. S., & Shahidi, F. (2001). Isolation and characterization of antioxidative peptides from gelatin hydrolysate of Alaska pollack skin. *Journal of Agricultural and Food Chemistry*, 49(4), 1984–1989. <https://doi.org/10.1021/jf000494j>

Kumar, S., Sugihara, F., Suzuki, K., Inoue, N., & Venkateswarathirukumara, S. (2015). A double-blind, placebo-controlled, randomised, clinical study on the effectiveness of collagen peptide on osteoarthritis. *Journal of the Science of Food and Agriculture*, 95(4), 702–707. <https://doi.org/10.1002/jsfa.6752>

Li, B., Chen, F., Wang, X., Ji, B., & Wu, Y. (2007). Isolation and identification of antioxidative peptides from porcine collagen hydrolysate by consecutive chromatography and electrospray ionization-mass spectrometry. *Food Chemistry*, 102(4), 1135–1143. <https://doi.org/10.1016/j.foodchem.2006.07.002>

Liu, L.-N., Chen, X.-L., Zhang, X.-Y., Zhang, Y.-Z., & Zhou, B.-C. (2005). One-step chromatography method for efficient separation and purification of R-phycoerythrin from *Polysiphonia urceolata*. *Journal of Biotechnology*, 116(1), 91–100. <https://doi.org/10.1016/j.jbiotec.2004.09.017>

Lopez, A. L., Penaloza, A. M., Juarez, V. M. M., Torres, A. V., Zeugolis, D. I., & Alvarez, G. A. (2019). Hydrolyzed Collagen—Sources and Applications. *Molecules*, 24(4031), 1–16.

- Melgosa, R., Marques, M., Paiva, A., Bernardo, A., Fernández, N., Sá-Nogueira, I., & Simões, P. (2021). Subcritical water extraction and hydrolysis of cod (*Gadus morhua*) frames to produce bioactive protein extracts. *Foods*, 10(6). <https://doi.org/10.3390/foods10061222>
- Miner-Williams, W. M., Stevens, B. R., & Moughan, P. J. (2014). Are intact peptides absorbed from the healthy gut in the adult human? *Nutrition Research Reviews*, 27(2), 308–329. <https://doi.org/10.1017/S0954422414000225>
- Mohammad, A. W., Kumar, A. G., & Basha, R. K. (2015). Optimization of enzymatic hydrolysis of tilapia (*Oreochromis Spp.*) scale gelatine. *International Aquatic Research*, 7(1), 27–39. <https://doi.org/10.1007/s40071-014-0090-6>
- Morrissey, M. T., & Benjakul, S. (1997). Protein Hydrolysates from Pacific Whiting Solid Wastes Protein Hydrolysates from Pacific Whiting Solid Wastes. *J. Agric. Food Chem.*, 45, 3423–3430.
- Neves, A. C., Harnedy, P. A., O'Keeffe, M. B., Alashi, M. A., Aluko, R. E., & FitzGerald, R. J. (2017). Peptide identification in a salmon gelatin hydrolysate with antihypertensive, dipeptidyl peptidase IV inhibitory and antioxidant activities. *Food Research International*, 100(June), 112–120. <https://doi.org/10.1016/j.foodres.2017.06.065>
- Newey, H., & Smyth, D. H. (1959). The intestinal absorption of some dipeptides. *The Journal of Physiology*, 145(1), 48–56. <https://doi.org/10.1113/jphysiol.1959.sp006125>
- Nurilmala, M., Hizbulah, H. H., Karnia, E., Kusumaningtyas, E., & Ochiai, Y. (2020). Characterization and Antioxidant Activity of Collagen, Gelatin, and the Derived Peptides from Yellowfin Tuna (*Thunnus albacares*) Skin. *Marine Drugs*, 18(2). <https://doi.org/10.3390/md18020098>
- Oesser, S., Adam, M., Babel, W., & Seifert, J. (1999). Oral administration of ¹⁴C labeled gelatin hydrolysate leads to an accumulation of radioactivity in cartilage of mice (C57/BL). *Journal of Nutrition*, 129(10), 1891–1895. <https://doi.org/10.1093/jn/129.10.1891>
- Ohara, H. I. O., Atsumoto, H. I. M., To, K. Y. I., Wai, K. O. J. I. I., & Ato, K. E. S. (2007). Comparison of Quantity and Structures of Hydroxyproline-Containing Peptides in Human Blood after Oral Ingestion of Gelatin Hydrolysates from Different Sources. 1–4.
- Park, S. H., Kim, J. H., Min, S. G., Jo, Y. J., & Chun, J. Y. (2015). Effects of ethanol addition on the efficiency of subcritical water extraction of proteins and amino acids from porcine placenta. *Korean Journal for Food Science of Animal Resources*, 35(2), 265–271. <https://doi.org/10.5851/kosfa.2015.35.2.265>
- Paxton, J. Z., Grover, L. M., & Baar, K. (2010). Engineering an in vitro model of a functional ligament from bone to bone. *Tissue Engineering - Part A*, 16(11), 3515–3525. <https://doi.org/10.1089/ten.tea.2010.0039>
- Proksch, E., Segger, D., Degwert, J., Schunck, M., Zague, V., & Oesser, S. (2013). Oral

supplementation of specific collagen peptides has beneficial effects on human skin physiology: A double-blind, placebo-controlled study. *Skin Pharmacology and Physiology*, 27(1), 47–55. <https://doi.org/10.1159/000351376>

Putri, O. K., Setyahadi, S., Magister, P., Kefarmasian, I., Pancasila, U., & Sawah, S. (2020). Aktivitas sitotoksik, antioksidan dan adipogenesis hidrolisat kolagen dari ceker ayam. *Jurnal Farmasetis*, 9(2), 113–130. <http://www.journal.stikeskendal.ac.id/index.php/far/article/view/1046>

Robert, L., Labat-Robert, J., & Robert, A. M. (2009). Physiology of skin aging. *Pathologie Biologie*, 57(4), 336–341. <https://doi.org/10.1016/j.patbio.2008.09.007>

Rutherford, S. M. (2010). Methodology for determining degree of hydrolysis of proteins in hydrolysates: A Review. *Journal of AOAC International*, 93(5), 1515–1522. <https://doi.org/10.1093/jaoac/93.5.1515>

Sae-leaw, T., & Benjakul, S. (2018). Antioxidant activities of hydrolysed collagen from salmon scale ossein prepared with the aid of ultrasound. *International Journal of Food Science and Technology*, 53(12), 2786–2795. <https://doi.org/10.1111/ijfs.13891>

Sandhu, S. V., Gupta, S., Bansal, H., & Singla, K. (2012). Collagen in Health and Disease. *Journal of Orofacial Research*, 2(3), 153–159. [https://doi.org/10.1016/S0140-6736\(78\)90919-4](https://doi.org/10.1016/S0140-6736(78)90919-4)

Schmidt, M. M., da FONTOURA, A. M., Vidal, A. R., Dornelles, R. C. P., Kubota, E. H., Mello, R. de O., Cansian, R. L., Demiate, I. M., & de OLIVEIRA, C. S. (2020). Characterization of hydrolysates of collagen from mechanically separated chicken meat residue. *Food Science and Technology*, 40, 355–362. <https://doi.org/10.1590/fst.14819>

Shaw, G., Lee-Barthel, A., Ross, M. L. R., Wang, B., & Baar, K. (2017). Vitamin C-enriched gelatin supplementation before intermittent activity augments collagen synthesis. *American Journal of Clinical Nutrition*, 105(1), 136–143. <https://doi.org/10.3945/ajcn.116.138594>

Shen, W., & Matsui, T. (2017). Current knowledge of intestinal absorption of bioactive peptides. *Food and Function*, 8(12), 4306–4314. <https://doi.org/10.1039/C7FO01185G>

Shigemura, Y., Suzuki, A., Kurokawa, M., Sato, Y., & Sato, K. (2017). Changes in Composition and Content of Food-Derived Peptide in Human Blood after Daily Ingestion of Collagen Hydrolysate for 4 weeks. *Journal of the Science of Food and Agriculture*, 98(5), 1944–1950. <https://doi.org/10.1002/j>

Shigemura, Yasutaka, Kubomura, D., Sato, Y., & Sato, K. (2014). Dose-dependent changes in the levels of free and peptide forms of hydroxyproline in human plasma after collagen hydrolysate ingestion. *Food Chemistry*, 159, 328–332. <https://doi.org/10.1016/j.foodchem.2014.02.091>

Sivan, S. S., Wachtel, E., Tsitron, E., Sakkee, N., Van Der Ham, F., DeGroot, J., Roberts, S., & Maroudas, A. (2008). Collagen turnover in normal and degenerate human

intervertebral discs as determined by the racemization of aspartic acid. *Journal of Biological Chemistry*, 283(14), 8796–8801. <https://doi.org/10.1074/jbc.M709885200>

Skov, K., Oxfeldt, M., Thøgersen, R., Hansen, M., & Bertram, H. C. (2019). Enzymatic hydrolysis of a collagen hydrolysate enhances postprandial absorption rate—a randomized controlled trial. *Nutrients*, 11(5). <https://doi.org/10.3390/nu11051064>

Sorushanova, A., Delgado, L. M., Wu, Z., Shologu, N., Kshirsagar, A., Raghunath, R., Mullen, A. M., Bayon, Y., Pandit, A., Raghunath, M., & Zeugolis, D. I. (2019). The Collagen Suprafamily: From Biosynthesis to Advanced Biomaterial Development. *Advanced Materials*, 31(1), 1–39. <https://doi.org/10.1002/adma.201801651>

Stenn, K. S., Link, R., Moellmann, G., Madri, J., & Kuklinska, E. (1989). Dispase, a Neutral Protease from Bacillus Polymyxa, Is a Powerful Fibronectinase and Type IV Collagenase. *The Journal of Investigative Dermatology*, 93(2).

Taga, Y., Kusubata, M., Ogawa-Goto, K., & Hattori, S. (2014). Highly accurate quantification of hydroxyproline-containing peptides in blood using a protease digest of stable isotope-labeled collagen. *Journal of Agricultural and Food Chemistry*, 62(50), 12096–12102. <https://doi.org/10.1021/jf5039597>

Tsuruoka, N., Yamato, R., Sakai, Y., Yoshitake, Y., & Yonekura, H. (2007). Promotion by collagen tripeptide of type I collagen gene expression in human osteoblastic cells and fracture healing of rat femur. *Bioscience, Biotechnology and Biochemistry*, 71(11), 2680–2687. <https://doi.org/10.1271/bbb.70287>

Walrand, S., Chiotelli, E., Noirt, F., Mwewa, S., & Lassel, T. (2008). Consumption of a functional fermented milk containing collagen hydrolysate improves the concentration of collagen-specific amino acids in plasma. *Journal of Agricultural and Food Chemistry*, 56(17), 7790–7795. <https://doi.org/10.1021/jf800691f>

Wang, L., Jiang, Y., Wang, X., Zhou, J., Cui, H., Xu, W., He, Y., Ma, H., & Gao, R. (2018). Effect of oral administration of collagen hydrolysates from Nile tilapia on the chronologically aged skin. *Journal of Functional Foods*, 44(October 2017), 112–117. <https://doi.org/10.1016/j.jff.2018.03.005>

Wasswa, J., Tang, J., & Gu, X. (2008). Functional properties of grass carp (*ctenopharyngodon idella*), Nile perch (*lates niloticus*) and Nile tilapia (*oreochromis niloticus*) skin hydrolysates. *International Journal of Food Properties*, 11(2), 339–350. <https://doi.org/10.1080/10942910701381188>

Wu, J., Fujioka, M., Sugimoto, K., Mu, G., & Ishimi, Y. (2004). Assessment of effectiveness of oral administration of collagen peptide on bone metabolism in growing and mature rats. *Journal of Bone and Mineral Metabolism*, 22(6), 547–553. <https://doi.org/10.1007/s00774-004-0522-2>

Yang, Y., Wang, B., Tian, Q., & Li, B. (2020). Purification and characterization of novel collagen peptides against platelet aggregation and thrombosis from *salmo salar*. *ACS Omega*, 5(32), 19995–20003. <https://doi.org/10.1021/acsomega.0c01340>

Yazaki, M., Ito, Y., Yamada, M., Goulas, S., Teramoto, S., Nakaya, M. aki, Ohno, S., &

- Yamaguchi, K. (2017). Oral Ingestion of Collagen Hydrolysate Leads to the Transportation of Highly Concentrated Gly-Pro-Hyp and Its Hydrolyzed Form of Pro-Hyp into the Bloodstream and Skin. *Journal of Agricultural and Food Chemistry*, 65(11), 2315–2322. <https://doi.org/10.1021/acs.jafc.6b05679>
- Yi, J., De Gobba, C., Skibsted, L. H., & Otte, J. (2017). Angiotensin-I converting enzyme inhibitory and antioxidant activity of bioactive peptides produced by enzymatic hydrolysis of skin from grass carp (*Ctenopharyngodon idella*). *International Journal of Food Properties*, 20(5), 1129–1144. <https://doi.org/10.1080/10942912.2016.1203932>
- Zamorano-Apodaca, J. C., García-Sifuentes, C. O., Carvajal-Millán, E., Vallejo-Galland, B., Scheuren-Acevedo, S. M., & Lugo-Sánchez, M. E. (2020). Biological and functional properties of peptide fractions obtained from collagen hydrolysate derived from mixed by-products of different fish species. *Food Chemistry*, 331(February), 127350. <https://doi.org/10.1016/j.foodchem.2020.127350>
- Zhang, Q. X., Fu, R. J., Yao, K., Jia, D. Y., He, Q., & Chi, Y. L. (2018). Clarification effect of collagen hydrolysate clarifier on chrysanthemum beverage. *LWT - Food Science and Technology*, 91(January), 70–76. <https://doi.org/10.1016/j.lwt.2018.01.041>
- Zhang, Yehui, Zhang, Y., Liu, X., Huang, L., Chen, Z., & Cheng, J. (2017). Influence of hydrolysis behaviour and microfluidisation on the functionality and structural properties of collagen hydrolysates. *Food Chemistry*, 227, 211–218. <https://doi.org/10.1016/j.foodchem.2017.01.049>
- Zhang, Yiqi, Tu, D., Shen, Q., & Dai, Z. (2019). Fish scale valorization by hydrothermal pretreatment followed by enzymatic hydrolysis for gelatin hydrolysate production. *Molecules*, 24(16), 1–14. <https://doi.org/10.3390/molecules24162998>
- Zhang, Yuhao, Olsen, K., Grossi, A., & Otte, J. (2013). Effect of pretreatment on enzymatic hydrolysis of bovine collagen and formation of ACE-inhibitory peptides. *Food Chemistry*, 141(3), 2343–2354. <https://doi.org/10.1016/j.foodchem.2013.05.058>