

DAFTAR PUSTAKA

- Abdelmoez, A. M., Sardón Puig, L., Smith, J. A. B., Gabriel, B. M., Savikj, M., Dollet, L., Chibalin, A. V., Krook, A., Zierath, J. R., & Pilon, N. J. (2020). Comparative profiling of skeletal muscle models reveals heterogeneity of transcriptome and metabolism. *American Journal of Physiology-Cell Physiology*, 318(3), C615–C626. <https://doi.org/10.1152/ajpcell.00540.2019>
- Abdul-Ghani, M. A., & DeFronzo, R. A. (2010). Pathogenesis of insulin resistance in skeletal muscle. *Journal of Biomedicine and Biotechnology*, 2010. <https://doi.org/10.1155/2010/476279>
- Adewoye, E. O., Oguntola, M. A., & Ige, A. O. (2016). Anti-oxidative and reno-restorative effects of *physalis angulata* (whole plant extract) in alloxan-induced diabetic male Wistar rats. *African Journal of Medicine and Medical Sciences*, 45(1), 99–108.
- AL-Ishaq, Abotaleb, Kubatka, Kajo, & Büsselberg. (2019). Flavonoids and Their Anti-Diabetic Effects: Cellular Mechanisms and Effects to Improve Blood Sugar Levels. *Biomolecules*, 9(9), 430. <https://doi.org/10.3390/biom9090430>
- Areiza-Mazo, N., Robles, J., Zamudio-Rodriguez, J. A., Giraldez, L., Echeverria, V., Barrera-Bailon, B., Aliev, G., Sahebkar, A., Ashraf, G. M., & Barreto, G. E. (2018). Extracts of *Physalis peruviana* Protect Astrocytic Cells Under Oxidative Stress With Rotenone. *Frontiers in Chemistry*, 6, 276. <https://doi.org/10.3389/fchem.2018.00276>
- ATCC. (2021). *C2C12 CRL-1772*. <https://www.atcc.org/products/crl-1772>
- Ayeleso, T. B., Ramachela, K., & Mukwevho, E. (2018). Aqueous-methanol extracts of orange-fleshed sweet potato (*ipomoea batatas*) ameliorate oxidative stress and modulate type 2 diabetes associated genes in insulin resistant C2C12 cells. *Molecules*, 23(8). <https://doi.org/10.3390/molecules23082058>
- Barma, P., Bhattacharya, S., Bhattacharya, A., Kundu, R., Dasgupta, S., Biswas, A., Bhattacharya, S., Roy, S. S., & Bhattacharya, S. (2009). Lipid induced overexpression of NF-κB in skeletal muscle cells is linked to insulin resistance. *Biochimica et Biophysica Acta (BBA) - Molecular Basis of Disease*, 1792(3), 190–200. <https://doi.org/10.1016/j.bbadis.2008.11.014>
- Beardsall, K., & Ogilvy-Stuart, A. L. (2020). Chapter 34 - Developmental Physiology of Carbohydrate Metabolism and the Pancreas. In C. S. Kovacs & C. L. Deal (Eds.), *Maternal-Fetal and Neonatal Endocrinology* (pp. 587–597). Academic Press. <https://doi.org/https://doi.org/10.1016/B978-0-12-814823-5.00034-9>

- Boden, G. (1999). Free Fatty Acids, Insulin Resistance, and Type 2 Diabetes Mellitus. *Proceedings of the Association of American Physicians*, 111(3), 241–248. <https://doi.org/10.1046/j.1525-1381.1999.99220.x>
- Buse, M. G. (2006). Hexosamines, insulin resistance, and the complications of diabetes: current status. *American Journal of Physiology-Endocrinology and Metabolism*, 290(1), E1–E8. <https://doi.org/https://doi.org/10.1152/ajpendo.00329.2005>
- Chen, J.-X., Li, H.-Y., Li, T.-T., Fu, W.-C., Du, X., Liu, C.-H., & Zhang, W. (2020). Alisol A-24-acetate promotes glucose uptake via activation of AMPK in C2C12 myotubes. *BMC Complementary Medicine and Therapies*, 20(1), 22. <https://doi.org/10.1186/s12906-019-2802-3>
- Ciaraldi, T. P., Mudaliar, S., Barzin, A., Macievic, J. A., Edelman, S. V., Park, K. S., & Henry, R. R. (2005). Skeletal Muscle GLUT1 Transporter Protein Expression and Basal Leg Glucose Uptake Are Reduced in Type 2 Diabetes. *The Journal of Clinical Endocrinology & Metabolism*, 90(1), 352–358. <https://doi.org/10.1210/jc.2004-0516>
- Cobaleda-Velasco, M., Alanis-Bañuelos, R. E., Almaraz-Abarca, N., Rojas-López, M., González-Valdez, L. S., Ávila-Reyes, J. A., & Rodrigo, S. (2017). Phenolic profiles and antioxidant properties of *Physalis angulata* L. as quality indicators. *Journal of Pharmacy & Pharmacognosy Research*, 5(2), 114–128. <http://jppres.com/jppres>
- Crozier, A., Clifford, M. N., & Ashihara, H. (Eds.). (2006). *Plant Secondary Metabolites*. Wiley. <https://doi.org/10.1002/9780470988558>
- Cuendet, G. S., Loten, E. G., Jeanrenaud, B., & Renold, A. E. (1976). Decreased basal, noninsulin-stimulated glucose uptake and metabolism by skeletal soleus muscle isolated from obese-hyperglycemic (ob/ob) mice. *The Journal of Clinical Investigation*, 58(5), 1078–1088. <https://doi.org/10.1172/JCI108559>
- da Lima Eno, M. R., Sulistyowati, Y., & Setyobroto, I. (2020). Pengaruh Pemberian Ekstrak Herba Ciplukan (*Physalis Angulata* L) Terstandar Fisalin Terhadap Perubahan Berat Badan Tikus (Sprague Dawley) Hiperglikemia. *Jurnal Ilmiah Respati*, 11(Desember), 1411–17126. <http://ejournal.urindo.ac.id/index.php/pertanian>
- de Oliveira, A. M., Malunga, L. N., Perussello, C. A., Beta, T., & Ribani, R. H. (2020). Phenolic acids from fruits of *Physalis angulata* L. in two stages of maturation. *South African Journal of Botany*, 131, 448–453. <https://doi.org/10.1016/j.sajb.2020.02.029>
- Deng, Y.-T., Chang, T.-W., Lee, M.-S., & Lin, J.-K. (2012). Suppression of Free Fatty Acid-Induced Insulin Resistance by Phytopolyphenols in C2C12 Mouse Skeletal Muscle Cells. *Journal of Agricultural and Food Chemistry*, 60(4), 1059–1066. <https://doi.org/10.1021/jf204496f>
- Dhanya, R., Arun, K. B., Syama, H. P., Nisha, P., Sundaresan, A., Santhosh Kumar, T. R., & Jayamurthy, P. (2014). Rutin and quercetin enhance glucose uptake in L6 myotubes

under oxidative stress induced by tertiary butyl hydrogen peroxide. *Food Chemistry*, 158, 546–554. <https://doi.org/10.1016/j.foodchem.2014.02.151>

Dimitriadis, G. D., Maratou, E., Kountouri, A., Board, M., & Lambadiari, V. (2021). Regulation of Postabsorptive and Postprandial Glucose Metabolism by Insulin-Dependent and Insulin-Independent Mechanisms: An Integrative Approach. *Nutrients*, 13(1), 159. <https://doi.org/10.3390/nu13010159>

Ebeling, P., Koistinen, H. A., & Koivisto, V. A. (1998). Insulin-independent glucose transport regulates insulin sensitivity. *FEBS Letters*, 436(3), 301–303. [https://doi.org/10.1016/S0014-5793\(98\)01149-1](https://doi.org/10.1016/S0014-5793(98)01149-1)

Eid, H. M., Nachar, A., Thong, F., Sweeney, G., & Haddad, P. S. (2015). The molecular basis of the antidiabetic action of quercetin in cultured skeletal muscle cells and hepatocytes. *Pharmacognosy Magazine*, 11(41), 74–81. <https://doi.org/10.4103/0973-1296.149708>

Fauziyah, Lukitasari, M., Rahmasuha, S., Jadid, N., Ramadhan, R., & Hidayati, D. (2022). Virtual screening of antidiabetic compounds from common-urban herbs in Indonesia based on alpha-amylase inhibition. *IOP Conference Series: Earth and Environmental Science*, 977(1), 012023. <https://doi.org/10.1088/1755-1315/977/1/012023>

Feng, X. T., Wang, T. Z., Leng, J., Chen, Y., Liu, J. B., Liu, Y., & Wang, W. J. (2012). Palmitate contributes to insulin resistance through downregulation of the src-mediated phosphorylation of Akt in C2C12 myotubes. *Bioscience, Biotechnology and Biochemistry*, 76(7), 1356–1361. <https://doi.org/10.1271/bbb.120107>

Gnudi, L., Viberti, G., Raij, L., Rodriguez, V., Burt, D., Cortes, P., Hartley, B., Thomas, S., Maestrini, S., & Gruden, G. (2003). GLUT-1 Overexpression. *Hypertension*, 42(1), 19–24. <https://doi.org/10.1161/01.HYP.0000075949.19968.EF>

Gorelick, J., Rosenberg, R., Smotrich, A., Hanuš, L., & Bernstein, N. (2015). Hypoglycemic activity of withanolides and elicited *Withania somnifera*. *Phytochemistry*, 116, 283–289. <https://doi.org/10.1016/j.phytochem.2015.02.029>

Green, M. F., Anderson, K. A., & Means, A. R. (2011). Characterization of the CaMKK β –AMPK signaling complex. *Cellular Signalling*, 23(12), 2005–2012. <https://doi.org/10.1016/j.cellsig.2011.07.014>

Guo, Q., Wei, X., Hu, H., Yang, D., Zhang, B., Fan, X., Liu, J., He, H., Oh, Y., Wu, Q., Zhang, Y., Wang, C., Liu, C., & Gu, N. (2019). The saturated fatty acid palmitate induces insulin resistance through Smad3-mediated down-regulation of FNDC5 in myotubes. *Biochemical and Biophysical Research Communications*, 520(3), 619–626. <https://doi.org/10.1016/j.bbrc.2019.10.077>

Guo, X., Sun, W., Luo, G., Wu, L., Xu, G., Hou, D., Hou, Y., Guo, X., Mu, X., Qin, L., & Liu, T. (2019). *Panax notoginseng* saponins alleviate skeletal muscle insulin

resistance by regulating the IRS1–PI3K–AKT signaling pathway and GLUT4 expression. *FEBS Open Bio*, 9(5), 1008–1019. <https://doi.org/10.1002/2211-5463.12635>

International Diabetes Federation. (2021). *IDF Diabetes Atlas 10th edition*. www.diabetesatlas.org

ITIS. (2010). *Physalis angulata* L. <https://doi.org/https://doi.org/10.5066/F7KH0KBK>

Iwansyah, A. C., Luthfiyanti, R., Ardiansyah, R. C. E., Rahman, N., Andriana, Y., & Hamid, H. A. (2021). Antidiabetic activity of *Physalis angulata* L. fruit juice on streptozotocin-induced diabetic rats. *South African Journal of Botany*. <https://doi.org/10.1016/j.sajb.2021.08.045>

Kahn, B. B., Rosen, A. S., Bak, J. F., Andersen, P. H., Damsbo, P., Lund, S., & Pedersen, O. (1992). Expression of GLUT1 and GLUT4 glucose transporters in skeletal muscle of humans with insulin-dependent diabetes mellitus: regulatory effects of metabolic factors. *The Journal of Clinical Endocrinology & Metabolism*, 74(5), 1101–1109. <https://doi.org/10.1210/jcem.74.5.1569156>

Kampmann, U., Christensen, B., Nielsen, T. S., Pedersen, S. B., Ørskov, L., Lund, S., Møller, N., & Jessen, N. (2011). GLUT4 and UBC9 protein expression is reduced in muscle from type 2 diabetic patients with severe insulin resistance. *PLoS ONE*, 6(11). <https://doi.org/10.1371/journal.pone.0027854>

Kappel, V. D., Cazarolli, L. H., Pereira, D. F., Postal, B. G., Zamoner, A., Reginatto, F. H., & Silva, F. R. M. B. (2013). Involvement of GLUT-4 in the stimulatory effect of rutin on glucose uptake in rat soleus muscle. *Journal of Pharmacy and Pharmacology*, 65(8), 1179–1186. <https://doi.org/10.1111/jphp.12066>

Kappel, V. D., Zanatta, L., Postal, B. G., & Silva, F. R. M. B. (2013). Rutin potentiates calcium uptake via voltage-dependent calcium channel associated with stimulation of glucose uptake in skeletal muscle. *Archives of Biochemistry and Biophysics*, 532(2), 55–60. <https://doi.org/10.1016/j.abb.2013.01.008>

Kementerian Kesehatan RI. (2017). *Farmakope Herbal Indonesia Edisi II* (II).

Kim, K.-S., Choi, Y. K., Kim, M. J., Hwang, J. W., Min, K., Jung, S. Y., Kim, S.-K., Choi, Y.-S., & Cho, Y.-W. (2021). Umbilical Cord-Mesenchymal Stem Cell-Conditioned Medium Improves Insulin Resistance in C2C12 Cell. *Diabetes & Metabolism Journal*, 45(2), 260–269. <https://doi.org/10.4093/dmj.2019.0191>

Kim, M., Ahn, B. Y., Lee, J. S., Chung, S. S., Lim, S., Park, S. G., Jung, H. S., Lee, H. K., & Park, K. S. (2009). The ginsenoside Rg3 has a stimulatory effect on insulin signaling in L6 myotubes. *Biochemical and Biophysical Research Communications*, 389(1), 70–73. <https://doi.org/10.1016/j.bbrc.2009.08.088>

- Kitakaze, T., Jiang, H., Nomura, T., Hironao, K., Yamashita, Y., & Ashida, H. (2020). Kaempferol Promotes Glucose Uptake in Myotubes through a JAK2-Dependent Pathway. *Journal of Agricultural and Food Chemistry*, 68(47), 13720–13729. <https://doi.org/10.1021/acs.jafc.0c05236>
- Kjøbsted, R., Hingst, J. R., Fentz, J., Foretz, M., Sanz, M., Pehmøller, C., Shum, M., Marette, A., Mounier, R., Treebak, J. T., Wojtaszewski, J. F. P., Viollet, B., & Lantier, L. (2018). AMPK in skeletal muscle function and metabolism. *The FASEB Journal*, 32(4), 1741–1777. <https://doi.org/10.1096/fj.201700442R>
- Kurniasih, W., & Yuniaswan, A. P. (2022). Potensi *Physalis Angulata* (Ciplukan) sebagai Manajemen Kelainan pada Kulit. *Jurnal Klinik Dan Riset Kesehatan*, 1(2), 87–100. <https://doi.org/10.11594/jk-risk.01.2.4>
- Kwak, H. J., Choi, H. E., Jang, J., Park, S. K., Bae, Y. A., & Cheon, H. G. (2016). Bortezomib attenuates palmitic acid-induced ER stress, inflammation and insulin resistance in myotubes via AMPK dependent mechanism. *Cellular Signalling*, 28(8), 788–797. <https://doi.org/10.1016/J.CELLSIG.2016.03.015>
- Lee, K.-H., & Yoo, C.-G. (2013). Simultaneous inactivation of GSK-3 β suppresses quercetin-induced apoptosis by inhibiting the JNK pathway. *American Journal of Physiology-Lung Cellular and Molecular Physiology*, 304(11), L782–L789. <https://doi.org/10.1152/ajplung.00348.2012>
- Li, H. B., Yang, Y. R. Y., Mo, Z. J., Ding, Y., & Jiang, W. J. (2015). Silibinin improves palmitate-induced insulin resistance in C2C12 myotubes by attenuating IRS-1/PI3K/Akt pathway inhibition. *Brazilian Journal of Medical and Biological Research*, 48(5), 440–446. <https://doi.org/10.1590/1414-431x20144238>
- Loza-Rodríguez, H., Estrada-Soto, S., Alarcón-Aguilar, F. J., Huang, F., Aquino-Jarquín, G., Fortis-Barrera, Á., Giacomán-Martínez, A., & Almanza-Pérez, J. C. (2020). Oleanolic acid induces a dual agonist action on PPAR γ/α and GLUT4 translocation: A pentacyclic triterpene for dyslipidemia and type 2 diabetes. *European Journal of Pharmacology*, 883. <https://doi.org/10.1016/j.ejphar.2020.173252>
- Majeed, M., Ahmad, F., Mundkur, L., & Appian, S. (2022). Pharmacology of α -spinasterol, a phytosterol with nutraceutical values: A review. *Phytotherapy Research*, 36(10), 3681–3690. <https://doi.org/10.1002/ptr.7560>
- Maliangkay, H. P., Rumondor, R., & Kantohe, M. (2019). Skrining Fitokimia dan Potensi Antidiabetes Ekstrak Etanol Herba Ciplukan (*Physalis Angulata* L) pada Tikus Putih (*Rattus Novergicus*) yang Diinduksi Alokasan. *Bio-Edu: Jurnal Pendidikan Biologi*, 4(3), 98–107. <https://doi.org/10.32938/jbe.v4i3.422>
- Martín Ortega, A. M., & Segura Campos, M. R. (2021). Macronutrients and micronutrients in cancer prevention and treatment. In *Oncological Functional Nutrition* (pp. 99–124). Elsevier. <https://doi.org/10.1016/B978-0-12-819828-5.00003-6>

- Mashili, F., Chibalin, A. V., Krook, A., & Zierath, J. R. (2013). Constitutive STAT3 phosphorylation contributes to skeletal muscle insulin resistance in type 2 diabetes. *Diabetes*, 62(2), 457–465. <https://doi.org/10.2337/db12-0337>
- Mastuti, R., & Rosyidah, M. (2021). Diversity of bioactive secondary metabolites produced by medicinal plants of *Physalis angulata* L. (Ciplukan). *IOP Conference Series: Earth and Environmental Science*, 743(1), 012081. <https://doi.org/10.1088/1755-1315/743/1/012081>
- McGuinness, O. P. (2023a). Gluconeogenesis & the Control of Blood Glucose. In P. J. Kennelly, K. M. Botham, O. P. McGuinness, V. W. Rodwell, & P. A. Weil (Eds.), *Harper's Illustrated Biochemistry*, 32e. McGraw Hill Education. accessmedicine.mhmedical.com/content.aspx?aid=1192081243
- McGuinness, O. P. (2023b). Saccharides (ie, Carbohydrates) of Physiological Significance. In P. J. Kennelly, K. M. Botham, O. P. McGuinness, V. W. Rodwell, & P. A. Weil (Eds.), *Harper's Illustrated Biochemistry*, 32e. McGraw Hill Education. accessmedicine.mhmedical.com/content.aspx?aid=1192080998
- Medina-Medrano, J. R., Almaraz-Abarca, N., Socorro González-Elizondo, M., Uribe-Soto, J. N., González-Valdez, L. S., & Herrera-Arrieta, Y. (2015). Phenolic constituents and antioxidant properties of five wild species of *Physalis* (Solanaceae). *Botanical Studies*, 56. <https://doi.org/10.1186/s40529-015-0101-y>
- Meng, S., Cao, J., Feng, Q., Peng, J., & Hu, Y. (2013). Roles of chlorogenic Acid on regulating glucose and lipids metabolism: a review. *Evidence-Based Complementary and Alternative Medicine : ECAM*, 2013, 801457. <https://doi.org/10.1155/2013/801457>
- Nadhifah, A., Suratman, & Pitoyo, A. (2016). Kekerabatan Fenetik Ciplukan (*Physalis Angulata* L.) Di Wilayah Eks-karesidenan Surakarta Berdasarkan Karakter Morfologis, Palinologis Dan Pola Pita Isozim. *Jurnal Tumbuhan Obat Indonesia*, 9(1), 1–10.
- Navale, A. M., & Paranjape, A. N. (2016). Glucose transporters: physiological and pathological roles. *Biophysical Reviews*, 8(1), 5–9. <https://doi.org/10.1007/s12551-015-0186-2>
- Nguyen, K.-N. H., Nguyen, N.-V. T., & Kim, K. H. (2021). Determination of phenolic acids and flavonoids in leaves, calyces, and fruits of *Physalis angulata* L. in Viet Nam. *Pharmacia*, 68(2), 501–509. <https://doi.org/10.3897/pharmacia.68.e66044>
- Palomer, X., Pizarro-Delgado, J., Barroso, E., & Vázquez-Carrera, M. (2018). Palmitic and Oleic Acid: The Yin and Yang of Fatty Acids in Type 2 Diabetes Mellitus. *Trends in Endocrinology & Metabolism*, 29(3), 178–190. <https://doi.org/10.1016/j.tem.2017.11.009>

- Paneque, A., Fortus, H., Zheng, J., Werlen, G., & Jacinto, E. (2023). The Hexosamine Biosynthesis Pathway: Regulation and Function. *Genes*, 14(4), 933. <https://doi.org/10.3390/genes14040933>
- Pei, J., Prasad, M., Mohamed Helal, G., El-Sherbiny, M., Abdelmonem Elsherbini, D. M., Rajagopal, P., Palanisamy, C. P., Veeraraghavan, V. P., Jayaraman, S., & Surapaneni, K. M. (2022). Beta-Sitosterol Facilitates GLUT4 Vesicle Fusion on the Plasma Membrane via the Activation of Rab/IRAP/Munc 18 Signaling Pathways in Diabetic Gastrocnemius Muscle of Adult Male Rats. *Bioinorganic Chemistry and Applications*, 2022, 7772305. <https://doi.org/10.1155/2022/7772305>
- Pequeno, A., Miranda, Y., Rodríguez, G., Valverde, V., Álvarez Herbarium Juvenal Valerio Rodríguez, L., da Silva, T., da Silva Junior, V., & Álvarez, L. (2017). Effect of physalins on the modulation of NF- κ B and its possible implications for glucose homeostasis. *International Journal of Herbal Medicine*, 5(6).
- Perkeni. (2021). *Pedoman Pengelolaan dan Pencegahan Diabetes Mellitus Tipe 2 di Indonesia 2021*. PB Perkeni. <https://pbperkeni.or.id/wp-content/uploads/2021/11/22-10-21-Website-Pedoman-Pengelolaan-dan-Pencegahan-DMT2-Ebook.pdf>
- Perry, B. D., Caldow, M. K., Brennan-Speranza, T. C., Sbaraglia, M., Jerums, G., Garnham, A., Wong, C., Levinger, P., Asrar Ul Haq, M., Hare, D. L., Price, S. R., & Levinger, I. (2016). Muscle atrophy in patients with Type 2 Diabetes Mellitus: roles of inflammatory pathways, physical activity and exercise. *Exercise Immunology Review*, 22, 94–109.
- Perry, B. D., Rahnert, J. A., Xie, Y., Zheng, B., Woodworth-Hobbs, M. E., & Price, S. R. (2018). Palmitate-induced ER stress and inhibition of protein synthesis in cultured myotubes does not require Toll-like receptor 4. *PloS One*, 13(1), e0191313. <https://doi.org/10.1371/journal.pone.0191313>
- Pragallapati, S., & Manyam, R. (2019). Glucose transporter 1 in health and disease. *Journal of Oral and Maxillofacial Pathology: JOMFP*, 23(3), 443–449. https://doi.org/10.4103/jomfp.JOMFP_22_18
- Prasad, M., Jayaraman, S., Eladl, M. A., El-Sherbiny, M., Abdelrahman, M. A. E., Veeraraghavan, V. P., Vengadassalopathy, S., Umapathy, V. R., Jaffer Hussain, S. F., Krishnamoorthy, K., Sekar, D., Palanisamy, C. P., Mohan, S. K., & Rajagopal, P. (2022). A Comprehensive Review on Therapeutic Perspectives of Phytosterols in Insulin Resistance: A Mechanistic Approach. *Molecules*, 27(5), 1595. <https://doi.org/10.3390/molecules27051595>
- Pratiwi, D. (2021). Studi Molecular Docking Senyawa dari Tanaman Ciplukan (*Physalis angulata* Linn) sebagai Antidiabetes pada Reseptor PPAR- γ . *Jurnal Farmagazine*, 8(1), 61. <https://doi.org/10.47653/farm.v8i1.533>

- Purwanto, B., Harjanto, H., & Asnar, E. (2017). GLUT-1 IS A PROMISING TARGET FOR ATP DEPLETION ON DIABETIC ENERGY DEFICIENCY SYNDROME. *Folia Medica Indonesiana*, 53(3), 177. <https://doi.org/10.20473/fmi.v53i3.6443>
- Pyun, D. H., Kim, T. J., Park, S. Y., Lee, H. J., Abd El-Aty, A. M., Jeong, J. H., & Jung, T. W. (2021). Patchouli alcohol ameliorates skeletal muscle insulin resistance and NAFLD via AMPK/SIRT1-mediated suppression of inflammation. *Molecular and Cellular Endocrinology*, 538, 111464. <https://doi.org/10.1016/j.mce.2021.111464>
- Raju, P., & Mamidala, E. (2015). Anti diabetic activity of compound isolated from *Physalis angulata* fruit extracts in alloxan induced diabetic rats. *The American Journal of Science and Medical Research*, 1(1), 40–43. <https://doi.org/10.17812/ajsmr2015111>
- Ramakrishna Pillai, J., Wali, A. F., Menezes, G. A., Rehman, M. U., Wani, T. A., Arafah, A., Zargar, S., & Mir, T. M. (2022). Chemical Composition Analysis, Cytotoxic, Antimicrobial and Antioxidant Activities of *Physalis angulata* L.: A Comparative Study of Leaves and Fruit. *Molecules*, 27(5), 1480. <https://doi.org/10.3390/molecules27051480>
- Saeedi, P., Petersohn, I., Salpea, P., Malanda, B., Karuranga, S., Unwin, N., Colagiuri, S., Guariguata, L., Motala, A. A., Ogurtsova, K., Shaw, J. E., Bright, D., & Williams, R. (2019). Global and regional diabetes prevalence estimates for 2019 and projections for 2030 and 2045: Results from the International Diabetes Federation Diabetes Atlas, 9th edition. *Diabetes Research and Clinical Practice*, 157, 107843. <https://doi.org/10.1016/j.diabres.2019.107843>
- Sarabia, V., Ramlal, T., & Klip, A. (1990). Glucose uptake in human and animal muscle cells in culture. *Biochemistry and Cell Biology*, 68(2), 536–542. <https://doi.org/10.1139/o90-076>
- Satoh, T. (2014). Molecular mechanisms for the regulation of insulin-stimulated glucose uptake by small guanosine triphosphatases in skeletal muscle and adipocytes. *International Journal of Molecular Sciences*, 15(10), 18677–18692. <https://doi.org/10.3390/ijms151018677>
- Schwartz, S. S., Epstein, S., Corkey, B. E., Grant, S. F. A., Gavin, J. R., & Aguilar, R. B. (2016). The Time Is Right for a New Classification System for Diabetes: Rationale and Implications of the β -Cell–Centric Classification Schema. *Diabetes Care*, 39(2), 179–186. <https://doi.org/10.2337/dc15-1585>
- Sediarso, S., Sunaryo, H., & Amalia, N. (2012). Efek Antidiabetes dan Identifikasi Senyawa Dominan Fraksi Kloroform Herba Ciplukan (*Physalis angulata* L.). *Pharmaceutical Sciences and Research*, 9(1). <https://doi.org/10.7454/psr.v9i1.3361>
- Spiller, S., Blüher, M., & Hoffmann, R. (2018). Plasma levels of free fatty acids correlate with type 2 diabetes mellitus. *Diabetes, Obesity and Metabolism*, 20(11), 2661–2669. <https://doi.org/10.1111/dom.13449>

- Sun, C. P., Oppong, M. B., Zhao, F., Chen, L. X., & Qiu, F. (2017). Unprecedented 22,26-seco physalins from *Physalis angulata* and their anti-inflammatory potential. *Organic & Biomolecular Chemistry*, 15(41), 8700–8704. <https://doi.org/10.1039/c7ob02205k>
- Sun, L., Liu, J., Liu, P., Yu, Y., Ma, L., & Hu, L. (2011). Immunosuppression effect of Withangulatin A from *Physalis angulata* via heme oxygenase 1-dependent pathways. *Process Biochemistry*, 46(2), 482–488. <https://doi.org/10.1016/j.procbio.2010.09.022>
- Suryani, I., Eriani, K., & Suhartono, S. (2022). The Effect of Ciplukan (*Physalis minima*) Leaf Extract on Mesenchymal Stem Cell Proliferation and Population Doubling Time (PDT) In Vitro. *Biosaintifika: Journal of Biology & Biology Education*, 14(2). <https://doi.org/10.15294/biosaintifika.v14i2.35722>
- Tan, M.-J., Ye, J.-M., Turner, N., Hohnen-Behrens, C., Ke, C.-Q., Tang, C.-P., Chen, T., Weiss, H.-C., Gesing, E.-R., Rowland, A., James, D. E., & Ye, Y. (2008). Antidiabetic activities of triterpenoids isolated from bitter melon associated with activation of the AMPK pathway. *Chemistry & Biology*, 15(3), 263–273. <https://doi.org/10.1016/j.chembiol.2008.01.013>
- Tortora, G. J., & Derrickson, B. (2017). *Principles of Anatomy & Physiology* (15th ed.). John Wiley & Sons.
- Vulturar, R., Chiş, A., Pintilie, S., Farcaş, I. M., Botezatu, A., Login, C. C., Sitar-Taut, A.-V., Orasan, O. H., Stan, A., Lazea, C., Al-Khzouz, C., Mager, M., Vinţan, M. A., Manole, S., & Damian, L. (2022). One Molecule for Mental Nourishment and More: Glucose Transporter Type 1—Biology and Deficiency Syndrome. *Biomedicines*, 10(6), 1249. <https://doi.org/10.3390/biomedicines10061249>
- Wahyuningsih, M. S. H., Wiwekananda, K. S. S., Putri, A. P. R., Nugrahaningsih, D. A. A., & Yuniyanti, M. M. (2023). Bioassay Guided Fractionation of Ciplukan (*Physalis angulata* L.) Monitored by Glucose Consumption Assay and Thin Layer Chromatography on Myoblast Cells. *Majalah Obat Tradisional*, 28(1), 22. <https://doi.org/10.22146/mot.79783>
- Waluyo, B., Zanetta, C. U., & Haesaert, G. (2019). Assessment of variability, heritability and divergence of ciplukan [cutleaf ground cherry: (*Physalis angulata* L.)] to increase exotic fruit genetic capacity in Indonesia. *International Symposia on Horticulture*, 89–98. <https://www.researchgate.net/publication/339777691>
- Weil, P. A. (2015). Hormone Action & Signal Transduction. In V. W. Rodwell, D. A. Bender, K. M. Botham, P. J. Kennely, & P. A. Weil (Eds.), *Harper's Illustrated Biochemistry* (30th ed., pp. 518–533). McGraw Hill Education.
- Wong, C. Y., Al-Salami, H., & Dass, C. R. (2020). C2C12 cell model: its role in understanding of insulin resistance at the molecular level and pharmaceutical development at the preclinical stage. *Journal of Pharmacy and Pharmacology*, 72(12), 1667–1693. <https://doi.org/10.1111/jphp.13359>

- Wu, S. J., Tung, Y. J., & Ng, L. T. (2020). Anti-diabetic effects of *Grifola frondosa* bioactive compound and its related molecular signaling pathways in palmitate-induced C2C12 cells. *Journal of Ethnopharmacology*, 260. <https://doi.org/10.1016/j.jep.2020.112962>
- Xin, Y., Wang, Y., Chi, J., Zhu, X., Zhao, H., Zhao, S., & Wang, Y. (2019). Elevated free fatty acid level is associated with insulin-resistant state in nondiabetic Chinese people. *Diabetes, Metabolic Syndrome and Obesity: Targets and Therapy, Volume 12*, 139–147. <https://doi.org/10.2147/DMSO.S186505>
- Yamada, K., Saito, M., Matsuoka, H., & Inagaki, N. (2007). A real-time method of imaging glucose uptake in single, living mammalian cells. *Nature Protocols*, 2(3), 753–762. <https://doi.org/10.1038/nprot.2007.76>
- Yang, M., Wei, D., Mo, C., Zhang, J., Wang, X., Han, X., Wang, Z., & Xiao, H. (2013). Saturated fatty acid palmitate-induced insulin resistance is accompanied with myotube loss and the impaired expression of health benefit myokine genes in C2C12 myotubes. *Lipids in Health and Disease*, 12(1), 104. <https://doi.org/10.1186/1476-511X-12-104>
- Zhang, Q., Kong, X., Yuan, H., Guan, H., Li, Y., & Niu, Y. (2019). Mangiferin Improved Palmitate-Induced-Insulin Resistance by Promoting Free Fatty Acid Metabolism in HepG2 and C2C12 Cells via PPAR α : Mangiferin Improved Insulin Resistance. *Journal of Diabetes Research*, 2019, 1–13. <https://doi.org/10.1155/2019/2052675>
- Zhang, S., Yang, Q., Ren, M., Qiao, S., He, P., Li, D., & Zeng, X. (2016). Effects of isoleucine on glucose uptake through the enhancement of muscular membrane concentrations of GLUT1 and GLUT4 and intestinal membrane concentrations of Na⁺/glucose co-transporter 1 (SGLT-1) and GLUT2. *British Journal of Nutrition*, 116(4), 593–602. <https://doi.org/10.1017/S0007114516002439>