

DAFTAR PUSTAKA

- Acharjee, S., Boden, W.E., Hartigan, P.M., Teo, K.K., Maron, D.J., Sedlis, S.P., 2013. Low Levels of High-Density Lipoprotein Cholesterol and Increased Risk of Cardiovascular Events in Stable Ischemic Heart Disease Patients A Post-Hoc Analysis From the COURAGE Trial (Clinical Outcomes Utilizing Revascularization and Aggressive Drug Evaluation). *Journal of the American College of Cardiology*, 62: 1826–1833.
- Agubata, C., Nzekwe, I., Obitte, N., dan Ugwu, C., 2014. Effect of Oil, Surfactant and Co-Surfactant Concentrations on the Phase Behavior, Physicochemical Properties and Drug Release from Self-Emulsifying Drug Delivery Systems. *Journal of Drug Discovery, Development and Delivery*, 1: 1–7.
- Ahmed, K., Li, Y., McClements, D.J., dan Xiao, H., 2012. Nanoemulsion-and Emulsion-Based Delivery Systems for Curcumin: Encapsulation and Release Properties. *Food Chemistry*, 132: 799–807.
- An, T., Zhang, Y.H., Zhang, R.C., Zhou, Q., Huang, Y., dan Zhang, J., 2013. Very High Fructose Intake Increases Serum LDL-Cholesterol and Total Cholesterol: A Meta-Analysis of Controlled Feeding Trials. *The Journal of Nutrition*, 143: 1391–1398.
- Anand, P., Kunnumakkara, A.B., Newman, R.A., dan Aggarwal, B.B., 2007. Bioavailability of Curcumin: Problems and Promises. *Molecular Pharmaceutics*, 4: 807–818.
- Angela, J., 2014. Efek Ekstrak Etanol Kulit Manggis (*Garcinia mangostana* L.) Terhadap Kadar Kolesterol Total Serum Tikus Wistar Jantan Yang Diinduksi Pakan Tinggi Lemak Dibandingkan Simvastatin, *Tesis*. Universitas Kristen Maranatha., Bandung.
- Anuchapreeda, S., Fukumori, Y., Okonogi, S., Ichikawa, H., Anuchapreeda, S., Fukumori, Y., 2011. Preparation of Lipid Nanoemulsions Incorporating Curcumin for Cancer Therapy, Preparation of Lipid Nanoemulsions Incorporating Curcumin for Cancer Therapy. *Journal of Nanotechnology*, *Journal of Nanotechnology*, 2012, 2012: 270-383.
- Arini, F.B., 2013. Rancangan D-Optimal untuk Optimasi Variabel Respon pada Metode Permukaan Respon Orde Dua, *Tesis*. Universitas Gadjah Mada, Yogyakarta.
- Basciano, H., Federico, L., dan Adeli, K., 2005. Fructose, Insulin Resistance, and Metabolic Dyslipidemia. *Nutrition & Metabolism*, 2: 5.
- Beandrade, M.U., 2016. Optimasi Formula SNEDDS Ekstrak Jinten Hitam (*Nigella sativa* L.) dengan Fase Minyak Ikan Hiu Cucut Botol (*Centrophorus* sp) serta Uji Aktivitas Immunostimulan, *Tesis* . Universitas Gadjah Mada, Yogyakarta.

- Bouchemal, K., Briançon, S., Perrier, E., dan Fessi, H., 2004. Nano-Emulsion Formulation Using Spontaneous Emulsification: Solvent, Oil and Surfactant Optimisation. *International Journal of Pharmaceutics*, 280: 241–251.
- Cahyono, B., Huda, M.D.K., dan Limantara, L., 2011. Pengaruh Proses Pengeringan Rimpang Temulawak (*Curcuma Xanthorrhiza* Roxb.) Terhadap Kandungan dan Komposisi Kurkuminoid. *Reaktor*, 13: 165–171.
- Carvalho, D. de M., Takeuchi, K.P., Geraldine, R.M., Moura, C.J. de, Torres, M.C.L., Carvalho, D. de M., 2015. Production, solubility and Antioxidant Activity of Curcumin Nanosuspension. *Food Science and Technology (Campinas)*, 35: 115–119.
- Cerpnjak, K., Zvonar, A., Gasperlin, M., dan Vrečer, F., 2013. Lipid-Based Systems As A Promising Approach for Enhancing The Bioavailability of Poorly Water-Soluble Drugs. *The Journal of Croatian Pharmaceutical Society*, 63: 427–445.
- Chaudhary, B., Maheshwari, K., dan Patel, D., 2011. Self-Emulsifying Drug Delivery System: A Novel Approach for Enhancement of Bioavailability. *Journal of Pharmaceutical Science and Bioscientific Research*, 1: 31–36.
- Chehade, J.M., Gladysz, M., dan Mooradian, A.D., 2013. Dyslipidemia in Type 2 Diabetes: Prevalence, Pathophysiology, and Management. *Drugs*, 73: 327–339.
- Chi, T.C., Liu, I.M., dan Cheng, J.T., 2000. Less of Insulin Desensitization in sympathetic Nerve Terminals from Wistar Rats with Insulin Resistance. *Journal of the Autonomic Nervous System*, 80: 80–84.
- Cremer Oleo GmbH & Co.KG, 2015. Certificate of Analysis Miglyol 812N, [patent] AZ-0008504.
- D'Angelo, G., Elmarakby, A.A., Pollock, D.M., dan Stepp, D.W., 2005. Fructose Feeding Increases Insulin Resistance But Not Blood Pressure in Sprague-Dawley Rats. *Hypertension*, 46: 806–811.
- Dash, R.N., Mohammed, H., Humaira, T., dan Ramesh, D., 2015. Design, Optimization and Evaluation of Glipizide Solid Self-Nanoemulsifying Drug Delivery for Enhanced Solubility and Dissolution. *Saudi Pharmaceutical Journal*, 23: 528–540.
- Depkes, 2008. *Farmakope Herbal Indonesia Edisi I*. Departemen Kesehatan RI, Jakarta.
- El-Laithy, H.M., 2008. Self-Nanoemulsifying Drug Delivery System for Enhanced Bioavailability and Improved Hepatoprotective Activity of Biphenyl Dimethyl Dicarboxylate. *Current Drug Delivery*, 5: 170–176.

- Engelen, A., Sugiyono, dan Budijanto, S., 2015. Optimasi Proses dan Formula Pada Pengolahan Mi Sagu Kering (*Metroxylon sagu*). *Jurnal Agriteknologi*, 35: 359-367.
- Grundy, S.M., 1986. Comparison of Monounsaturated Fatty Acids and Carbohydrates for Lowering Plasma Cholesterol. *New England Journal of Medicine*, 314: 745-748.
- Guilherme, A., Virbasius, J.V., Puri, V., dan Czech, M.P., 2008. Adipocyte Dysfunctions Linking Obesity to Insulin Resistance and Type 2 Diabetes. *Nature Reviews. Molecular Cell Biology*, 9: 367-377.
- Gupta, P., Pandit, J., Ajay, P., Swaroop, P., dan Gupta, S., 2010. Pharmaceutical Nanotechnology Novel Nanoemulsion-High Energy Emulsification Preparation, Evaluation and Application. *The Pharma Research*, 3: 117-138.
- Herlyanti, K., 2013. Uji Aktivitas Antihiperlipidemia dan Antiaterosklerosis Kombinasi Ekstrak Terpurifikasi Herba Sambiloto (*Andrographis paniculata* (Burm.F.) Ness) dan Herba Pegagan (*Centella asiatica* (L.) Urban) pada Tikus Diabetes Mellitus Tipe 2 Resisten Insulin, *Tesis*. Universitas Gadjah Mada, Yogyakarta.
- Hernuza, F., 2012. Perbandingan Kadar Kurkumin dan Kadar Air Ekstrak Etanol, Ekstrak Etanol Terpurifikasi, Ekstrak Etil Asetat dan Ekstrak Etil Asetat Terpurifikasi Rimpang Temulawak (*Curcuma xanthorrhiza* Roxb.), *Skripsi*. Universitas Ahmad Dahlan, Yogyakarta.
- Indratmoko, S., 2014. Pengembangan Nanopartikel Ekstrak Temulawak (*Curcuma xanthorrhiza* Roxb.) Dengan Teknik Self-Nanoemulsifying Drug Delivery System (SNEDDS) Menggunakan Fase Minyak Ikan Cucut Botol (*Centrocymnus crepidater*) Sebagai Obat Antiinflamasi, *Tesis*. Fakultas Farmasi, Universitas Gadjah Mada, Yogyakarta.
- Jaiswal, M., Dudhe, R., dan Sharma, P.K., 2015. Nanoemulsion: an advanced mode of drug delivery system. *Biotechnology*, 5: 123-127.
- Joshi, R.P., Negi, G., Kumar, A., Pawar, Y.B., Munjal, B., Bansal, A.K., Sharma, S.S., 2013. SNEDDS Curcumin Formulation Leads to Enhanced Protection from Pain and Functional Deficits Associated with Diabetic Neuropathy: An Insight into Its Mechanism for Neuroprotection. *Nanomedicine: Nanotechnology, Biology and Medicine*, 9: 776-785.
- Kabri, T., Arab-Tehrany, E., Belhaj, N., dan Linder, M., 2011. Physico-Chemical Characterization of Nano-Emulsions in Cosmetic Matrix Enriched on Omega-3. *Journal of Nanobiotechnology*, 9: 41.
- Kakkar, V., Singh, S., Singla, D., dan Kaur, I.P., 2011. Exploring Solid Lipid Nanoparticles to enhance The Oral Bioavailability of Curcumin. *Molecular Nutrition & Food Research*, 55: 495-503.

- Kemenkes, 2010. *Vademekum Tanaman Obat Untuk Sainifikasi Jamu*. Kementerian Kesehatan Republik Indonesia, Jakarta.
- Kemenkes, 2012. *Vademekum Tanaman Obat Indonesia Untuk Sainifikasi Jamu Jilid 1*. Kementrian Kesehatan Republik Indonesia, Jakarta.
- Kim, M. dan Kim, Y., 2010. Hypcholesterolemic Effects of Curcumin Via Up-Regulation of Cholesterol 7 α -Hydroxylase in Rats Fed A High Fat Diet. *Nutrition Research and Practice*, 4: 191.
- Kim, M.B., Kim, C., Song, Y., dan Hwang, J.K., 2014. Antihyperglycemic and Anti-Inflammatory Effects of Standardized *Curcuma xanthorrhiza* Roxb. Extract and Its Active Compound Xanthorrhizol in High-Fat Diet-Induced Obese Mice. *Evidence-Based Complementary and Alternative Medicine*, 2014: 1–10.
- Kohli, K., Chopra, S., Dhar, D., Arora, S., dan Khar, R.K., 2010. Self-Emulsifying Drug Delivery Systems: An Approach to Enhance Oral Bioavailability. *Drug Discovery Today*, 15: 958–965.
- Lê, K.A., Faeh, D., Stettler, R., Ith, M., Kreis, R., Vermathen, P., Tappy, L., 2006. A 4-wk High-Fructose Diet Alters Lipid Metabolism Without Affecting Insulin Sensitivity or Ectopic Lipids in Healthy Humans. *The American Journal of Clinical Nutrition*, 84: 1374–1379.
- Lewis, G.F. dan Rader, D.J., 2005. New Insights Into the Regulation of HDL Metabolism and Reverse Cholesterol Transport. *Circulation Research*, 96: 1221–1232.
- Li, J.M., Li, Y.C., Kong, L.D., dan Hu, Q.H., 2010. Curcumin Inhibits Hepatic Protein-Tyrosine Phosphatase 1B and Prevents Hypertriglyceridemia and Hepatic Steatosis in Fructose-Fed Rats. *Hepatology*, 51: 1555–1566.
- Lindawati, N.Y., 2013. Pengaruh Kombinasi Ekstrak Terpurifikasi Herba Sambilotto (*Andrographis paniculata* (Burm.F.) Nees) dan Herba Pegagan (*Centella asiatica* (L.) Urban) Terhadap Kadar Glukosa Darah dan Translokasi Protein GLUT-4 pada Tikus Diabetes Mellitus Tipe 2 Resisten Insulin, *Tesis*. Fakultas Farmasi, Universitas Gadjah Mada, Yogyakarta.
- Mahanani, R.A., 2013. Pengaruh Pemberian Kombinasi Fraksi Tak Larut N-Heksan Ekstrak Etanolik Herba *Andrographis paniculata* (Burm.F.) Nees dengan Fraksi Kurkuminoid Rimpang *Curcuma xanthorrhiza* Roxb. Terhadap Kadar HDL dan LDL Tikus Wistar Jantan yang Diberi Fruktosa dan Diet Tinggi Lemak, *Skripsi*. Fakultas Farmasi, Universitas Gadjah Mada, Yogyakarta.
- Makadia, H.A., Bhatt, A.Y., Parmar, R.B., Paun, J.S., dan Tank, H.M., 2013. Self-Nano Emulsifying Drug Delivery System (SNEDDS): Future Aspects. *Asian Journal of Pharmaceutical Research*, 3: 21–27.

- Mangunwardoyo, W., Usia, T., dan Deasywaty, 2012. Antimicrobial and Identification of Active Compound *Curcuma xanthorrhiza* Roxb. *International Journal of Basic & Applied Sciences*, 12: 69–78.
- Marasini, N., Yan, Y.D., dan Poudel, B., 2012. Development and Optimization of Self-Nanoemulsifying Drug Delivery System with Enhanced Bioavailability by Box-Behnken Design and Desirability Function. *Journal of Pharmaceutical Sciences*, 101: 4584 - 4596.
- Martien, R., Loretz, B., dan Schnürch, A.B., 2006. Oral Gene Delivery: Design of Polymeric Carrier Systems Shielding Toward Intestinal Enzymatic Attack. *Biopolymers*, 83: 327–336.
- Murray, R.K., Granner, D.K., Mayes, P.A., dan Rodwell, V.W., 1999. *Biokimia Harper*, 24th ed. Penerbit Buku Kedokteran EGC.
- Nasr, A., Gardouh, A., Ghonaim, H., Abdelghany, E., dan Ghorab, M., 2016. Effect of Oils, Surfactants and Cosurfactants on Phase Behavior and Physicochemical Properties of Self-Nanoemulsifying Drug Delivery System (SNEDDS) for Irbesartan and Olmesartan. *International Journal of Applied Pharmaceutics*, 8: 13–24.
- Noack, H.A., 2012. Development and Characterization of Curcuminoid-Loaded Lipid Nanoparticles, *Thesis*. Martin-Luther-Universität Halle-Wittenberg, Germany.
- Nugroho, A.E., Andrie, M., Warditiani, N.K., Siswanto, E., Pramono, S., dan Lukitaningsih, E., 2012. Antidiabetic and Antihyperlipidemic Effect of *Andrographis paniculata* (Burm. f.) Nees and Andrographolide in High-Fructose-Fat-Fed Rats. *Indian Journal of Pharmacology*, 44: 377–381.
- Nugroho, A.E., Kusumaramdani, G., Widyaninggar, A., Anggoro, D.P., dan Pramono, S., 2014. Antidiabetic Effect of Combinations of n-hexane Insoluble Fraction of Ethanolic Extract of *Andrographis paniculata* with Other Traditional Medicines. *International Food Research Journal*, 21: 785–789.
- Nurvita, D.L., 2013. Pengaruh Jenis Pelarut pada Ekstraksi Kurkuminoid dari Rimpang Temulawak (*Curcuma xanthorrhiza* Roxb). *Chemical Info Journal*, 1: 101–107.
- Patel, J., Kevin, G., dan Patel, A., 2011. Design and Development of Self-Nanoemulsifying Delivery System for Telmisartan for Oral Drug Delivery. *International Journal of Pharmaceutical Investigation*, 1: 112–118.
- Pharmacopeia, U., 2008. *United States Pharmacopeia and National Formulary (USP 37–NF 32)*.
- Pournaghi, P., Sadrkhanlou, R.A., Hasanzadeh, S., dan Foroughi, A., 2012. An Investigation on Body Weights, Blood Glucose Levels and Pituitary-

- Gonadal Axis Hormones in Diabetic and Metformin-Treated Diabetic Female Rats. *Veterinary Research Forum*, 3: 79–84.
- Purbowanti, N., 2006. Pengaruh Pemberian Ekstrak Temulawak (*Curcuma xanthorrhiza* Roxb.) Terpurifikasi Terhadap Kadar Kolesterol Total Tikus Putih Jantan Galur Wistar yang Diberi Pakan Diet Lemak Tinggi dan Kolesterol, *Skripsi*. Fakultas Farmasi, Universitas Gadjah Mada, Yogyakarta.
- Purnomo, E.H., Sitanggang, A.B., Agustin, D.S., Hariyadi, P., dan Hartono, S., 2012. Formulation and Process Optimization of Muffin Produced from Composite Flour of Corn, Wheat and Sweet Potato. *Jurnal Teknologi Dan Industri Pangan*, 23: 165.
- Rashid, S., Watanabe, T., Sakaue, T., dan Lewis, G.F., 2003. Mechanisms of HDL Lowering in Insulin Resistant, Hypertriglyceridemic States: The Combined Effect of HDL Triglyceride Enrichment and Elevated Hepatic Lipase Activity. *Clinical Biochemistry*, 36: 421–429.
- Ruan, J., Liu, J., Zhu, D., Gong, T., Yang, F., Hao, X., Zhang, Z., 2010. Preparation and Evaluation of Self-Nanoemulsified Drug Delivery Systems (SNEDDS's) of Matrine Based on Drug-Phospholipid Complex Technique. *International Journal of Pharmaceutics*, 386: 282–290.
- Sahebkar, A., 2013. Fat Lowers Fat: Purified Phospholipids As Emerging Therapies for Dyslipidemia. *Molecular and Cell Biology of Lipids*, 1831: 887–893.
- Sarpal, K., Pawar, Y.B., dan Bansal, A.K., 2010. Self-Emulsifying Drug Delivery Systems : A Strategy to Improve Oral Bioavailability. *Current Research & Information on Pharmaceutical Sciences*, 11: 42–49.
- Schaefer, E.J., Gleason, J.A., dan Dansinger, M.L., 2009. Dietary Fructose and Glucose Differentially Affect Lipid and Glucose Homeostasis. *The Journal of Nutrition*, 139: 1257–1262.
- Sellers, R.S., Antman, M., Phillips, J., Khan, K.N., dan Furst, S.M., 2005. Effects of Miglyol 812 on Rats After 4 weeks of Gavage as Compared with Methylcellulose/Tween 80. *Drug and Chemical Toxicology*, 28: 423–432.
- Sermkaew, N., Ketjinda, W., Boonme, P., Phadoongsombut, N., dan Wiwattanapatapee, R., 2013. Liquid and Solid Self-Microemulsifying Drug Delivery Systems for Improving The Oral Bioavailability of Andrographolide from A Crude Extract of *Andrographis paniculata*. *European Journal of Pharmaceutical Sciences*, 50: 459–466.
- Shahba, A.A.-W., Mohsin, K., dan Alanazi, F.K., 2012. Novel Self-Nanoemulsifying Drug Delivery Systems (SNEDDS) for Oral Delivery of Cinnarizine: Design, Optimization, and In-Vitro Assessment. *American Association of Pharmaceutical Scientists*, 13: 967–977.

- Shahnaz, G., Hartl, M., Barthelmes, J., Leithner, K., Sarti, F., Hintzen, F., Rahmat, D., 2011. Uptake of Phenothiazines by the Harvested Chylomicrons Ex Vivo Model: Influence of Self-Nanoemulsifying Formulation Design. *European Journal of Pharmaceutics and Biopharmaceutics*, 79: 171–180.
- Srilatha, R., Aparna, C., dan Srinivas Dr Prathima, S.M., 2013. Formulation Evaluation and Characterization of Glipizide Nanoemulsion. *Asian Journal of Pharmaceutical and Clinical Research*, 6: 66–71.
- Stanhope, K.L., Schwarz, J.M., Keim, N.L., Griffen, S.C., Bremer, A.A., Graham, J.L., 2009. Consuming Fructose-Sweetened, Not Glucose-Sweetened, Beverages Increases Visceral Adiposity and Lipids and Decreases Insulin Sensitivity in Overweight/Obese Humans. *The Journal of Clinical Investigation*, 119: 1322–1334.
- Sun, M., Su, X., Ding, B., He, X., Liu, X., Yu, A., Zhai, G., 2012. Advances in nanotechnology-Based Delivery Systems for Curcumin. *Nanomedicine*, 7: 1085–1100.
- Syamsul, E.S., 2012. Uji Aktivitas Antidiabetes, Antihiperlipidemia, dan Antiaterosklerosis Kombinasi Ekstrak Terpurifikasi Herba Sambiloto (*Andrographis paniculata* (Burm.F.)Ness.) dan Metformin pada Tikus Diabetes Mellitus Tipe 2 Resisten Insulin, *Tesis*. Fakultas Farmasi, Universitas Gadjah Mada, Yogyakarta.
- Syarif, R.A., 2014. Efek Antidislipidemia dan Antiaterosklerosis Kombinasi Kurkumin dari *Curcuma xanthorrhiza* (Roxb.) dengan Andrografolid pada Tikus Jantan Wistar Terbebani Fruktosa dan Diet Tinggi Lemak, *Tesis*. Universitas Gadjah Mada, Yogyakarta.
- Tappy, L. dan Lê, K.A., 2010. Metabolic Effects of Fructose and the Worldwide Increase in Obesity. *Physiological Reviews*, 90: 23–46.
- Tsai, Y.M., Chien, C.F., Lin, L.C., dan Tsai, T.H., 2011. Curcumin and Its Nano-Formulation: The Kinetics of Tissue Distribution and Blood–Brain Barrier Penetration. *International Journal of Pharmaceutics*, 416: 331–338.
- Utami, L., 2014. Pengaruh Pemberian Ekstrak Etanol Kulit Kacang Tanah (*Arachis hypogaeae* L.) dengan Metode Maserasi Panas Terhadap Profil Lipid Tikus Sprague Dawley Diet Lemak Tinggi, *Tesis*. Universitas Udayana, Bali.
- Verma, H., Prasad, S.B., dan Yashwant, S.H., 2013. Herbal Drug Delivery System: A Modern Era Prospective. *International Journal of Current Pharma Review and Research*, 4: 88–101.
- Wadhwa, J., Nair, A., dan Kumria, R., 2011. Self-Emulsifying Therapeutic System: A Potential Approach for Delivery of lipophilic Drugs. *Brazilian Journal of Pharmaceutical Sciences*, 47: 447–465.

- Warditiani, N.K., 2012. Uji Aktivitas Antihiperlipidemia dan Antiaterosklerosis Isolat Andrografolid dan Ekstrak Terpurifikasi Herba Sambiloto (*Andrographis paniculata* (Burm.F) Ness) pada Tikus Diabetes Mellitus Tipe 2 Resisten Insulin, *Tesis*. Fakultas Farmasi, Universitas Gadjah Mada, Yogyakarta.
- Weisberg, S.P., Leibel, R., dan Tortoriello, D.V., 2008. Dietary Curcumin Significantly Improves Obesity-Associated Inflammation and Diabetes in Mouse Models of Diabetes. *Endocrinology*, 149: 3549–3558.
- Wolf, G., 2008. Role of Fatty Acids in the Development of Insulin Resistance and type 2 Diabetes Mellitus. *Nutrition Reviews*, 66: 597–600.
- Xie, X., Tao, Q., Zou, Y., Zhang, F., Guo, M., Wang, Y., 2011. PLGA Nanoparticles Improve the Oral Bioavailability of Curcumin in Rats: Characterizations and Mechanisms. *Journal of Agricultural and Food Chemistry*, 59: 9280–9289.
- Yang, K.Y., Lin, L.C., Tseng, T.Y., Wang, S.C., dan Tsai, T.H., 2007. Oral Bioavailability of Curcumin in Rat and the Herbal Analysis from *Curcuma longa* by LC–MS/MS. *Journal of Chromatography*, 853: 183–189.
- Zhang, D.W., Fu, M., Gao, S.H., dan Liu, J.L., 2013. Curcumin and Diabetes: A Systematic Review. *Evidence-Based Complementary and Alternative Medicine*, 2013: 636-653.
- Zhongfa, L., Chiu, M., Wang, J., Chen, W., Yen, W., Fan-Havard, P., 2011. Enhancement of Curcumin Oral Absorption and Pharmacokinetics of Curcuminoids and Curcumin Metabolites in Mice. *Cancer Chemotherapy and Pharmacology*, 69: 679–689.