

DAFTAR PUSTAKA

- Adaway, J.E. dan Keevil, B.G., 2012. Therapeutic drug monitoring and LC-MS/MS. *Journal of Chromatography. B, Analytical Technologies in the Biomedical and Life Sciences*, **883–884**: 33–49.
- Ageno, W., Gallus, A.S., Wittkowsky, A., Crowther, M., Hylek, E.M., dan Palareti, G., 2012. Oral Anticoagulant Therapy: Antithrombotic Therapy and Prevention of Thrombosis. *Chest*, **141**: e44S-e88S.
- Ahmad, A., Khan, R.M.A., Alkharfy, K.M., Raish, M., Al-Jenoobi, F.I., dan Al-Mohizea, A.M., 2015. Effects of Thymoquinone on the Pharmacokinetics and Pharmacodynamics of Glibenclamide in a Rat Model. *Natural Product Communications*, **10**: 1934578X1501000.
- Ahmad, A., Raish, M., Alkharfy, K.M., Alsarra, I.A., Khan, A., Ahad, A., dkk., 2018. Solubility, solubility parameters and solution thermodynamics of thymoquinone in different mono solvents. *Journal of Molecular Liquids*, **272**: 912–918.
- Albassam, A.A., Ahad, A., Alsultan, A., dan Al-Jenoobi, F.I., 2018. Inhibition of cytochrome P450 enzymes by thymoquinone in human liver microsomes. *Saudi Pharmaceutical Journal*, **26**: 673–677.
- Alhmied, F., Alammari, A., Alsultan, B., Alshehri, M., dan Pottoo, F.H., 2021. Molecular Mechanisms of Thymoquinone as Anticancer Agent. *Combinatorial Chemistry & High Throughput Screening*, **24**: 1644–1653.
- Al-Jenoobi, F.I., Korashy, H.M., Ahad, A., Raish, M., Al-Mohizea, A.M., Alam, M.A., dkk., 2014. Potential inhibitory effect of herbal medicines on rat hepatic cytochrome P450 2D gene expression and metabolic activity. *Pharmazie*, 799–803.
- Allen, D. dan McWhinney, B., 2019. Quadrupole Time-of-Flight Mass Spectrometry: A Paradigm Shift in Toxicology Screening Applications. *Clinical Biochemist Reviews*, **40**: 135–146.

- Alrashedi, M.G., Ali, A.S., Ali, S.S., dan Khan, L.M., 2018. Impact of thymoquinone on cyclosporine A pharmacokinetics and toxicity in rodents. *The Journal of Pharmacy and Pharmacology*, **70**: 1332–1339.
- Ansell, J., Hirsh, J., Dalen, J., Bussey, H., Anderson, D., Poller, L., dkk., 2001. Managing oral anticoagulant therapy. *Chest*, **119**: 22S–38S.
- Baker, R.I., Coughlin, P.B., Gallus, A.S., Harper, P.L., Salem, H.H., Wood, E.M., dkk., 2004. Warfarin reversal: consensus guidelines, on behalf of the Australasian Society of Thrombosis and Haemostasis. *The Medical Journal of Australia*, **181**: 492–497.
- Banerjee, M., Robbins, D., dan Chen, T., 2015. Targeting xenobiotic receptors PXR and CAR in human diseases. *Drug Discovery Today*, **20**: 618–628.
- Barco, S., Castagnola, E., Gennai, I., Barbagallo, L., Loy, A., Tripodi, G., dkk., 2016. Ultra high performance liquid chromatography-tandem mass spectrometry vs. commercial immunoassay for determination of vancomycin plasma concentration in children. Possible implications for everyday clinical practice. *Journal of Chemotherapy (Florence, Italy)*, **28**: 395–402.
- Bidny, S., Gago, K., David, M., Duong, T., Albertyn, D., dan Gunja, N., 2015. A Validated LC–MS-MS Method for Simultaneous Identification and Quantitation of Rodenticides in Blood. *Journal of Analytical Toxicology*, **39**: 219–224.
- Borse, S.P., Singh, D.P., dan Nivsarkar, M., 2019. Understanding the relevance of herb–drug interaction studies with special focus on interplays: a prerequisite for integrative medicine. *Porto Biomedical Journal*, **4**: e15.
- Boskabady, M.-H., Keyhanmanesh, R., Khameneh, S., Doostdar, Y., dan Khakzad, M.-R., 2011. Potential immunomodulation effect of the extract of *Nigella sativa* on ovalbumin sensitized guinea pigs. *Journal of Zhejiang University SCIENCE B*, **12**: 201–209.
- Boyce, M.L., Zayac, A., Davis, A., Badrick, T., Anoopkumar-Dukie, S., dan Bernaitis, N., 2018. Impact of Aspirin on Warfarin Control as Measured by

- Time in Therapeutic Range. *Basic & Clinical Pharmacology & Toxicology*, **123**: 504–508.
- Brantley, S.J., Argikar, A.A., Lin, Y.S., Nagar, S., dan Paine, M.F., 2014. Herb–Drug Interactions: Challenges and Opportunities for Improved Predictions. *Drug Metabolism and Disposition*, **42**: 301–317.
- Buchman, C.D., Chai, S.C., dan Chen, T., 2018. A current structural perspective on PXR and CAR in drug metabolism. *Expert Opinion on Drug Metabolism & Toxicology*, **14**: 635–647.
- Butt, A., Nisar, N., Mughal, T., Ghani, N., dan Altaf, I., 2019. Anti-oxidative and anti-proliferative activities of extracted phytochemical compound thymoquinone. *Journal of the Pakistan Medical Association*, **69**: 479–1485.
- Chang, H.-Y., Chen, C.-J., Ma, W.-C., Cheng, W.-K., Lin, Y.-N., Lee, Y.-R., dkk., 2017. Modulation of pregnane X receptor (PXR) and constitutive androstane receptor (CAR) activation by ursolic acid (UA) attenuates rifampin-isoniazid cytotoxicity. *Phytomedicine*, **36**: 37–49.
- Chokesuwattanaskul, R., Thongprayoon, C., Bathini, T., Torres-Ortiz, A., O’Corragain, O.A., Watthanasuntorn, K., dkk., 2019. Efficacy and safety of anticoagulation for atrial fibrillation in patients with cirrhosis: A systematic review and meta-analysis. *Digestive and Liver Disease*, **51**: 489–495.
- Chrencik, J.E., Orans, J., Moore, L.B., Xue, Y., Peng, L., Collins, J.L., dkk., 2005. Structural disorder in the complex of human pregnane X receptor and the macrolide antibiotic rifampicin. *Molecular Endocrinology (Baltimore, Md.)*, **19**: 1125–1134.
- Clark, M.A., Finkel, R., Rey, J.A., dan Whalen, K. (Eds.), 2012. *Pharmacology*, 5th edition. ed, Lippincott’s illustrated reviews. Wolters Kluwer Health/Lippincott Williams & Wilkins, Baltimore, MD.
- Committee for Medicinal Products for Human Use, 2011. guideline-bioanalytical-method-validation.
- Daly, A., Rettie, A., Fowler, D., dan Miners, J., 2017. Pharmacogenomics of CYP2C9: Functional and Clinical Considerations. *Journal of Personalized Medicine*, **8**: 1.

- Daujat-Chavanieu, M. dan Gerbal-Chaloin, S., 2020. Regulation of CAR and PXR Expression in Health and Disease. *Cells*, **9**: 2395.
- Delfosse, V., Dendele, B., Huet, T., Grimaldi, M., Boulahtouf, A., Gerbal-Chaloin, S., dkk., 2015. Synergistic activation of human pregnane X receptor by binary cocktails of pharmaceutical and environmental compounds. *Nature Communications*, **6**: 8089.
- Delfosse, V., Huet, T., Harrus, D., Granell, M., Bourguet, M., Gardia-Parège, C., dkk., 2021. Mechanistic insights into the synergistic activation of the RXR–PXR heterodimer by endocrine disruptor mixtures. *Proceedings of the National Academy of Sciences of the United States of America*, **118**: e2020551118.
- El Gazzar, M., El Mezayen, R., Marecki, J.C., Nicolls, M.R., Canastar, A., dan Dreskin, S.C., 2006. Anti-inflammatory effect of thymoquinone in a mouse model of allergic lung inflammation. *International Immunopharmacology*, **6**: 1135–1142.
- Elbarbry, F., Ung, A., dan Abdelkawy, K., 2017. Studying the Inhibitory Effect of Quercetin and Thymoquinone on Human Cytochrome P450 Enzyme Activities. *Pharmacognosy Magazine*, **13**: .
- Fasinu, P.S., Bouic, P.J., dan Rosenkranz, B., 2012. An Overview of the Evidence and Mechanisms of Herb–Drug Interactions. *Frontiers in Pharmacology*, **3**: 69.
- Flora, D.R., Rettie, A.E., Brundage, R.C., dan Tracy, T.S., 2017. CYP2C9 Genotype-Dependent Warfarin Pharmacokinetics: Impact of CYP2C9 Genotype on R- and S-Warfarin and Their Oxidative Metabolites. *The Journal of Clinical Pharmacology*, **57**: 382–393.
- Fu, Q., Chen, Z., Zhang, S., Parker, S.J., Fu, Z., Tin, A., dkk., 2016. Multiple and Selective Reaction Monitoring Using Triple Quadrupole Mass Spectrometer: Preclinical Large Cohort Analysis. *Methods in Molecular Biology (Clifton, N.J.)*, **1410**: 249–264.
- Ghelichkhani, S., Saffari-Chaleshtori, J., Ghaffari, F., dan Nili-Ahmadabadi, A., 2023. The Cytotoxic Effect of Thymoquinone Enhance on HepG2 Cell Line

due to Induction of Fenton Reaction by Hydrogen Peroxide: An In Vitro and In Silico Study. *Asian Pacific Journal of Cancer Prevention*, **24**: 1809–1815.

Goodman, L.S., Gilman, A., Brunton, L.L., dan Lazo, J.S., 2010. *Goodman Gilman's The Pharmacological Basis Of Therapeutics*, 12th ed. The McGraw-Hill, USA.

Goodwin, B., Gauthier, K.C., Umetani, M., Watson, M.A., Lochansky, M.I., Collins, J.L., dkk., 2003. Identification of bile acid precursors as endogenous ligands for the nuclear xenobiotic pregnane X receptor. *Proceedings of the National Academy of Sciences*, **100**: 223–228.

Gougis, P., Hilmi, M., Geraud, A., Mir, O., dan Funck-Brentano, C., 2021. Potential cytochrome P450-mediated pharmacokinetic interactions between herbs, food, and dietary supplements and cancer treatments. *Critical Reviews in Oncology/Hematology*, **166**: 103342.

Green, B., Mendes, R.A., Van Der Valk, R., dan Brennan, P.A., 2016. Novel anticoagulants – an update on the latest developments and management for clinicians treating patients on these drugs. *Journal of Oral Pathology & Medicine*, **45**: 551–556.

Gupta, R.C., Chang, D., Nammi, S., Bensoussan, A., Bilinski, K., dan Roufogalis, B.D., 2017. Interactions between antidiabetic drugs and herbs: an overview of mechanisms of action and clinical implications. *Diabetology & Metabolic Syndrome*, **9**: 59.

Halim, S.A., Sikandari, A.G., Khan, A., Wadood, A., Fatmi, M.Q., Csuk, R., dkk., 2021. Structure-Based Virtual Screening of Tumor Necrosis Factor- α Inhibitors by Cheminformatics Approaches and Bio-Molecular Simulation. *Biomolecules*, **11**: 329.

Hamdan, A., Haji Idrus, R., dan Mokhtar, M.H., 2019. Effects of Nigella Sativa on Type-2 Diabetes Mellitus: A Systematic Review. *International Journal of Environmental Research and Public Health*, **16**: 4911.

Hannan, Md.A., Rahman, Md.A., Sohag, A.A.M., Uddin, Md.J., Dash, R., Sikder, M.H., dkk., 2021. Black Cumin (*Nigella sativa* L.): A Comprehensive

- Review on Phytochemistry, Health Benefits, Molecular Pharmacology, and Safety. *Nutrients*, **13**: 1784.
- Harmita K., Harahap Y. and Supandi, 2019, Liquid Chromatography-Tandem Mass Spectrometry (LC-MS/MS), ISFI Penerbitan, Jakarta.
- Hassan, S.A., Ahmed, W.A., Galeb, F.M., El-Taweel, M.A., dan Abu-Bedair, F.A., 2008. In Vitro Challenge Using Thymoquinone On Hepatocellular Carcinoma (Hepg2) Cell Line. *Iranian Journal of Pharmaceutical Research*, **7 (4)**: 283–2908.
- Hogle, B.C., Guan, X., Folan, M.M., dan Xie, W., 2018. PXR as a mediator of herb–drug interaction. *Journal of Food and Drug Analysis*, **26**: S26–S31.
- Holbrook, A.M., Pereira, J.A., Labiris, R., Douketis, J.D., Crowther, M., dan Wells, P.S., 2005. Systematic overview of warfarin and its drug and food interactions. *Archives of Internal Medicine*, **165**: 1095–1106.
- Hosseinzadeh, H., Tavakkoli, A., Mahdian, V., dan Razavi, B.M., 2017. Review on Clinical Trials of Black Seed (*Nigella sativa*) and Its Active Constituent, Thymoquinone. *Journal of Pharmacopuncture*, **20**: 179–193.
- Jehan, S., Zhong, C., Li, G., Zulqarnain Bakhtiar, S., Li, D., dan Sui, G., 2020. Thymoquinone Selectively Induces Hepatocellular Carcinoma Cell Apoptosis in Synergism With Clinical Therapeutics and Dependence of p53 Status. *Frontiers in Pharmacology*, **11**: 555283.
- Jin, S., Li, Z., Yang, Q., Fang, B., Xiang, X., Peng, C., dkk., 2022. Simultaneous Characterization and Determination of Warfarin and Its Hydroxylation Metabolites in Rat Plasma by Chiral Liquid Chromatography-Tandem Mass Spectrometry. *Pharmaceutics*, **14**: 1141.
- Jones, D.R., Kim, S.-Y., Guderyon, M., Yun, C.-H., Moran, J.H., dan Miller, G.P., 2010. Hydroxywarfarin Metabolites Potently Inhibit CYP2C9 Metabolism of S-Warfarin. *Chemical Research in Toxicology*, **23**: 939–945.
- Kaminsky, L.S., de Morais, S.M., Faletto, M.B., Dunbar, D.A., dan Goldstein, J.A., 1993. Correlation of human cytochrome P4502C substrate specificities with primary structure: warfarin as a probe. *Molecular Pharmacology*, **43**: 234–239.

- Kaminsky, L.S. dan Zhang, Z.-Y., 1997. Human P450 metabolism of warfarin. *Pharmacology & Therapeutics*, **73**: 67–74.
- Kim, S.-Y., Kang, J.-Y., Hartman, J., Park, S.-H., Jones, D., Yun, C.-H., dkk., 2012. Metabolism of R- and S-Warfarin by CYP2C19 into Four Hydroxywarfarins. *Drug Metabolism Letters*, **6**: 157–164.
- Korashy, H., Al-Jenoobi, F., Raish, M., Ahad, A., Al-Mohizea, A., Alam, M., dkk., 2014. Impact of Herbal Medicines like *Nigella sativa*, *Trigonella foenum-graecum*, and *Ferula asafoetida*, on Cytochrome P450 2C11 Gene Expression in Rat Liver. *Drug Research*, **65**: 366–372.
- Koziulek, M., Alcaro, S., Augustijns, P., Basit, A.W., Grimm, M., Hens, B., dkk., 2019. The mechanisms of pharmacokinetic food-drug interactions – A perspective from the UNGAP group. *European Journal of Pharmaceutical Sciences*, **134**: 31–59.
- Li, T. dan Chiang, J.Y.L., 2006. Rifampicin induction of CYP3A4 requires pregnane X receptor cross talk with hepatocyte nuclear factor 4alpha and coactivators, and suppression of small heterodimer partner gene expression. *Drug Metabolism and Disposition: The Biological Fate of Chemicals*, **34**: 756–764.
- Li, Y., Meng, Q., Yang, M., Liu, D., Hou, X., Tang, L., dkk., 2019. Current trends in drug metabolism and pharmacokinetics. *Acta Pharmaceutica Sinica. B*, **9**: 1113–1144.
- Lin, J.-F., Fan, L.-L., Li, B.-W., Zhao, R.-R., Jiang, L.-G., Zhang, B.-C., dkk., 2020. A study to evaluate herb-drug interaction underlying mechanisms: An investigation of ginsenosides attenuating the effect of warfarin on cardiovascular diseases. *European Journal of Pharmaceutical Sciences*, **142**: 105100.
- Lynch, K.L., 2017. Chapter 6 - Toxicology: liquid chromatography mass spectrometry, dalam: Nair, H., Clarke, W. (Eds.), *Mass Spectrometry for the Clinical Laboratory*. Academic Press, San Diego, hal. 109–130.
- Marbun, P., Hakim, A.R., Sri Octa Ujiantari, N., Sulisty Ari Sudarmanto, B., dan Endro Nugroho, A., 2023. In Silico Pharmacokinetics Study of 2,5-

- Dibenzylidenecyclopentanone Analogs as Mono-Ketone Versions of Curcumin. *BIO Web of Conferences*, **75**: 04002.
- Massadeh, A.M., Al-Safi, S.A., Momani, I.F., Al-Mahmoud, M., dan Alkofahi, A.S., 2007. Analysis of cadmium and lead in mice organs: Effect of nigella sativa L. (black cumin) on the distribution and immunosuppressive effect of cadmium-lead mixture in mice. *Biological Trace Element Research*, **115**: 157–167.
- Men, S. dan Wang, H., 2023. Phenobarbital in Nuclear Receptor Activation: An Update. *Drug Metabolism and Disposition*, **51**: 210.
- Miners, J.O. dan Birkett, D.J., 1998. Cytochrome P4502C9: an enzyme of major importance in human drug metabolism. *British Journal of Clinical Pharmacology*, **45**: 525–538.
- Muralidharan-Chari, V., Kim, J., Abuawad, A., Naeem, M., Cui, H., dan Mousa, S., 2016. Thymoquinone Modulates Blood Coagulation in Vitro via Its Effects on Inflammatory and Coagulation Pathways. *International Journal of Molecular Sciences*, **17**: 474.
- Naushad, M. dan Khan, M.R. (Eds.), 2014. *Ultra Performance Liquid Chromatography Mass Spectrometry: Evaluation and Applications in Food Analysis*. CRC Press, Boca Raton.
- Nickavar, B., Mojab, F., Javidnia, K., dan Amoli, M.A.R., 2003. Chemical Composition of the Fixed and Volatile Oils of Nigella sativa L. from Iran. *Zeitschrift für Naturforschung C*, **58**: 629–631.
- Nicolussi, S., Drewe, J., Butterweck, V., dan Meyer Zu Schwabedissen, H.E., 2020. Clinical relevance of St. John's wort drug interactions revisited. *British Journal of Pharmacology*, **177**: 1212–1226.
- Niu, J., Straubinger, R.M., dan Mager, D.E., 2019. Pharmacodynamic Drug–Drug Interactions. *Clinical Pharmacology & Therapeutics*, **105**: 1395–1406.
- Olack, E.M., Heintz, M.M., dan Baldwin, W.S., 2022. Dataset of endo- and xenobiotic inhibition of CYP2B6: Comparison to CYP3A4. *Data in Brief*, **41**: 108013.

- Paarakh, P.M., 2010. *Nigella sativa* Linn.– A comprehensive review. *Indian Journal of Natural Products and Resources*, **1**: 409–429.
- Patel, S., Singh, R., Preuss, C.V., dan Patel, N., 2023. Warfarin, dalam: *StatPearls*. StatPearls Publishing, Treasure Island (FL).
- Penner, L.S., Gavan, S.P., Ashcroft, D.M., Peek, N., dan Elliott, R.A., 2022. Does coprescribing nonsteroidal anti-inflammatory drugs and oral anticoagulants increase the risk of major bleeding, stroke and systemic embolism? *British Journal of Clinical Pharmacology*, **88**: 4789–4811.
- Poór, M., Boda, G., Needs, P.W., Kroon, P.A., Lemli, B., dan Bencsik, T., 2017. Interaction of quercetin and its metabolites with warfarin: Displacement of warfarin from serum albumin and inhibition of CYP2C9 enzyme. *Biomedicine & Pharmacotherapy*, **88**: 574–581.
- R. Kucharczuk, Dnp, Crnp, C., Ganetsky, PharmD, Bcop, A., dan Michael Vozniak, PharmD, Bcop, J., 2018. Drug-Drug Interactions, Safety, and Pharmacokinetics of EGFR Tyrosine Kinase Inhibitors for the Treatment of Non–Small Cell Lung Cancer. *Journal of the Advanced Practitioner in Oncology*, **9**: .
- Radko, L., Śniegocki, T., Sell, B., dan Posyniak, A., 2019. Metabolomic Profile of Primary Turkey and Rat Hepatocytes and Two Cell Lines after Chloramphenicol Exposure. *Animals*, **10**: 30.
- Ramírez, D. dan Caballero, J., 2018. Is It Reliable to Take the Molecular Docking Top Scoring Position as the Best Solution without Considering Available Structural Data? *Molecules*, **23**: 1038.
- Randhawa, A.M. dan Al-Ghamdi, S.M., 2002. A review of the pharmacotherapeutic effects of *Nigella sativa*.pdf. *Pakistan J. Med. Res.*, **41**: 77–83.
- Rettie, A.E. dan Jones, J.P., 2005. Clinical and toxicological relevance of CYP2C9 : Drug-Drug Interactions and Pharmacogenetics. *Annual Review of Pharmacology and Toxicology*, **45**: 477–494.
- Rombolà, L., Scuteri, D., Marilisa, S., Watanabe, C., Morrone, L.A., Bagetta, G., dkk., 2020. Pharmacokinetic Interactions between Herbal Medicines and Drugs: Their Mechanisms and Clinical Relevance. *Life*, **10**: 106.

- Rulcova, A., Prokopova, I., Krausova, L., Bitman, M., Vrzal, R., Dvorak, Z., dkk., 2010. Stereoselective interactions of warfarin enantiomers with the pregnane X nuclear receptor in gene regulation of major drug-metabolizing cytochrome P450 enzymes. *Journal of Thrombosis and Haemostasis*, **8**: 2708–2717.
- Shaik, A.N., Grater, R., Lulla, M., Williams, D.A., Gan, L.L., Bohnert, T., dkk., 2016. Comparison of enzyme kinetics of warfarin analyzed by LC–MS/MS QTrap and differential mobility spectrometry. *Journal of Chromatography B*, **1008**: 164–173.
- Shivanika C, Deepak Kumar S., Ragunathan, V., Tiwari, P., Sumitha A., dan Brindha Devi P, 2022. Molecular docking, validation, dynamics simulations, and pharmacokinetic prediction of natural compounds against the SARS-CoV-2 main-protease. *Journal of Biomolecular Structure and Dynamics*, **40**: 585–611.
- Śniegocki, T., Gbylik-Sikorska, M., dan Posyniak, A., 2017. Analytical strategy for determination of chloramphenicol in different biological matrices by liquid chromatography - mass spectrometry. *Journal of Veterinary Research*, **61**: 321–327.
- Sonuga, B.O., Hellenberg, D.A., Cupido, C.S., dan Jaeger, C., 2016. Profile and anticoagulation outcomes of patients on warfarin therapy in an urban hospital in Cape Town, South Africa. *African Journal of Primary Health Care & Family Medicine*, **8**: 1032.
- Sushila, D.C. dan Deepa, M.D., 2022. Analytical method validation: A brief review. *World Journal of Advanced Research and Reviews*, **16**: 389–402.
- Sutcliffe, F.A., MacNicoll, A.D., dan Gibson, G.G., 1987. Aspects of anticoagulant action: a review of the pharmacology, metabolism and toxicology of warfarin and congeners. *Reviews on Drug Metabolism and Drug Interactions*, **5**: 225–272.
- Takahashi, H., Kashima, T., Nomoto, S., Iwade, K., Tainaka, H., Shimizu, T., dkk., 1998. Comparisons between in-vitro and in-vivo metabolism of (S)-warfarin_ catalytic activities of cDNA-expressed CYP2C9, its Leu359

- variant and their mixture versus unbound clearance in patients with the corresponding CYP2C9 genotypes.pdf. *Pharmacogenetics*, **8**: 365–373.
- Timsit, Y.E. dan Negishi, M., 2007. CAR and PXR: The xenobiotic-sensing receptors. *Steroids*, **72**: 231–246.
- W Ju, K Peng, S Yang, H Sun, M Sampson, dan MZ Wang, 2014. A Chiral HPLC-MS/MS Method for Simultaneous Quantification of Warfarin Enantiomers and its Major Hydroxylation Metabolites of CYP2C9 and CYP3A4 in Human Plasma. *Austin Journal of Analytical and Pharmaceutical Chemistry*, **1**: 1010.
- Wahyono, D. 2013, Farmakokinetika Klinik : Konsep Dasar Dan Terapan Dalam Farmasi Klinik, Gadjah Mada University Press, Yogyakarta..
- Wang, R., Zhang, H., Wang, Y., Yu, X., dan Yuan, Y., 2016. Effects of salvianolic acid B and tanshinone IIA on the pharmacokinetics of losartan in rats by regulating the activities and expression of CYP3A4 and CYP2C9. *Journal of Ethnopharmacology*, **180**: 87–96.
- Wang, Zhen, Wang, Zhe, Wang, X., Lv, X., Yin, H., Jiang, L., dkk., 2022. Potential food-drug interaction risk of thymoquinone with warfarin. *Chemico-Biological Interactions*, **365**: 110070.
- Wilkening, S., Stahl, F., dan Bader, A., 2003. Comparison of Primary Human Hepatocytes and Hepatoma Cell Line Hepg2 with Regard to Their Biotransformation Properties. *Drug Metabolism and Disposition*, **31**: 1035–1042.
- Willson, T.M. dan Kliewer, S.A., 2002. Pxr, car and drug metabolism. *Nature Reviews Drug Discovery*, **1**: 259–266.
- Xu, R.X., Lambert, M.H., Wisely, B.B., Warren, E.N., Weinert, E.E., Waitt, G.M., dkk., 2004. A structural basis for constitutive activity in the human CAR/RXRalpha heterodimer. *Molecular Cell*, **16**: 919–928.
- Xue, Y., Moore, L.B., Orans, J., Peng, L., Bencharit, S., Kliewer, S.A., dkk., 2007. Crystal Structure of the Pregnane X Receptor-Estradiol Complex Provides Insights into Endobiotic Recognition. *Molecular Endocrinology*, **21**: 1028–1038.

- Yamaori, S., Takami, K., Shiozawa, A., Sakuyama, K., Matsuzawa, N., dan Ohmori, S., 2015. In Vitro Inhibition of CYP2C9-Mediated Warfarin 7-Hydroxylation by Igaratimod: Possible Mechanism of Igaratimod–Warfarin Interaction. *Biol. Pharm. Bull.*, **38**: 7.
- Yan, J. dan Xie, W., 2016. A brief history of the discovery of PXR and CAR as xenobiotic receptors. *Acta Pharmaceutica Sinica B*, **6**: 450–452.
- Yao, N., Zeng, C., Zhan, T., He, F., Liu, M., Liu, F., dkk., 2019. Oleanolic Acid and Ursolic Acid Induce UGT1A1 Expression in HepG2 Cells by Activating PXR Rather Than CAR. *Frontiers in Pharmacology*, **10**: 1111.
- Yu, H., Shao, H., Wu, Q., Sun, X., Li, L., Li, K., dkk., 2017. Altered gene expression of hepatic cytochrome P450 in a rat model of intermittent hypoxia with emphysema. *Molecular Medicine Reports*, **16**: 881–886.
- Zayed, A., Babareh, W.M., Darweesh, R.S., El-Elimat, T., dan Hawamdeh, S.S., 2020. Piperine Alters the Pharmacokinetics and Anticoagulation of Warfarin in Rats. *Journal of Experimental Pharmacology*, **12**: 169–179.
- Zehnder, J.L., 2018. Drugs Used In Disorders of Coagulation, dalam: *Basic & Clinical Pharmacology, 14th Edition*. McGraw-Hill Education, New York Chicago San Francisco Athens London Madrid Mexico City Milan New Delhi Singapore Sydney Toronto, hal. 608–626.
- Zhang, Z.-Y., Kerr, J., Wexler, R.S., Li, H., Robinson, A.J., Harlow, P.P., dkk., 1997. Warfarin Analog Inhibition of Human CYP2C9-Catalyzed S-Warfarin 7-Hydroxylation. *Thrombosis Research*, **88**: 389–398.
- Zhao, D., Chen, J., Chu, M., Long, X., dan Wang, J., 2020. Pharmacokinetic-Based Drug–Drug Interactions with Anaplastic Lymphoma Kinase Inhibitors: A Review. *Drug Design, Development and Therapy*, **Volume 14**: 1663–1681.