

DAFTAR PUSTAKA

- Abbas, A. K., Lichtman, A. H., & Pillai, S. (2015). *Cellular and Molecular Immunology* (J. Merritt, Ed.; 8th ed.). Saunders, an imprint of Elsevier Inc.
- Aulia, T., Natha, S., Harjanti, N., Al-Hadziq, A. Z., & Rizqoh, D. (2024). Literature Review: Kajian Efektivitas Perkembangan Vaksin Virus Dengue Masa Kini. *Jurnal Kedokteran Rafflesia*, 10(1), 2024. <https://ejournal.unib.ac.id/index.php/jukerafflesia>
- Bano, N., & Kumar, A. (2023). Immunoinformatics study to explore dengue (DENV-1) proteome to design multi-epitope vaccine construct by using CD4+ epitopes. *Journal of Genetic Engineering and Biotechnology*, 21(1). <https://doi.org/10.1186/s43141-023-00592-9>
- Behzadi, P., García-Perdomo, H. A., & Karpiński, T. M. (2021). Toll-Like Receptors: General Molecular and Structural Biology. *Journal of Immunology Research*, 2021, 1–21. <https://doi.org/10.1155/2021/9914854>
- Berman, H. M., Battistuz, T., Bhat, T. N., Bluhm, W. F., Bourne, P. E., Burkhardt, K., Feng, Z., Gilliland, G. L., Iype, L., Jain, S., Fagan, P., Marvin, J., Padilla, D., Ravichandran, V., Schneider, B., Thanki, N., Weissig, H., Westbrook, J. D., & Zardecki, C. (2002). The Protein Data Bank. *Acta Crystallographica Section D: Biological Crystallography*, 58(6), 899–907. <https://doi.org/10.1107/S0907444902003451>
- Biswal, S., Reynales, H., Saez-Llorens, X., Lopez, P., Borja-Tabora, C., Kosalaraksa, P., Sirivichayakul, C., Watanaveeradej, V., Rivera, L., Espinoza, F., Fernando, L., Dietze, R., Luz, K., Venâncio da Cunha, R., Jimeno, J., López-Medina, E., Borkowski, A., Brose, M., Rauscher, M., ... Wallace, D. (2019). Efficacy of a Tetravalent Dengue Vaccine in Healthy Children and Adolescents. *New England Journal of Medicine*, 381(21), 2009–2019. <https://doi.org/10.1056/NEJMoa1903869>

- Bui, H. H., Sidney, J., Dinh, K., Southwood, S., Newman, M. J., & Sette, A. (2006). Predicting population coverage of T-cell epitope-based diagnostics and vaccines. *BMC Bioinformatics*, 7. <https://doi.org/10.1186/1471-2105-7-153>
- De Azeredo, E. L., Monteiro, R. Q., & De-Oliveira Pinto, L. M. (2015). Thrombocytopenia in dengue: Interrelationship between virus and the imbalance between coagulation and fibrinolysis and inflammatory mediators. In *Mediators of Inflammation* (Vol. 2015). Hindawi Publishing Corporation. <https://doi.org/10.1155/2015/313842>
- de Silva, A. (2023). Safety of Dengue Vaccine? *Clinical Infectious Diseases*, 76(2), 371–372. <https://doi.org/10.1093/cid/ciac690>
- Dharani, A. (2023). Multi-epitope vaccine candidate design for dengue virus. *Bioinformation*, 19(5), 628–632. <https://doi.org/10.6026/97320630019628>
- Dimitrov, I., Bangov, I., Flower, D. R., & Doytchinova, I. (2014). AllerTOP v.2 - A server for in silico prediction of allergens. *Journal of Molecular Modeling*, 20(6). <https://doi.org/10.1007/s00894-014-2278-5>
- Doytchinova, I. A., & Flower, D. R. (2007). VaxiJen: A server for prediction of protective antigens, tumour antigens and subunit vaccines. *BMC Bioinformatics*, 8. <https://doi.org/10.1186/1471-2105-8-4>
- ECDC. (2024, October 10). *Dengue worldwide overview*. <https://www.ecdc.europa.eu/en/dengue-monthly>
- Fadaka, A. O., Sibuyi, N. R. S., Martin, D. R., Goboza, M., Klein, A., Madiehe, A. M., & Meyer, M. (2021). Immunoinformatics design of a novel epitope-based vaccine candidate against dengue virus. *Scientific Reports*, 11(1). <https://doi.org/10.1038/s41598-021-99227-7>
- Farzan, M., Farzan, M., Mirzaei, Y., Aiman, S., Azadegan-Dehkordi, F., & Bagheri, N. (2023). Immunoinformatics-based multi-epitope vaccine design for the re-emerging monkeypox virus. *International Immunopharmacology*, 123. <https://doi.org/10.1016/j.intimp.2023.110725>

- Fatima, K., & Syed, N. I. (2018). Dengvaxia controversy: Impact on vaccine hesitancy. *Journal of Global Health*, 8(2). <https://doi.org/10.7189/jogh.08.020312>
- Feyza Maden, S., Sezer, S., & Ece Acuner, S. (2023). *Fundamentals of Molecular Docking and Comparative Analysis of Protein–Small-Molecule Docking Approaches*. <https://doi.org/10.5772/intechopen.105815>
- Fore, F., Budipranama, M., & Destiawan, R. A. (2021). *TLR10 and Its Role in Immunity* (pp. 161–174). https://doi.org/10.1007/164_2021_541
- Foucambert, P., Esbrand, F. D., Zafar, S., Panthangi, V., Cyril Kurupp, A. R., Raju, A., Luthra, G., Shahbaz, M., Almatooq, H., & Khan, S. (2022). Efficacy of Dengue Vaccines in the Prevention of Severe Dengue in Children: A Systematic Review. *Cureus*. <https://doi.org/10.7759/cureus.28916>
- Garcia Advisor, G., & Grinstead, J. (2018). *Assessing HADDOCK's Protein-Ligand Ensemble Docking Capabilities through Urokinase Inhibitors*.
- Garg, A., & Gupta, D. (2008). VirulentPred: a SVM based prediction method for virulent proteins in bacterial pathogens. *BMC Bioinformatics*, 9(1), 62. <https://doi.org/10.1186/1471-2105-9-62>
- Gupta, S., Kapoor, P., Chaudhary, K., Gautam, A., Kumar, R., & Raghava, G. P. S. (2013). In Silico Approach for Predicting Toxicity of Peptides and Proteins. *PLoS ONE*, 8(9). <https://doi.org/10.1371/journal.pone.0073957>
- Guzman, M. G., Halstead, S. B., Artsob, H., Buchy, P., Farrar, J., Gubler, D. J., Hunsperger, E., Kroeger, A., Margolis, H. S., Martí-nez, E., Nathan, M. B., Pelegrino, J. L., Simmons, C., Yoksan, S., & Peeling, R. W. (2010). Dengue: A continuing global threat. *Nature Reviews Microbiology*, 8(12), S7–S16. <https://doi.org/10.1038/nrmicro2460>
- Høie, M. H., Gade, F. S., Johansen, J. M., Würtzen, C., Winther, O., Nielsen, M., & Marcatili, P. (2024). DiscoTope-3.0: improved B-cell epitope

- prediction using inverse folding latent representations. *Frontiers in Immunology*, 15. <https://doi.org/10.3389/fimmu.2024.1322712>
- Islam, S. I., Mou, M. J., Sanjida, S., Tariq, M., Nasir, S., & Mahfuj, S. (2022). Designing a novel mRNA vaccine against *Vibrio harveyi* infection in fish: an immunoinformatics approach. *Genomics & Informatics*, 20(1), e11. <https://doi.org/10.5808/gi.21065>
- Janaki, A. (2022). Recent Trends in Dengue Virus Infection; An Analysis of Virological, Clinical and Laboratory Profiles of Patients with Dengue Virus Infection in the Center for Clinical Management of Dengue Fever and Dengue Hemorrhagic Fever, Sri Lanka. *Virology & Immunology Journal*, 6(3), 1–8. <https://doi.org/10.23880/vij-16000301>
- Kohlgruber, A. C., Dezfulian, M. H., Sie, B. M., Wang, C. I., Kula, T., Laserson, U., Larman, H. B., & Elledge, S. J. (2024). High-throughput discovery of MHC class I- and II-restricted T cell epitopes using synthetic cellular circuits. *Nature Biotechnology*. <https://doi.org/10.1038/s41587-024-02248-6>
- Konhar, R., Das, K. C., Nongrum, A., Samal, R. R., Sarangi, S. K., & Biswal, D. K. (2024). In silico design of an epitope-based vaccine ensemble for fasciolopsiasis. *Frontiers in Genetics*, 15. <https://doi.org/10.3389/fgene.2024.1451853>
- Li, L., Li, H., Tian, Q., Ge, B., Xu, X., Chi, Y., Zhao, H., Liu, Y., Jia, N., Zhou, T., Zhu, Y., & Zhou, Y. (2022). Expression and purification of soluble recombinant β -lactamases using *Escherichia coli* as expression host and pET-28a as cloning vector. *Microbial Cell Factories*, 21(1). <https://doi.org/10.1186/s12934-022-01972-5>
- Lim, S. P. (2019). Dengue drug discovery: Progress, challenges and outlook. *Antiviral Research*, 163, 156–178. <https://doi.org/10.1016/j.antiviral.2018.12.016>
- Luthfianto, D., Indriputri, C., Purwoto, A., Padoli, Ambawarwati, R., Faizal, I. A., Taufiqurrahman, M., Husen, F., Witriyani, Supriatin, T., & Rahmi,

- A. (2023). *Buku Ajar Immunologi* (M. Seto, Ed.). Science Techno Direct. <https://doi.org/10.5281/zenodo.7700776>
- Ma, E., & Cheng, G. (2022). Host immunity and vaccine development against Dengue virus. *Infectious Medicine*, 1(1), 50–58. <https://doi.org/10.1016/j.imj.2021.12.003>
- Mahapatra, S. R., Sahoo, S., Dehury, B., Raina, V., Patro, S., Misra, N., & Suar, M. (2020). Designing an efficient multi-epitope vaccine displaying interactions with diverse HLA molecules for an efficient humoral and cellular immune response to prevent COVID-19 infection. *Expert Review of Vaccines*, 19(9), 871–885. <https://doi.org/10.1080/14760584.2020.1811091>
- Mann, S. E., Zhou, Z., Landry, L. G., Anderson, A. M., Alkanani, A. K., Fischer, J., Peakman, M., Mallone, R., Campbell, K., Michels, A. W., & Nakayama, M. (2020). Multiplex T Cell Stimulation Assay Utilizing a T Cell Activation Reporter-Based Detection System. *Frontiers in Immunology*, 11. <https://doi.org/10.3389/fimmu.2020.00633>
- Mantovani, A., & Garlanda, C. (2023). Humoral Innate Immunity and Acute-Phase Proteins. *New England Journal of Medicine*, 388(5), 439–452. <https://doi.org/10.1056/nejmra2206346>
- Marsh, J. A. (2013). Buried and accessible surface area control intrinsic protein flexibility. *Journal of Molecular Biology*, 425(17), 3250–3263. <https://doi.org/10.1016/j.jmb.2013.06.019>
- Marshall, J. S., Warrington, R., Watson, W., & Kim, H. L. (2018). An introduction to immunology and immunopathology. In *Allergy, Asthma and Clinical Immunology* (Vol. 14). BioMed Central Ltd. <https://doi.org/10.1186/s13223-018-0278-1>
- Morgan, R. N., Ismail, N. S. M., Alshahrani, M. Y., & Aboshanab, K. M. (2024). Multi-epitope peptide vaccines targeting dengue virus serotype 2 created via immunoinformatic analysis. *Scientific Reports*, 14(1), 17645. <https://doi.org/10.1038/s41598-024-67553-1>

- Murphy, K., Weaver, C., & Berg, L. (2022). *Janeway's Immunobiology 10th Edition* (B. Twitchell & C. B. Bressack, Eds.; 10th ed.). W. W. Norton & Company, Inc.
- Nugraha, J. (2018). Pemetaan Epitop dan Aplikasi Klinisnya. *INDONESIAN JOURNAL OF CLINICAL PATHOLOGY AND MEDICAL LABORATORY*, 17(3), 166–170. <https://doi.org/10.24293/ijcpml.v17i3.1168>
- Obi, J. O., Gutiérrez-Barbosa, H., Chua, J. V., & Deredge, D. J. (2021). Current trends and limitations in dengue antiviral research. In *Tropical Medicine and Infectious Disease* (Vol. 6, Issue 4). MDPI. <https://doi.org/10.3390/TROPICALMED6040180>
- Oli, A. N., Obialor, W. O., Ositadimma, M., IfeanyiChukwu, Odimegwu, D. C., Okoyeh, J. N., Enechube, G. O., Adejumo, S. A., & Ibeanu, G. C. (2020). Immunoinformatics and vaccine development: An overview. In *ImmunoTargets and Therapy* (Vol. 9, pp. 13–30). Dove Medical Press Ltd. <https://doi.org/10.2147/ITT.S241064>
- Parate, S., Rampogu, S., Lee, G., Hong, J. C., & Lee, K. W. (2021). Exploring the Binding Interaction of Raf Kinase Inhibitory Protein With the N-Terminal of C-Raf Through Molecular Docking and Molecular Dynamics Simulation. *Frontiers in Molecular Biosciences*, 8. <https://doi.org/10.3389/fmolb.2021.655035>
- Pollard, A. J., & Bijker, E. M. (2021). A guide to vaccinology: from basic principles to new developments. In *Nature Reviews Immunology* (Vol. 21, Issue 2, pp. 83–100). Nature Research. <https://doi.org/10.1038/s41577-020-00479-7>
- Potocnakova, L., Bhide, M., & Pulzova, L. B. (2016). An Introduction to B-Cell Epitope Mapping and In Silico Epitope Prediction. *Journal of Immunology Research*, 2016, 1–11. <https://doi.org/10.1155/2016/6760830>
- Punt, J., Stranford, S., Jones, P., & Owen, J. (2019). *Kuby Immunology 8th Edition* (8th Edition). W. H. Freeman and Company.

- Purnamasari, E. W. E., Dini Wahyu Kartika Sari, Tenri Ashari Wanahari, Khairun Nissa, & Kusumawati, A. (2024). Optimasi Kodon dan Konstruksi Plasmid Rekombinan Protein RBD SARS-CoV-2 pada *E. coli* BL21(DE3). *Journal of Health (JoH)*, 11(1), 043–051. <https://doi.org/10.30590/joh.v11n1.715>
- Rapin, N., Lund, O., Bernaschi, M., & Castiglione, F. (2010). Computational Immunology Meets Bioinformatics: The Use of Prediction Tools for Molecular Binding in the Simulation of the Immune System. *PLoS ONE*, 5(4), e9862. <https://doi.org/10.1371/journal.pone.0009862>
- Rivera, L., Biswal, S., Sáez-Llorens, X., Reynales, H., López-Medina, E., Borja-Tabora, C., Bravo, L., Sirivichayakul, C., Kosalaraksa, P., Martinez Vargas, L., Yu, D., Watanaveeradej, V., Espinoza, F., Dietze, R., Fernando, L., Wickramasinghe, P., Duarte Moreira Jr, E., Fernando, A. D., Gunasekera, D., ... Borkowski, A. (2022). Three-year Efficacy and Safety of Takeda's Dengue Vaccine Candidate (TAK-003). *Clinical Infectious Diseases*, 75(1), 107–117. <https://doi.org/10.1093/cid/ciab864>
- Rizarullah, Aditama, R., Giri-Rachman, E. A., & Hertadi, R. (2024). Designing a Novel Multiepitope Vaccine from the Human Papilloma Virus E1 and E2 Proteins for Indonesia with Immunoinformatics and Molecular Dynamics Approaches. *ACS Omega*, 9(14), 16547–16562. <https://doi.org/10.1021/acsomega.4c00425>
- Roy, S. K., & Bhattacharjee, S. (2021). Dengue virus: Epidemiology, biology, and disease aetiology. In *Canadian Journal of Microbiology* (Vol. 67, Issue 10, pp. 687–702). Canadian Science Publishing. <https://doi.org/10.1139/cjm-2020-0572>
- Sabzi, S., Badmasti, F., Goodarzi, N. N., Habibi, M., Shahbazi, S., Reza, M., Karam, A., & Farokhi, M. (2023). *In silico* Evaluation, Cloning, and Expression of Omp22 as a Promising Vaccine Candidate against *Acinetobacter baumannii*. <https://doi.org/10.52547/vacres.9.1.66>

- Saha, O., Razzak, A., Sarker, N., Rahman, N., Zahid, A. bin, Sultana, A., Shishir, T. A., Bahadur, N. M., Rahaman, M. M., Hossen, F., Amin, M. R., & Akter, M. S. (2024). In silico design and evaluation of multi-epitope dengue virus vaccines: a promising approach to combat global dengue burden. *Discover Applied Sciences*, 6(4). <https://doi.org/10.1007/s42452-024-05782-9>
- Sakib, M. S., Ullah, H., Khanam, R., Sharfaraz, A., Al Ashik, S. A., Tripura, S., Kibria, K. M. K., & Mahmud, S. (2024). Exploring dengue genome to design effective multi epitope-based peptide vaccine by immunoinformatics approach against all serotypes of dengue virus. *Informatics in Medicine Unlocked*, 44. <https://doi.org/10.1016/j.imu.2023.101437>
- Salahlou, R., Farajnia, S., Alizadeh, E., Dastmalchi, S., Bargahi, N., Rahbarnia, L., & Steyar, S. H. (2024). Design and in silico analysis of a novel peptide-based multiepitope vaccine against glioblastoma multiforme by targeting tumor-associated macrophage. *Heliyon*, 10(24). <https://doi.org/10.1016/j.heliyon.2024.e40774>
- Shawan, M. M. A. K., Sharma, A. R., Halder, S. K., Arian, T. Al, Shuvo, M. N., Sarker, S. R., & Hasan, M. A. (2023). Advances in Computational and Bioinformatics Tools and Databases for Designing and Developing a Multi-Epitope-Based Peptide Vaccine. In *International Journal of Peptide Research and Therapeutics* (Vol. 29, Issue 4). Springer Science and Business Media B.V. <https://doi.org/10.1007/s10989-023-10535-0>
- Shepard, D. S., Undurraga, E. A., Halasa, Y. A., & Stanaway, J. D. (2016). The global economic burden of dengue: a systematic analysis. *The Lancet Infectious Diseases*, 16(8), 935–941. [https://doi.org/10.1016/S1473-3099\(16\)00146-8](https://doi.org/10.1016/S1473-3099(16)00146-8)
- Shukla, R., Ramasamy, V., Shanmugam, R. K., Ahuja, R., & Khanna, N. (2020). Antibody-Dependent Enhancement: A Challenge for Developing a Safe Dengue Vaccine. In *Frontiers in Cellular and*

- Infection Microbiology* (Vol. 10). Frontiers Media S.A. <https://doi.org/10.3389/fcimb.2020.572681>
- Smith, J. L. (2003). The Role of Gastric Acid in Preventing Foodborne Disease and How Bacteria Overcome Acid Conditions †. In *Journal of Food Protection* (Vol. 66, Issue 7). http://meridian.allenpress.com/jfp/article-pdf/66/7/1292/1672711/0362-028x-66_7_1292.pdf
- Van Zundert, G. C. P., Rodrigues, J. P. G. L. M., Trellet, M., Schmitz, C., Kastiris, P. L., Karaca, E., Melquiond, A. S. J., Van Dijk, M., De Vries, S. J., & Bonvin, A. M. J. J. (2016). The HADDOCK2.2 Web Server: User-Friendly Integrative Modeling of Biomolecular Complexes. *Journal of Molecular Biology*, 428(4), 720–725. <https://doi.org/10.1016/j.jmb.2015.09.014>
- WHO. (2024, October 10). *Dengue and severe dengue*. <https://www.who.int/news-room/fact-sheets/detail/dengue-and-severe-dengue>
- Wilkins, M. R., Gasteiger, E., Bairoch, A., Sanchez, J. C., Williams, K. L., Appel, R. D., & Hochstrasser, D. F. (2005). Protein Identification and Analysis Tools in the ExPASy Server. In *2-D Proteome Analysis Protocols* (pp. 571–607). Humana Press. <https://doi.org/10.1385/1-59259-584-7:531>
- Yung, C.-F., Lee, K.-S., Thein, T.-L., Tan, L.-K., Gan, V. C., Wong, J. G. X., Lye, D. C., Ng, L.-C., & Leo, Y.-S. (2015). Dengue Serotype-Specific Differences in Clinical Manifestation, Laboratory Parameters and Risk of Severe Disease in Adults, Singapore. *The American Society of Tropical Medicine and Hygiene*, 92(5), 999–1005. <https://doi.org/10.4269/ajtmh.14-0628>
- Zainul, R., Ansori, A. N. M., Murtadlo, A. A. A., Sucipto, T. H., Kharisma, V. D., Widyananda, M. H., Muchtaromah, B., Fadholly, A., Kusala, M. K. J., Jakhmola, V., Rebezov, M., Sahadewa, S., & Wiradana, P. A. (2024). The recent development of dengue vaccine: A review. In

Journal of Medicinal and Pharmaceutical Chemistry Research (Vol. 6, Issue 4, pp. 362–382). Sami Publishing Company.
<https://doi.org/10.48309/jmpcr.2024.422416.1026>

Zakir, F., Islam, F., Jabeen, A., & Moni, S. S. (2019). *Vaccine development: A historical perspective*. <http://www.bbc.co.uk/schools/primaryhistory/>

Zhang, J., Zeng, H., Gu, J., Li, H., Zheng, L., & Zou, Q. (2020). Progress and prospects on vaccine development against sars-cov-2. *Vaccines*, 8(2). <https://doi.org/10.3390/vaccines8020153>

Zhao, T., Cai, Y., Jiang, Y., He, X., Wei, Y., Yu, Y., & Tian, X. (2023). Vaccine adjuvants: mechanisms and platforms. *Signal Transduction and Targeted Therapy*, 8(1), 283. <https://doi.org/10.1038/s41392-023-01557-7>

