

DAFTAR PUSTAKA

- Aaslyng, M. D., Martens, M. & Poll, L., 1998. Chemical and sensory characterization of hydrolyzed vegetable protein, a savory flavoring. *Journal of Agricultural and Food Chemistry*, pp. 46: 481-489.
- Adekoya, O. A. & Style, I., 2009. The thermolysin family (M4) of enzymes: Therapeutic and biotechnological potential. *Chem. Biol Drug*, pp. 73(1): 7-16.
- Akparov, V. K. et al., 2019. The nature of the ligand's side chain interacting with the S1'-subsite of metallocarboxypeptidase T (from *Thermoactinomyces vulgaris*) determines the geometry of the tetrahedral transition complex. *PLoS ONE*, 14(12): 1-16.
- Alagarsamy, S., Larroche, C. & Pandey, A., 2006. Microbiology and Industrial Biotechnology of Food-Grade Proteases: A Perspective. *Food Technology and Biotechnology*, pp. 44(2): 211-220.
- Ardhiansyah, 2006. Isolasi dan Karakterisasi Mikroorganisme Hipertermofilik dari Sumber Air Panas Kawah Dieng, Kawah Domas, Tangkuban Perahu, dan Baturaden. Thesis. Program Pascasarjana. Universitas Gadjah Mada. Yogyakarta.
- Barden, C. & Tooze, J., 1999. *Introduction to Protein Structure 2nd Edition*. New York: Taylor & Francis Inc.
- Creighton, T. E., 1993. *Proteins: Structure and Molecular Properties*. 2nd ed. New York: W. H. Freeman & Co.
- Day, L., Augustin, M., Batey, I. & Wrigley, C., 2006. Wheat-gluten uses and industry needs. *Trends in Food Science Technology*, 17: 82-90.
- Fernandez, M. et al., 2001. Angiotensin I-converting Enzyme Transition State Stabilization by His1089. *The Journal of Biological Chemistry*, 276(7): 4998.
- Fiser, A., Do, R. & Sali, A., 2000. Modeling of loops in protein structures. *Protein Science*, 9: 1753-1773.
- Garret, R. & Grisham, C., 2013. *Biochemistry 5th edition*. Boston: Cengage Learning.
- Hardjono, S., 2013. Sintesis dan Uji Aktivitas Atikanker Senyawa 1-(2-klorobenziloksi)urea dan 1-(4-klorobenziloksi)urea. *Berkala Ilmiah Kimia Farmasi*, 2(1).
- Harris, D., Yadav, P. N. S. & Pandey, V. N., 1998. Loss of Polymerase Activity Due to Tyr to Phe Substitution in the YMDD Motif of Human Immunodeficiency Virus Type-1 Reverse Transcriptase Is Compensated by Met to Val Substitution within the Same Motif. *Biochemistry*, 37: 9630-9640.
- Heinrikson, R., 1977. Applications of thermolysin in protein structural analysis. *Methods Enzymol*, 47: 175-189.
- Henderson, K.N., Tye-Din, J.A., Rossjohn, J., & Anderson, R.P., 2007. Structure of the MHC class II molecule HLA-DQ8 bound with a deamidated gluten peptide. doi: 10.2210/pdb2NNA/pdb.
- Honorato, R. et al., 2021. Structural biology in the clouds: The WeNMR-EOSC Ecosystem. *Frontiers Mol. Biosci*, 8: 729513.

- Jilbert, C., 2021. Pemodelan Struktur Protease Netral (NPr) Termotabil dari *Geobacillus* sp. dan Analisis Penghambatan oleh Phosphoramidon. Skripsi. Teknologi Pangan dan Hasil Pertanian. Universitas Gadjah Mada.
- John, M., 2008. *Kimia Makanan*. Bandung: Institusi Bandung.
- Kanerva, P., Brinck, O., Sontag-Strohm, T., Salovaara, H., & Loponen, J., 2011. Deamidation of gluten proteins and peptides decreases the antibody affinity in gluten analysis assays. *Journal of Cereal Science*, 53(3): 335-339.
- Keeton, W. & Gould, J., 1986. *Biological Science*. New York: Norton.
- Kurniawan, A., Estiasih, T. & Nugrahini, N., 2015. MIE DARI UMBI GARUT (*Maranta arundinacea* L.): KAJIAN PUSTAKA. *Jurnal Pangan dan Agroindustri*, 3(3): 847-854.
- Liao, L., Zhao, M., Ren, J., Zaho, H., Cui, C., & Hu, X., 2009. Effect of acetic acid deamidation-induced modification in functional and nutritional properties and conformation of wheat gluten. *Journal of the Science of Food and Agriculture*, 90(3): 409-417.
- Ligne, T., Pauthe, E., Monti, J., Gacel, G., & Larreta-Grade, V., 1997. Additional data about thermolysin specificity in buffer- and glycerol-containing media. *Biochim Biophys Acta*, pp. 143-148.
- Marie-Clarie, C., Ruffet, E., Tiraboschi, G. & Fournie-Zaluski, M., 1998. Differences in transition state stabilization between thermolysin (EC 3.4.24.27) and neprilysin (EC 3.4.24.11). *FEBS Letters*, 438: 215-219.
- Martínez-Cárdenas, L., Alvarez-Gonzalez, C. A., Hernandez-Almeida, O. U., & Frias-Quintana, C. A., 2017. Partial Characterization of Digestive Proteases in The Green Cichlid, *Cichlasoma beani*. *Fishes*, 2(4): 1-11.
- McKee, G. & McKee, J., 2013. *Biochemistry: The Molecular Basis of Life*. USA: Oxford University Press.
- Mena, M. & Sousa, C., 2015. Analytical tools for gluten detection: Policies and regulation. *OmniaSci*, pp. 527-564.
- Meng, X., Zhang, H., Mezei, M. & Cui, M., 2011. Molecular docking: a powerful approach for structure-based drug discovery. *Curr Computeraided Drug Des*, 7(2): 146-157.
- Murtala, Y., Nwanguma, B. C. & Ezeanyika, L. U. S., 2018. In Silico Site-Directed Mutagenesis of Ser11 and Lys107 on the Predicted 3D Structure of glutathione s-transferase from *Acidovorax* sp. KKS102. *ChemSearch Journal*, 9(2): 33 – 39.
- Nelson, D. & Cox, M., 2017. *Lehninger Principles of Biochemistry*. 7th Edition ed. New York: w.h.freeman.
- Noviasari, D., 2013. Pengaruh suhu dan pH terhadap aktivitas enzim protease dari *Bacillus mucoides* yang ditumbuhkan dalam media campuran limbah cair tahu dan dedak. Undergraduate thesis, Universitas Islam Negeri Maulana Malik Ibrahim.
- Parker, N., Schneegurt, M., Tu, T. A., Forster, B. M., & Lister. P., 2016. *Microbiology*. <https://irl.umsu.edu/oer/3>. Diakses tanggal 12 Desember 2022.
- Phon, S., Ningrum, A. & Witasari, L. D., 2022. Purification and characterization of thermostable serine alkaline protease from *Geobacillus* sp. DS3 isolated from

- Sikidang crater, Dieng plateau, Central Java, Indonesia. *Indonesian Journal of Biotechnology*, 27(2): 73-79.
- Ramos, O. & Malcata, F., 2011. Food-Grade Enzyme. *Comprehensive Biotechnology*, Volume 3: 555-569.
- Randy, A., 2011. Desain Peningkatan Termostabilitas Lipase B *Candida antarctica* Dengan Rekayasa Penambahan Ikatan Disulfida pada Enzim. *Tesis. Program Studi Ilmu Kimia. Fakultas MIPA. Universitas Indonesia*.
- Rao, M., Tanksale, A., Ghatge, M. & Deshpande, V., 1998. Molecular and Biotechnological Aspects of Microbial Proteases. *Microbiol Mol Biol Rev*, 62(3): 597-635.
- Riha, W., Izzo, H., Zhang, J. & Ho, C., 1996. Nonenzymatic deamidation of food proteins. *Critical Review on Food Science and Nutrition*, 6: 225-255.
- Rizzello, C. G. et al., 2007. Highly efficient gluten degradation by lactobacilli and fungal proteases during food processing: New perspectives for celiac disease. *Appl. Environ. Microbiol*, 73: 4499-4507.
- Robinson, P., 2015. Enzymes: principles and biotechnological applications. *Essays Biochem*, 59: 1-41.
- Sali, A. & Blundell, T. L., 1993. Comparative protein modelling by satisfaction of spatial restraints. *J. Mol. Biol*, 234: 779-815.
- Sandoval, N., Tapia, M., Barca, A. & Rubio, A., 2016. Microbial Proteases in Baked Goods: Modification of Gluten and Effects on Immunogenicity and Product Quality. *Foods*, 5(59): 1-10.
- Schrödinger, L. & DeLano, W., 2020. PyMOL, Available at: <http://www.pymol.org/pymol>.
- Singh, A. K., 2016. *Engineered Nanoparticles*. USA: Academic Press.
- Spiliotopoulos, D., Kastiris, P. L., Melquiond, A. S. J., Bonvin, A. M. J. J., Musco, G., Rocchia, W. & Spitaleri, A., 2016. dMM-PBSA: A New HADDOCK Scoring Function for Protein-Peptide Docking. *Front. Mol. Biosci.*, 3: 46.
- Sukanto, Aulanni'am & Sudiyono, 2009. Sifat Fungsional Produk Interaksi Fraksi Globulin 7S Konak (*Dolichos lablab*) dan Gum Xantan. *J.Teknol. dan Industri Pangan*, 20(2): 117-123.
- Sumantha, A., Larroche, C. & Pandey, A., 2006. Microbiology and industrial biotechnology of food grade proteases: A perspective. *Food Technology and Biotechnology*, Volume 44, pp. 211-220.
- Suseno, N., Padmawijaya, K. S., Wirana, J. W. & Julio, M., 2017. Pengaruh Berat Molekul Kitosan terhadap Kelarutan Karboksimetil Kitosan, *Seminar Nasional Polimer XI*.
- Susilo, B., 2012. Studi Optimasi Esterifikasi Asam Lemak Hasil Hidrolisis Minyak Kelapa dengan Glukosa Menggunakan Lipase *Candida rugosa* EC 3.1.1.3 Terimmobilisasi pada Matriks Zeolit. Skripsi. Prodi Kimia. Fakultas MIPA. Universitas Indonesia.
- Systèmes, D. (2016), 'BIOVIA Discovery Studio' 'Dassault Syst mes BIOVIA, Discovery Studio Modeling Environment, Release 2017', Dassault Syst mes.
- Tobi, D. & Bahar, I., 2005. *Structural changes involved in protein binding correlate with intrinsic motions of proteins in the unbound state*. Pittsburgh: Departement of Computational Biology, School of Medicine.

- van Zundert, G. et al., 2016. The HADDOCK2.2 webserver: User-friendly integrative modeling of biomolecular complexes. *J. Mol. Biol*, 428(4): 720-725.
- Vasudevan, D. & Vaidyanathan, 2017. *Biochemistry for Dental Students 3rd edition*. Kerala: Jaypee Brothers Medical Publishers.
- Weng, Y. L. et al., 2021. Molecular dynamics and in silico mutagenesis on the reversible inhibitor-bound SARS-CoV-2 main protease complexes reveal the role of lateral pocket in enhancing the ligand affinity. *Scientific Reports*, 11: 7429.
- Wieser, H., 2007. Chemistry of gluten proteins. *Food Microbiol*, 24: 115-119.
- Witasari, L., Halim, J., Jilbert, C., & Rohman M., 2022. ‘ Amplification of Thermostable Neutral Protease Open Reading Frame from *Geobacillus* sp. DS3 Isolated from Sikidang Crater, Dieng Plateau, Central Java, Indonesia’, *Proceedings of the International Conference on Sustainable Environment, Agriculture and Tourism (ICOSEAT 2022)*. Atlantis Press, 770-777.
- Witasari, L., Prijambada, I., Widada, J. & Wibawa, D., 2010. Cloning of Thermostable DNA Polymerase Gene from a Thermophilic *Brevibacillus* sp. Isolated from Sikidang Crater, Dieng Plateau, Central Java. *IJBitech*, 15(2): 72-78.
- Worthington, C. C., Worthington, V., & Worthington, A., 2019. *Introduction To Enzyme*. <https://www.worthington-biochem.com/sites/default/files/2022-03/Enzymes.pdf>. Diakses pada 25 Desember 2022.
- Wu, C., Nakai, S. & Powrie, W., 1976. Preparation and properties of acid-solubilized gluten. *Journal of Agricultural and Food Chemistry*, 504-510.
- Yong, Y., Yamaguchi, S. & Matsumura, Y., 2006. Effects of enzymatic deamidation by protein-glutaminase on structure and functional properties of wheat gluten. *Journal of Agricultural and Food Chemistry*, 54: 6034-6040.
- Zhang, K., Yin, X., Shi, K. & et al., 2021. A high-efficiency method for site-directed mutagenesis of large plasmids based on large DNA fragment amplification and recombinational ligation. *Sci Rep*, 11: 10454.