

DAFTAR PUSTAKA

- Abbas, A. K., Lichtman, A. H., & Pillai, S. (2022). *Cellular and Molecular Immunology*. Elsevier.
- Abbas, A. K., Lichtman, A. H., & Pillai, S. (2016). *Imunologi Dasar Fungsi Dan Kelainan Sistem Imun* (Edisi Indonesia Kelima ed.). Elsevier.
- Adhi, K. C., Sulistyowati, S., & Respati, S. H. (2015). Kadar Human Leukocyte Antigen-G (HLA-G) dan Tumor Necrosis Faktor Alpha (TNF- α) pada Abortus dan Kehamilan Normal. *Jurnal Kesehatan Reproduksi*, 71-76.
- Adrian, Syahputra, R. A., Juwita, N. A., Astyka, R., & Lubis, M. F. (2023). Andaliman (*Zanthoxylum acanthopodium* DC.) a herbal medicine from North Sumatera, Indonesia: Phytochemical and pharmacological review. *Heliyon*, 9.
- Amalia, R., & Alfaridz, F. (2018). Review Jurnal: Klasifikasi dan Aktivitas Farmakologi dari Senyawa Aktif Flavonoid. *Farmaka*, Vol. 16 No.3.
- Anggraeni, R. (2020). Uji Karakteristik Simplisia Buah Andaliman (*Zanthoxylum acanthopodium* DC.). *Jurnal Ilmiah Farmasi*, 32-38.
- Anonim. (2023, Desember 10). *AbClonal*. Retrieved from AbClonal.com: <https://abclonal-us.oss-us-east-1.aliyuncs.com/abclonal/Datasheet/ELISA/RK00027.pdf?v=1704162419>
- Ashraf, H., Solla, P., & Sechi, L. A. (2022). Current Advancement of Immunomodulatory Drugs as Potential Pharmacotherapies for Autoimmunity Based Neurological Diseases. *Pharmaceuticals*.
- Baratawidjaja, K. G., & Rengganis, I. (2014). *Imunologi Dasar Edisi 11*. Jakarta: Badan Penerbit Fakultas Kedokteran Universitas Indonesia.
- Bellanti, J. (1993). *Immunology III*. Washington: Georgetown University School of Medicine.
- Bouquet, M., Passmore, M., See Hoe, L., Tung, J.-P., Simonova, G., Boon, A.-C., & Fraser, J. (2020). Development and validation of ELISA for the quantitation of interleukin (IL)-1 β , IL-6, IL-8 and IL-10 in ovine plasma. *Journal of Immunology*.
- Bustami, A., Hayuningrum, C., Lestari, W., Wibowo, H., Wuyung, P., & Natadisastra, R. (2020). Efek Oktil Galat Sintetik terhadap Interleukin-1 Beta dan Interleukin-1 Receptor Antagonist pada Tikus Model Endometriosis. *eJKI*.
- Carrillo, J. L., Rodríguez, F. P., Coronado, O. G., García, M. A., & Cordero, J. F. (2017). Physiology and Pathology of Innate Immune Response, Chapter 6. *INTECH*, 99-117.

- Cavalcanti, Y. V., Brelaz, M. C., Neves, J. K., Ferraz, J. C., & Pereira, V. R. (2012). Role of TNF-Alpha, IFN-Gamma, and IL-10 in the Development of Pulmonary Tuberculosis. *Hindawi Publishing Corporation Pulmonary Medicine*, 1-6.
- Darlina, T. R., & Teja, K. (2015). Respon Tumour Necrosis Factor Alfa (Tnf-A) Dalam Darah Dan Limpa Mencit Yang Divaksinasi . *Pusat Teknologi Keselamatan dan Metrologi Radiasi, BATAN*, 148-152.
- Dayer, J.-M., Oliviero, F., & Punzi, L. (2017). A Brief History of IL-1 and IL-1 Ra in Rheumatology. *Frontiers in Pharmacology*, 293.
- Duque, G. A., & Descoteaux, A. (2014). Macrophage cytokines: involvement in immunity and infectious disease. *Frontiers in Immunology*.
- Fadlilah, A. R., & Lestari, K. (2023). Review: Peran Antioksidan dalam Imunitas Tubuh. *Farmaka*, 171-178.
- Faradillah, F., Santi, M. A., Sipahutar, L. W., Nurmi, A., & Mahmud, A. (2020). Effects of Andaliman (*Zanthoxylum acanthopodium*, DC) Supplementation on Broiler Immunity. *Journal of Physics: Conference Series*, 1477.
- Fu, Y., Wang, T., Xiu, L., Shi, X., Bian, Z., Zhang, Y., . . . Wang, X. (2016). Levamisole promotes murine bone marrow derived dendritic cell activation and drives Th1 immune response in vitro and in vivo. *International Immunopharmacology*, 57-65.
- Heim, K., Tagliferro, A., & Bobilya, D. (2002). Flavonoid Antioxidants: Chemistry, Metabolism Structure- Activity Relationship. *The Journal of Nutritional Biochemistry*, 572-584.
- Hikmah, U., & Triastuti, A. (2022). Mekanisme dan senyawa bioaktif imunomodulator *Phyllanthus niruri* (meniran). *Jurnal Ilmiah Farmasi*, 205-218.
- Hirayama, D., Iida, T., & Nakase, H. (2018). The Phagocytic Function of Macrophage-Enforcing Innate Immunity and Tissue Homeostasis. *Int J Mol Sci.*, 19(1), 92.
- Honin, D. W. (2024). Pengaruh Pemberian Ekstrak Etanolik Buah Andaliman (*Zanthoxylum acanthopodium* DC.) terhadap Fagositosis Makrofag dan Produksi Nitric Oxide secara In Vitro. (*Skripsi, Universitas Gadjah Mada*).
- Iyer, S. S., & Cheng, G. (2012). Role of Interleukin 10 Transcriptional Regulation in Inflammation and Autoimmune Disease. *Crit Rev Immunol.*, 32(1), 23-63. Retrieved from [https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3410706/#:~:text=Interleukin%2010%20\(IL%2D10\),and%20maintaining%20normal%20tissue%20homeostasis](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3410706/#:~:text=Interleukin%2010%20(IL%2D10),and%20maintaining%20normal%20tissue%20homeostasis).
- Jang, D.-i., Lee, A.-H., Shin, H.-Y., Hyo-Ryeong, L., Park, J.-H., Kang, T.-B., . . . Yang, S.-H. (2021). The Role of Tumor Necrosis Factor Alpha (TNF- α) in Autoimmune Disease and Current TNF- α Inhibitors in Therapeutics. *Int J Mol Sci.*, 22(5), 2719.

- Jang, D.-I., Lee, A.-H., Shin, H.-Y., Song, R.-H., Park, J.-H., Kang, T.-B., . . . Yang, S.-H. (2021). The Role of Tumor Necrosis Factor Alpha (TNF- α) in Autoimmune Disease and Current TNF- α Inhibitors in Therapeutics. *International Journal Molecules Science*, 2719.
- Kristanty, R. E., & Suriawati, J. (2015). The Indonesian *Zanthoxylum acanthopodium* DC. : Chemical And Biological Values. *International Journal of PharmTech Research*, 8(6), 313-321.
- Lacy, P., & Stow, J. L. (2011). Cytokine release from innate immune cells: association with diverse membrane trafficking pathways. *BLOOD*, 118(1), 9-18.
- Li, G., Liu, L., Tan, Y., Liu, L., Deng, H., Wan, H., . . . Chen, S. (2011). In vitro effect of levamisole on the cell viability, phagocytosis and respiratory burst of Barber chub (*Squaliobarbus curriculus*) macrophages. *Aquaculture Nutrition*, 263-270.
- Marby, T., Markham, K., & Thomas, M. (1970). *The Systematic Identification of Flavonoid*. Berlin: Springer-Verlag.
- Markham, K. (1988). *Cara Mengidentifikasi Flavonoid*. Bandung: Penerbit ITB.
- Marshall, J. S., Warrington, R., Watson, W., & Kim, H. L. (2018). . An introduction to immunology and immunopathology. *Allergy, Asthma, and Clinical Immunology : Official Journal of the Canadian Society of Allergy and Clinical Immunology*, 49.
- Mulyani, S., & Laksana, T. (2011). Analisis Flavonoid dan Tannin dengan Metode Mikroskopi Mikrokimiawi. *Majalah Obat Tradisional*, 16(3), 109-114.
- Murwanto, P. E., & Santosa, D. (2012). Uji Aktivitas Antioksidan Tumbuhan *Cynara scolimus* L., *Atermisia china* L., *Borreria repens* DC., *Polygala paniculata* L., Hasil Koleksi dari Taman Nasional Gunung Merapi dengan Metode Penangkapan Radikal DPPH (2,2-Difenil-1-pikrilhidrazil). *Majalah Obat Tradisional*, 53-60.
- Praptiwi, & Chairul. (2010). Pendayagunaan Dua Jenis Zingiberaceae [C. Mangga (temu mangga) dan K. angstifolia (kunci menir)] sebagai Sumber Bahan Imunomodulator secara in vitro. *Jurnal Tek. Ling*, 435-441.
- Purba, S. T., & Sinaga, D. P. (2017). Evaluasi Potensi Ekstrak Tumbuhan Andaliman (*Zanthoxylum acanthopodium*) sebagai Potensi Immunostimulan pada Tikus (*Rattus norvegicus* L.). *Universitas Negeri Medan*, 221-227.
- Rustanti, E., & Lathifah, Q. A. (2018). Identifikasi Senyawa Kuersetin dari Fraksi Etil Asetat Ekstrak Daun Alpukat (*Persea americana* Mill.). *Journal of Chemistry*, 38-42.
- Sandrasari, D. A., Andarwulan, N., Faridah, D. N., & Annisa Dewi, F. N. (2023). Identifikasi Komponen Aktif Jahe Merah (*Zingiber officinale* Roscoe var. *Rubrum*) sebagai Sumber Antioksidan dengan Pendekatan Metabolomik Berbasis HPLC. *ALCHEMY Jurnal Penelitian Kimia*, 32-43.

- Saragih, B. R., & Raihandhany, R. (2023). Ulasan Aspek Etnobotani dan Fitokimia pada Tumbuhan Andaliman (*Zanthoxylum acanthopodium* DC.) oleh Suku Batak Di Sumatera Utara. *Jurnal Pro-Life*, 10(1), 667-683.
- Seleem, D., Pardi, V., & Murata, R. (2017). Review of flavonoids: A diverse group of natural compounds with anti-*Candida Albicans* activity in vitro. *Arch. Oral Biol*, 76-83.
- Shantilal, S., Vaghela, J., & Sisodia, S. S. (2018). Review On Immunomodulation And Immunomodulatory Activity Of Some Medicinal Plant. *European Journal of Biomedical AND Pharmaceutical sciences*, 5(8), 163-174.
- Silalahi, M., & Lumbantobing, K. (2021). Kandungan Minyak Atsiri Andaliman (*Zanthoxylum acanthopodium* DC) dan Bioaktivitasnya. *Jurnal Pro-Life*, 8(1), 22-31.
- Smit, E., Oberholzer, H., & Pretorius, E. (2009). A refview of Immunomodulators with reference to Canova. *Homeopathy*, 167-176.
- Sujono, T. A., Nurrochmad, A., Lukitaningsih, E., & Nugroho, A. E. (2021). Immunomodulatory effect of petroleum ether extract and ethyl acetate fraction of bengkoang (*Pachyrhizus erosus* L. Urban) in vitro. *Indonesian Journal of Pharmacy*, 454-4 63.
- Suzuki, K., Meguro, K., Nakagomi, D., & Nakajima, H. (2017). Roles of alternatively activated M2 macrophages in allergic contact dermatitis. *Allergology International*, 392-397.
- Syari, D. M., Rosidah, R., Hasibuan, P. A., Haro, G., & Satria, D. (2019). Evaluation of Cytotoxic Activity Alkaloid Fractions of *Zanthoxylum acanthopodium* DC. Fruits. *Macedonian Journal of Medical Sciences*, 7(22), 3745-3747.
- Towaha, R. d. (2010). *SomJawa (Talinumpaniculatum) Ginseng Indonesia Penyembuh Berbagai Penyakit*. Indonesia: Warta Penelitian dan Pengembangan Tanaman.
- Wijaya, C., Napitupulu, F. I., Karnady, V., & Indariani, S. (2019). A review of the bioactivity and flavor properties of the exotic spice “andaliman” (*Zanthoxylum acanthopodium* DC.). *Food Reviews International*, 35(1), 1-19.
- Williams, A. E. (2011). *Immunology: Mucosal and Body Surface Defences*. (T. Hussell, & C. Lloyd, Eds.) Wiley.
- Witonsky, S., Buechner-Maxwell, V., Santonastasto, A., Pleasant, R., Werre, S., Wagner, B., & Ellison, S. (2018). Can levamisole upregulate the equine cell-mediated macrophage (M1) dendritic cell (DC1) T-helper 1 (CD4 Th1) T-cytotoxic (CD8) immune response in vitro? *Journal of Veterinary Internal Medicine*, 889-896.