

DAFTAR PUSTAKA

- Abdelmoaty, M.A., Ibrahim, M.A., Ahmed, N.S., & Abdelaziz, M. A. (2010). Confirmatory Studies On The Antioxidant And Antidiabetic Effect Of Quercetin In Rats. *Indian Journal of Clinical Biochemistry*, 25(2): 188-192.
- Al Numair, K.S., Chandramohan, G., Veeramani, C., dan Alsaif, M.A. (2015). Ameliorative effect of kaempferol, a flavonoid, on oxidative stress in streptozotocin-induced diabetic rats. *Redox Report*, 20(5) : 198 – 209.
- American Diabetes Association. (2014). Standards of Medical Care In Diabetes-2014. *Diabetes Care*, Vol 37 Suppl 1.
- Anand, P., Murali, K.Y., Tandon, V., Murthy, P.S., dan Chandra, R. (2010). Insulinotropic effect of cinnamaldehyde on transcriptional regulation of pyruvate kinase, phosphoenol pyruvate carboxykinase and GLUT4 translocation in experimental diabetic rats. *Chem Biol Interact*, 168 : 72–81.
- Anggraito, U. (2018). *Metabolit Sekunder pada Tumbuhan*. Yogyakarta: Universitas Gajah Mada.
- Arjadi, F & Mustofa. (2017). Ekstrak Daging Buah Mahkota Dewa Meregenerasi Sel Pulau Langerhans pada Tikus Putih Diabetes. *Biogenesis*, 5(1) : 27-33.
- Aissaoui, O., Amiali, M., Bouzid, N., Belkacemi, K., Arezki, B. (2017). Effect Of *Spirulina platensis* On The Abnormal Biochemical And Oxidative Stress Parameters In The Pancreas And Liver On Alloxan Induced Diabetic Rats. *Pharmaceutical Biology*, 55(1) : 1304 – 1312.
- Bakar A., Izzany F., Bakar A., Fadzelly M., Abdullah N., Endrini S., Rahmat A. (2018). A Review of Malaysian Medicinal Plants with Potential Anti Inflammatory Activity. *Advances in Pharmacological Sciences*, 18 : 1-13.
- Batarfi, N.M., Al-Elyani, R.A., Al-Khattabi, H.H. (2020). Histological Study On The Effect Of *Punica granatum* On The Liver Of STZ-Induced Diabetic Male Rats. *Internationa Journal Of Pharmaceutical And Phytopharmalogical Research*, 10(3) : 147 – 152.
- Baynest, W.H. (2015). Classification, Phatophysiology, Diagnosis and Management of Diabetes Mellitus. *Journal of Diabetes and Metabolism*, 6(5).
- Bernhoft, A. 2010. *Bioactive Compounds in Plants: Benefits and Risks for Man and Animals*. United States: Det Norske Videnskaps Akademi.
- Brahmachari. (2013). BioFlavonoids With Promising Antidiabetic Potentials: A Critical Survey. *Research Signpost* : 187-212.
- Campbell, N.A. 2004. *Biologi* (Edisi Kelima Jilid 3). Jakarta : Erlangga.

- Cahandra, B. A. (2014). Pengaruh Pemberian Sediaan Ekstrak Kayu Manis (*Cinnamomum burmannii*) Terhadap Kadar Glukosa Darah Tikus Wistar Jantan yang Diberi Beban Glukosa (Tugas Akhir). Fakultas Kedokteran, Universitas Diponegoro.
- Cazarolli, L.H., Kappel, V.D., dan Pereira, D.F. (2012). Anti-hyperglycemic action of apigenin-6-C- β -fucopyranoside from *Averrhoa carambola*. *Fitoterapia*, 83 : 1176–1183.
- Chung L.Y., Yap K.F., Mustafa M.R., Goh S.H., Imiyabir Z. (2005). Central Nervous System Receptor Activities of Some Malaysian Plant Species. *Pharmaceutical Biology*, 43(8) : 672-682.
- Chung, L.Y., Soo W.K., Chan K.Y., Mustafa M.R., Gosh S.H., Imiyabir Z. (2009). Lipoxygenase inhibiting activity of some Malaysian plants. *Pharmaceutical Biology*.
- Croteau, R., Kutchan M.T., Lewis G.N. (2000). Natural Products (Secondary Metabolites). *Biochemistry & Molecular Biology of Plants*. American Society of Plant Physiologists.
- Darwin, P.S. 1997. New Species of The *Timonius flavescens* alliance (Rubiaceae guatterdeae) in papuasias. *Systematic Botany*, 22 : 85 – 98.
- De Bock, M., Derraik, J.G., dan Cutfield, W.S. (2012). Polyphenols and glucose homeostasis in human. *Journal Of The Academy Of Nutrition And Dietetics*, 112 : 808 – 815.
- Dheer, R. & Bhatnagar, P. (2010). A Study of the Antidiabetic Activity of *Barleria prionitis* Linn. *Indian Journal of Pharmacology*, 42 (2), 70-73.
- El Barky, A.R., Ezz, A.A., dan El-Said, K.S. (2019). Anti-Diabetic Activity of Egyptian Celery Apigenin. *Asian Journal of Dairy and Food Research*, 38(4) : 341-346.
- Eroschenko, V.P. 2010. *Atlas Histologi di Flore dengan Korelasi Fungsional*. Jakarta : EGC.
- Fang, X.K., Gao, J., dan Zhu, D.N. (2008). Kaempferol and quercetin isolated from *Euonymus Alatus* improve glucose uptake of 3T3-L1 cells without adipogenesis activity. *Life Sci*, 82 : 615–622.
- Firdaus M. F. P., Madyawati S.P., Widjaja N. S., Lamid M., Rachmawati K., Warsito S.H. (2013). Efektivitas penambahan kombinasi tujuh enzim terhadap estimasi penambahan berat badan sapi potong peranakan simental. *Agroveteriner*, 2(1) : 1–7.
- Graham , G.G., Punt J., Arora M., Day O.R., Doogue P.M., Duong K.J., Furlong J.T., Greenfield R.J., Greenup C.L., Kirkpatrick M.C., Ray E.J., Timmins

- P., and Williams M.K. (2011). Clinical Pharmacokinetics of Metformin. *Clin pharmacokinet*, 50(2).
- Greenspan, F. S & Boxter, J. D. (1998). *Endokrinologi Dasar dan Klinik*, edisi 4th .terjemahan dari Basic and clinical endocrinology. 4th Ed. oleh C. Wijaya, R. F. Maulany, S. Samsudin. EGC, Jakarta.
- Gupta, RK, Kesari, A.N., Diwakar, S., Tyagi, A., Tandon, V., Chandra, R., Watal, G. (2008). In vivo evaluation of anti-oxidant and anti-lipidemic potential of Annona 63quamosal aqueous extract in Type 2 diabetic models. *J Ethnopharmacol*, 118 : 21–25.
- Guria, S., Das, M. (2014). Diabetogenic Action Of Alloxan On Liver Histopathology. *The Experiment*, 28(2) : 1906 – 1912.
- Guyton, A.C dan Hall, I.T. 1997. *Buku Ajar Fisiologi Kedokteran*. Jakarta: EGC.
- Handa, S.S., Khamja S.P.S., Longo G & Rakes, D.D. (2008). *Extraction Technologies For Medicinal and Aromatic Plants*. Trieste: International Centre For Science and High Technology.
- Hanhineva, H, R. Törrönen, I. BondiaPons, J. Pekkinen, M. Kolehmainen, H. Mykkänen and K. Poutanen. (2010). Impact of Dietary Polyphenols On Carbohydrate Metabolism. *International Journal of Molecular Sciences*, 11 : 1365-1402.
- Harborne, J.B. (1996). *Metoda Fitokimia, Penuntun Cara Modern Menganalisa Tumbuhan: (Terbitan ke-2)*. Terjemahan Kosasih Padmawinata dan Iwan Soediro. Bandung: ITB.
- Harmita dan Radji, M. (2008). *Buku Ajar Analisis Hayati (Edisi 3)*. Jakarta: EGC.
- Hermawaty F. (2017). Pengaruh Terapi Ekstrak Albedo Semangka Merah (*Citrullus vulgaris*) Pada Tikus Putih (*Rattus norvegicus*) Model Diabetes Melitus Tipe 1 Yang Diinduksi Steptozozin Terhadap Sel Kupffer dan Ekpresi IL-1 β Hepar. Skripsi, Fakultas Kedokteran Hewan, Universitas Brawijaya
- Hidayat R.S., Astuti I.P., Arinase I.B.K., Ruspandi dan Ngatari. (1998). *Timonius flavescens* Back: *Tumbuhan Obat Kontrasepsi di Savana*. UPT Balai Pengembangan Kebun Raya. LIPI Bogor.
- Hossain M.C., Ghosh K.M., Satapathy S.B., Dey S.N., Mukherjee B. (2014). Apigenin Causes Biochemical Modulation, GLUT 4 and CD38 Alterations to Improve Diabetes and to Protect Damages of Some Vital Organs in Experimental Diabetes. *American Journal of Pharmacology and Toxicology*, 9(1) : 39-52.

- IDF. (2019). *International Diabetes Federation Atlas* (Seventh Edition). New York : Karakas Print.
- Ikechukwu J.O & Ifeanyi S.O. (2016). The Antidiabetic Effects of The Bioactive Flavonoid (Kaempferol-3- β -D-6 {p-coumaroyl} Glucopyranoside) Isolated From *Allium cepa*. *Recent Patents of Anti-infective Drug Discovery*, 11 : 44-52.
- Irawan, A.M. 2007. Glukosa dan Metabolisme Energi. *Polton Sports Science and Performance Lab*, 1(6).
- Jakobs, S., Fridrich, D., Hofem, S., Pahlke, G., dan Eisenbrand, G. (2006). Natural flavonoids are potent inhibitors of glycogen phosphorylase. *Molecular Nutrition & Food Research*, 50(1) : 52 – 57.
- Jessica G.G., Mario L.G., Alejandro Z., Cesar Julio P.A., Ivan E.V.J., Ruben R.R and Javier Francisco A.A. (2017). Chemical Characterization of A Hypoglycemic Extract From *Cucurbita ficifolia* Bouche That Induces Liver Glycogen Accumulation In Diabetic Mice. *Afr J Tradit Complement Altern Med*, 14(3) : 218-230.
- Jin, E.S, Park, B.Y., Sherry, A.D., Malloy, C.R. (2007). Role of excess glycogenolysis in fasting hyperglycemia among pre-diabetic and diabetic zucker (*fa/fa*) rats. *Diabetes*, 56 : 777-785.
- Jung, U.J., Lee, M.K., Jeong, K.S., dan Choi, M.S. (2004). The hypoglycemic effects of hesperidin and naringin are partly mediated by hepatic glucose-regulating enzymes in C57BL/KsJ-db/db mice. *J Nutr*, 134(10) : 2499–2503.
- Kabera N.J., Semana E., Mussa R.A., He Xin. (2014). Plant Secondary Metabolites : Biosynthesis, Classification, Function and Pharmacological Properties. *Journal of Pharmacy and Pharmacology*, 2 : 377-392.
- Kaneko, J. (1997). *Clinical Biochemistry of Domestic Animals* (Fifth Edition). United States: Academic Press.
- Kawatu, C., Bodhi, W. & Mongi, J., (2013), Uji Efek Ekstrak Etanol Daun Kucing Kucingan (*Acalypha indica* L.) terhadap Kadar Gula Darah Tikus Putih Jantan Galur Wistar (*Rattus novergicus*). *Pharmacon Jurnal Ilmiah Farmasi*, 2(1) : 81-87.
- Kementerian Kesehatan RI. (2018). Hasil Utama Riskesdas 2018. *Kementerian Kesehatan Republik Indonesia*, 1–100.
- Kim J.A., Y. Wei., J.R. Sowers. (2008). Role of mitochondrial dysfunction in insulin resistance. *Circ. Res*, 102 : 401–414.

- Kleinberger, J.W dan T.I. Pollin. (2015). Personalized medicine in diabetes mellitus : current opportunities and future prospects. *Ann. N.Y. Acad. Sci*, 1346 : 45 – 56.
- Kumar, P dan Clarck, M.L. (2012). *Clinical Medicine* (8 th edition). Ireland: Elsevier.
- Kumar, V., Abbas, A.K., Fausto, N. (2009). *Adaptasi, cedera dan kematian sel*, dalam *Robbins and Cotran: dasar patologi penyakit*, 7th Ed, trans. Jakarta : EGC.
- Laily, N. (2016). *Identifikasi Senyawa Bioaktif Golongan Fenolik (Asam Fenolat dan Flavonoid) Yang Terkandung Dalam Daun Bosibosi (Timonius flavescens (Jacq.) Baker) Dengan Metode Kromatografi Lapis Tipis*. Skripsi, Fakultas Matematika dan Ilmu Pengetahuan Alam, Universitas Negeri Medan.
- Latief, A. 2012. *Obat Tradisional*. Jakarta: EGC.
- Lbn Gaol, A.Y.D., Ilyas, S., Hutahaean, S., Sipahutar, H. (2021). Antidiabetic Activity And Immunostimulant Potential Of Bosibosi (*Timonius flavescens* (Jacq) Baker) Leaves Ethanol Extract in Alloxan-Induced Diabetic Rats, *J. Phys.: Conf. Ser.* **1819** 012071.
- Lee, W.M. (2003). Drug induced hepatotoxicity. *N Engl Journal Med*; 349.
- Lee, Y.J., Suh, K.S., Choi, M.C., Chon, S., Oh, S., Woo, J.T. (2010). Kaempferol protects HIT-T15 pancreatic beta cells from 2-deoxy-D-ribose-induced oxidative damage. *Phytother Res*, 24(3) : 419–423.
- Lemone, P., Karen, M.B., dan Gerene, B. 2015. *Buku ajar keperawatan medical bedah*. Jakarta: EGC.
- Levinthal, G. N dan Tavill A. S. (1999). Liver Disease an Diabetes Mellitus. *Clinical Diabetes*. 17(2).
- Lim, R. 2021. <https://www.flickr.com/search/?text=Timonius%20flavescens>. Diakses tanggal 10 juni 2021.
- Lima, L.C., Buss, G.D., Ishii-Iwamoto, E.L., Salgueiro-Pagadigorria, C., Comar, JF., Bracht, A. and Constantin, J. (2006). Metabolic effects of *p*-coumaric acid in the perfused rat liver. *J. Biochem. Mol. Toxicol*, 20: 18-26.
- Liu D, Zhen W, Yang Z, Carter JD, Reynolds KA. (2006). Genistein acutely stimulates insulin secretion in pancreatic-cells through a cAMP-dependent protein kinase pathway. *Diabetes*, 55 : 1043-1050.

- Liu, Q.X., Chen, G., Yang, X. (2011). Apigenin inhibits cell migration through MAPK pathways in human bladder smooth muscle cells. *Biocell*, 35 : 71-79.
- Madhuri, S., Pandey, G., dan Verma, K.S. (2011). Antioxidant, immunomodulatory and anticancer activities of *Emblica officinalis*: an overview. *J.Pharm*, 2 : 38-42.
- Madiyahwati M., Soemarno, Suntari R., Nihayati E. (2019). Sequence and Phylogenetic Analysis of Bebara Medicinal Plant (*Timonius flavescens* (Jacq.) Baker) Based on matK, rbcL and trnL Genes in Central Kalimantan. *Bioscience Research*, 16(1) : 194 – 207.
- Malole, M.B.M dan C.S. Pramono. 1998. *Penggunaan Hewan-hewan Percobaan Laboratorium*. Bogor: Institut Pertanian Bogor.
- Martins, D and Nunez V.C. (2015). Secondary Metabolites from Rubiaceae Species. *Molecules*, 20 : 13422-13495.
- Maulana M.A., Perdana G.A., Soesilowati R., Romdhoni F.M dan Putra A.R. (2018). Pengaruh Aspartam Terhadap Struktur Histologi Hepar Tikus (*Rattus norvegicus*) Jantan Galur Wistar Model Diabetes Melitus. *Ibnu Sina Biomedika*, 2(1).
- Mediani, A., Abas F., Maulidiani M., Khatib A., Tan C.P., Ismail I.S., Lajis N.H. (2016). Metabolic and biochemical changes in streptozotocin induced obese-diabetic rats treated with *Phyllanthus niruri* extract. *Journal of Pharmaceutical and biomedical analysis*, 128 : 302 – 312.
- Mendrofa. 2012. Daun Bosi-Bosi Penyegar Tubuh. Artikel Dalam [Http://Www.Aktual.Co/Warisanbudaya/080439](http://www.Aktual.Co/Warisanbudaya/080439).
- Michael, U.A., David, B.U., Theophine, C.O., Philip, F.U., Ogochukwu, A.M., Benson, V.A. (2010). Antidiabetic effects of combined aqueous leaf extract of *Vernonia amygdalina* and metformin in rats. *J Basic Clin Pharm*, 1: 197-202.
- Middleton E.J., Chithan K and Theoharis C.T. (2000). The Effects of Plant Flavonoids on Mammalian Cells : Implication for Inflammation, Heart Disease and Cancer. *Pharmacological Reviews*, 52 : 673 – 751.
- Murray, R. K., Granner, D. K., Mayes, P. A., & Rodwel, V. W. (2003). *Biokimia Harper*. Jakarta: Buku Kedokteran EGC.
- Narayan, K.M, Boyle P, Geiss S, Saaddine J.B, Thompsom J. (2006). Impact of recent increase incidence on future diabetes burden. *Diabetes Care*, 29 : 2114-6.

- Napitupulu, A.A. 2015. *Kandungan Metabolit Sekunder dan Bagaimana Aktivitas Antioksidan pada Ekstrak Metanol Daun Bosibosi (Timonius flavescens (Jacq.) Baker)*. Skripsi, Fakultas Matematika dan Ilmu Pengetahuan Alam, Universitas Negeri Medan.
- Ng Cerlin. 2021. <https://www.flickr.com/search/?text=Timonius%20flavescens>. Diakses tanggal 10 juni 2021.
- Nishikawa, T., Edelstein, D., Du, X.L., Yamagishi, S., Matsumura, T., Kaneda, Y., Yorek, M.A., Beebe, D., Oates, P.J., Hammes, H.P., Giardino, I., Brownlee, M. (2000). Normalizing mitochondrial superoxide production blocks three pathways of hyperglycemic damage. *Nature*, 404 : 787 – 790.
- Nugroho, A.E. (2006). Hewan Percobaan Diabetes Melitus: Patologi dan Mekanisme Aksi Diabetogenik. *Biodiversitas*, 7(4) : 378-382.
- Okoli, C.O., Obidike, I.C., A.C Ezike., P.A Akah., O.A Salawu. (2011). Studies on the possible mechanism of antidiabetic activity of extract of aerial parts of *Phyllanthus niruri*. *Journal of Pharmacology*, 49 (3) : 248 – 255.
- Pearce, E.C. (2015). *Anatomi dan Fisiologi Untuk Paramedis*. Jakarta: PT Gramedia Pustaka Utama.
- Penckofer, S. Kouba, J., Wallis, D.E., Emanuele, M.A. (2008). Vitamin D and diabetes, *The Diabetes Educator*, 34(6) : 939 – 954.
- Pereira, D.M., Vaentao, P., Pereira, J.A. and Andrade, P.B. (2009). Phenolics: from chemistry to biology. *Molecules*, 14 : 2202-2211.
- Pereira, D.F., Cazarolli, L.H., Lavado, C., Mengatto, V., Figueiredo, M.S., Guedes, A., Pizzollati., M.G., dan Silva, F.R. (2011). Effects of flavonoids on α -glucosidase activity: potential targets for glucose homeostasis. *Nutrition* : 1161 – 1167.
- Pidada, A.I., Setiasih, L.N dan Winaya, B.I. (2018). Daun Kelor Memperbaiki Histopatologi Hati Tikus Putih Yang Mengalami Diabetes Melitus. *Buletin Veteriner Udayana*, 10(1) : 50 – 56.
- Pokorny, J., Yanishlieva, N., Gordon, M. 2001. *Antioxidant in Food: Practical Application*. CRC Press Cambridge. New York.
- Prameswari, O.M. (2013). Uji Efek Ekstrak Air Daun Pandan Wangi Terhadap Penurunan Kadar Glukosa Darah dan Histopatologi Pankreas Tikus Wistar Jantan Diabetes Mellitus Dengan Induksi Aloksan. Skripsi. THP-FTP UB.
- Prameswari, O.M dan Widjanarko, S.B. (2014). Uji Efek Ekstrak Air Daun Pandan Wangi Terhadap Penurunan Kadar Glukosa Darah dan Histopatologi Tikus Diabetes Melitus. *Jurnal Pangan dan Agroindustri*, 2(2) : 16 – 27.

- Price, S.A., Wilson, L.M. 2012. *Patofisiologi Konsep Klinis Konsep Penyakit. Edisi 16 Vol.1. trans.* H.Pendit, M. Wulansari. EGC. Jakarta.
- Price, A.S., Lorraine, M.W. 2006. *Konsep Klinis Proses-Proses Penyakit*, Edisi 6. Jakarta. EGC.
- Prince, S.M., dan Kamalakkannan, N. (2006). Rutin improves glucose homeostasis in streptozotocin diabetic tissues by altering glycolytic and gluconeogenic enzymes. *J Biochem Mol Toxicol*, 20 : 96–102.
- Priyambodo. (2007). *Manajemen Farmasi Industri*. Yogyakarta: Global Pustaka Utama.
- Puspitasari D.A dan Proyogo S.L. (2017). Perbandingan Metode Ekstraksi Maserasi dan Sokletasi Terhadap Kadar Fenolik Total Ekstrak Etanol Daun Kersen (*Muntingia calabura*). *Cendekia Eksakta*, 2(1).
- Putri, SU., Jumiatur, J., Wihartiningsih, N. (2020). Identification Secondary Metabolite of Weed as Organic Pesticide on Tomato. *Earth and Environmental Science*. Sci. 411 012064.
- Ramesh B, Pugalendi KV. (2006). Antihyperglycemic effect of umbelliferone in streptozotocin-diabetic rats. *J Med Food*, 9(4) : 562–566.
- Rask-Madsen, C dan G.L. King. (2013). Vascular complications of diabetes : Mechanisms of injury and protective factors. *Cell Metab*, 1 : 20 – 33.
- Robertson, R.P., J. Harmon., P.O Tran., Y. Tanaka., H. Takahashi. (2003). Glucose toxicity in beta-cells : type 2 diabetes, good radicals gone bad, and the glutathione connection. *Diabetes*, 52 : 581 – 587.
- Rossetti, L., DeFronzo, R.A., dan Gherzi, R. (1990). Effect of metformin treatment on insulin action in diabetic rats: in vivo and in vitro correlations. *Metabolism*, 39 : 425-35.
- Rotella M.C., Monami M., and Manucci E. (2006). Metformin Beyond Diabetes : New Life for An Old Drug. *Current Diabetes Reviews*, 307 : 315.
- Ruhe, R.C & McDonald, R.B. (2001). Use of antioxidant nutrient in the prevention and treatment of type 2 diabetes. *J. Am. Coll. Nutr.*, 20(5) 363-369.
- Rungsung, W., Ratha K.K., Dutta S., Dixit K.A., Hazra J. (2015). Secondary Metabolites of Plants in Drugs Discovery. *World Journal of Pharmaceutical Research*, 4(7) : 604-613.
- Saifudin, A. (2014). *Senyawa Alam Metabolit Sekunder*. Yogyakarta: Deepublish.
- Saifudin, A., Rahayu, V., Teruna dan Hiwan, Y. (2011). *Standardisasi Bahan Obat Alam* (Edisi Pertama). Yogyakarta: Graha Ilmu.

- Sari, W., Safitri, F., Fauziah., Fithri, A., Masykur., Amirsyah, M., dan Ria, C. (2018). Potensi Antidiabetik Ekstrak Etanol Kulit Buah Rambai (*Baccaurea motleyana* Muell.Arg). *Jurnal Bioleuser*, 2(3) : 78 – 85.
- Sarker D.S., Latif Z., Gray I.A. (2006). *Natural Products Isolation* (Second Edition). London: Humana Press.
- Sarker, D.S dan Nahar, L. (2012). *Natural Products Isolation* (Third Edition). London: Humana Press.
- Satyanarayana, K., Sravanthi K., Shaker A.I., Ponnulakshmi R., Selvaraj J. (2015). Role of Chrysin on Expression of Insulin Signaling Molecules. *Journal of Ayurveda & Integrative Medicine*, 6(4) : 248-256.
- Shafir, E. (2007). *Animal Model of Diabetes: Frontier in Research* (Edisi ke-2). New York: CRC Press.
- Shane-McWhorter L. (2005). Botanical dietary supplements and the treatment of diabetes : What is the evidence?. *Curr Diab Rep*, 5: 391 – 8.
- Shapiro, L.S. (2010). *Pathology And Parasitology For Veterinary Technicians*. Edisi ke-2. USA : Delmar.
- Sharma, B., Siddiqui, M.S., Kumar, S.S., Ram, G., Chaudhary, M. (2013). Liver Protective Effects Of Aqueous Extract Of *Syzygium cumini* In Swiss Albino Mice On Alloxan Induced Diabetes Mellitus. *Journal of Pharmacy Research* : 853 – 858.
- Sherwood, L. (2014). *Fisiologi Manusia Dari Sel ke Sistem* (Edisi 9). Jakarta: EGC.
- Silalahi, M., Nisyawati., Pandiangan, D. (2019). Medicinal Plants Used by Batak Toba Tribe in Peadundung Village, North Sumatera, Indonesia. *Biodiversitas*, 20(2) : 510 – 525.
- Skyler, J.S. (2004). Diabetes mellitus : pathogenesis and treatment strategies. *J.Med.Chem*, 47 : 4113 – 4117.
- Stacey, M.D. (2004). *Sternbergs's diagnostic surgical pathology*, 4th Ed, , Philadelphia : Lippincott Williams and Wilkins.
- Stahl, E., (1985). *Analisis Obat Secara Kromatografi dan Mikroskopi*. Diterjemahkan oleh Kosasih Padmawinata dan Iwang Soediro. Bandung: ITB.
- Stumvoll M., Goldstein B.J., Van HTW. (2005). Type 2 Diabetes : Principles of Pathogenesis and Therapy. *Lancet*, 365 : 1333 – 1346.

- Suarsana I.N., Priosoeryanto B.P., Wresdiyati T., Bintang M. (2010). Sintesis Glikogen Hati dan Otot pada Tikus Diabetes yang Diberi Ekstrak Tempe. *Jurnal Veteriner*, 11(3) : 190–192.
- Sulistyoningrum, E. (2010). *Tinjauan Molekuler Dan Aspek Klinis Resistensi Insulin*. Mandala Of Health, 4. E138.
- Sundaram, R., Shanthi, P., dan Sachdanandam, P. (2014). Effect of tangeretin, a polymethoxylated flavones on glucose metabolism in streptozotocininduced diabetic rats. *Phytomedicine*, 12 : 793–799.
- Sundaram, R., Nandhakumar, E., dan Banu, H.H. (2019). Hesperidin, a citrus flavonoid ameliorates hyperglycemia by regulating key enzymes of carbohydrate metabolism in streptozotocin-induced diabetic rats. *Toxicology Mechanism And Methods*, 29(9) : 644 – 653.
- Suryani, N., Endang, T., dan Aullani'am. (2013). Pengaruh Ekstrak Metanol Biji Mahoni Terhadap Peningkatan Kadar Insulin, Penurunan Ekspresi TNF- α dan Perbaikan Jaringan Pankreas Tikus Diabetes. *Jurnal Kedokteran Brawijaya*, 27(3) : 16 – 27.
- Swanson, H. (2020). *Flavonoids, Inflammation & Cancer*. Yogyakarta: Rapha Publishing.
- Szkudelski, T. (2001). The Mechanism of Alloxan and Streptozotocin Action in Cells of The Rat Pancreas. *Physiol.Res*, 50 : 536 – 546.
- Treinen, M. 2003. Toxic Respons of the Liver. In *Toxicology the Basic Science Poison*. Klaassen, C.D. (Ed.). 6th ed. Mc Graw-Hill Meddical PU. New York, Chicago.
- Vinayagam, R., dan Xu, B. (2015). Antidiabetic properties of dietary flavonoids: a cellular mechanism review. *Nutr Metab*, 12 : 60.
- Wang, S.Y., Huang, W.C., Liu, C.C., Wang, M.F., Ho, C.S., Huang, W.P., Hou, C.C., Chuang, H.L. and Huang, C.C. (2012). Pumpkin (*Cucurbita moschata*) fruit extract improves physical fatigue and exercise performance in mice. *Molecules*, 17 : 11864-11876.
- Wilcox, G. (2005). Insulin and insulin resistance. *Clin. Biochem*, 26: 19-39.
- Woerle, H.J., Szoke, E., Meyer, C., Dostou, J.M., Wittlin, S.D., Gosmanov, N.R., Gerich, J.E. (2006). Mechanisms for abnormal posprandial glucose metabolism in type 2 diabetes. *American Journal of Physiology-Endocrinology and Metabolism*, 290(1) : 67 – 77.
- Wolfensohn, S., dan Lloyd, M. (2013). *Handbook Of Laboratory Animal Management And Welfare*, 4th ed, Wiley-Blackwell.

- World Health Organization (WHO). (2015). *Diabetes : Fakta dan Angka*.
- World Health Organization (WHO). (2019). *Classification of Diabetes Melitus*. Geneva: United States.
- Wood, J.J. (1996). Metformin. *The new England Journal of Medicine*, 334(9): 574 – 579.
- Xu, Y., Osborne, B.W, dan Stanton, R.C. (2005). Diabetes causes inhibition of glucose-6-phosphate dehydrogenase via activation of PKA, which contributes to oxidative stress in rat kidney cortex. *Am J Physiol Renal Physiol*, 289 : 1040–1047.
- Zhang Y and Liu D. (2011). Flavonol kaempferol improves chronic hyperglycemia-impaired pancreatic beta-cell viability and insulin secretory function. *Eur. J. Pharmacol*, 670 : 325–332.
- Zheng X.K., W.W., Wang L., Zhang C.F., Su Y.Y., W Y.Y., Ke Q.W., Hou Z.Y., Liu A.S., Gao and W.S. Feng. (2013). Antihyperlipidaemic and antioxidant effect of the total flavonoids in *Selaginella tamariscina* (Beauv.) spring in diabetic mice. *J. Pharm. Pharmacol*, 5: 757–766.

