

DAFTAR PUSTAKA

- Abdel-Raziq, M.S., Bar, F.M.A., & Gohar, A.A. 2016, 'Alpha-amylase Inhibitory Compounds from *Musa cavendishii*,' *Journal of Pharmaceutical Research International*, 1-10.
- ADA (American Diabetes Assosiation), 2011, *Diagnosis and Classification of Diabetes Mellitus*, *Diabetes Care*, 34 (1) : 42-57.
- Ahmed, D., Younas, S., & Mughal, Q. M. A. 2014, 'Study of Alpha-Amylase and Urease Inhibitory Activities of *Melilotus indicus* (Linn.) All' ,*Pak. J. Pharm. Sci*, 27(1), 57-61.
- Aisyah, L. S., Ilfani, D., Lestari, F. P., & Yun, Y. F. 2020, 'α-Amylase Inhibition Activities by Flavonoid Compounds from Panda Plants (*Kalanchoe tomentosa*)' ,*Jurnal Kimia Sains dan Aplikasi*, 23(3), 96-101.
- Ariandi, A. 2017, 'Pengenalan Enzim Amilase (Alpha-Amylase) dan Reaksi Enzimatiknya Menghidrolisis Amilosa Pati Menjadi Glukosa', *Journal of Mathematics and Natural Sciences*, 7(1), 74-82.
- Arifin, B., & Ibrahim, S. 2018, 'Struktur, Bioaktivitas dan Antioksidan Flavonoid', *Jurnal Zarah*, 6(1), 21-29.
- Arisandi, D., Triyanti, M.A., Muhajir, N.F., & Fatimah, S. 2015, Gambaran Faktor Risiko Kejadian Hiperglikemia pada Pralansia di Dusun Rejosari Kemandang, Gunung Kidul, Yogyakarta.
- Asnaashari, S., Delazar, A., Alipour, S. S., Nahar, L., Williams, A. S., Pasdaran, A., & Sarker, S. D. 2010, 'Chemical Composition, Free Radical Scavenging and Insecticidal Activities of The Aerial Parts of *Stachys byzantina*' ,*Archives of Biological Sciences*, 62(3), 653-662.
- Bahramikia, S., & Yazdanparast, R. 2012, 'Phytochemistry and medicinal properties of *Teucrium polium* L.(Lamiaceae)' ,*Phytotherapy Research*, 26(11), 1581-1593.
- Banerjee, A., Maji, B., Mukherjee, S., Chaudhuri, K., & Seal, T. 2017, 'In Vitro Antidiabetic and Antioxidant Activities of Methanol Extract of *Tinospora sinensis*' ,*Journal of Applied Biology & Biotechnology*, 5(03), 061-067.
- Bangsawan, C. C., & Kurniati, I. 2019, 'Efek Antidiabetes Tanaman Okra (*Abelmoschus esculentus*)' ,*Jurnal Ilmu Kedokteran dan Kesehatan*, 6(4), 304-308.

- Chang, C. L., Lin, Y., Bartolome, A. P., Chen, Y. C., Chiu, S. C., & Yang, W. C. 2013, 'Herbal Therapies for Type 2 Diabetes Mellitus: Chemistry, Biology, and Potential Application of Selected Plants and Compounds', *Evidence-Based Complementary and Alternative Medicine*, 2013.
- Chaudhary, S., Semwal, A., Kumar, H., Verma, H. C., & Kumar, A. 2016, 'In-Vivo Study for Antihyperglycemic Potential of Aqueous Extract of Basil Seeds (*Ocimum basilicum* Linn) and its Influence on Biochemical Parameters, Serum Electrolytes and Haematological Indices', *Biomedicine & Pharmacotherapy*, 84, 2008-2013.
- Chipiti, T., Ibrahim, M. A., Singh, M., & Islam, M. S. 2015, 'In Vitro α -Amylase and α -Glucosidase Inhibitory Effects and Cytotoxic Activity of *Albizia antunesiana* Extracts', *Pharmacognosy magazine*, 11(Suppl 2), S231.
- Dastjerdi, Z. M., Namjoyan, F., & Azemi, M. E. 2015, 'Alpha Amylase Inhibition Activity of Some Plants Extract of *Teucrium* Species', *European Journal of Biological Sciences*, 7(1), 26-31.
- Daud, M., Juliani, J., Sugito, S., & Abrar, M. 2019, ' α -Amylase and α -Glucosidase Inhibitors from Plant Extracts', *Jurnal Medika Veterinaria*, 13(2).
- Dehghan, G., Tahmasebpour, N., Hosseinpourfeizii, M. A., Sheikhzadeh, F., & Banan Khojasteh, S. M. 2013, 'Hypoglycemic, Antioxidant and Hepato-and Nephroprotective Effects of *Teucrium orientale* in Streptozotocin Diabetic Rats', *Pharmacol online*, 1, 182-9.
- Departemen Kesehatan Republik Indonesia. 2005, '*Pharmaceutical care untuk penyakit diabetes mellitus*', Departemen Kesehatan Republik Indonesia, Jakarta. pp, 16(24), 36-46.
- Fitrianingsih, S. P., Maulana, I. T., Choesrina, R., Dwiputri, D., & Apriliani, R. 2016, 'Uji Aktivitas Penghambatan Alfa Amilase Ekstrak Daun *Tithonia diversifolia* secara In Vitro', *Prosiding SNA PP: Kesehatan (Kedokteran, Kebidanan, Keperawatan, Farmasi, Psikologi)*, 2(1), 108-115.
- Gautam, K., Kumar, P., & Jain, C. 2013, 'Comparative Study of Alpha Amylase Inhibitory Activity of Flavonoids of *Vitex negundo* Linn and *Andrographis paniculata* Nees', *International Journal of Green Pharmacy (IJGP)*, 7(1).
- Gu, C., Zhang, H., Putri, C. Y., & Ng, K. 2015, 'Evaluation of α -Amylase and α -Glucosidase Inhibitory Activity of Flavonoids' 'Int J Food Nutr Sci', 2(6), 1-6.
- Gushiken, L. F., Beserra, F. P., Rozza, A. L., Bérghamo, P. L., Bérghamo, D. A., & Pellizzon, C. H. 2016, 'Chemical and biological aspects of extracts

from Medicinal Plants with Antidiabetic Effects' ,*The review of diabetic studies: RDS*, 13(2-3), 96.

- Iftikhar, H., Ahmed, D., & Qamar, M. T. 2019, 'Study of Phytochemicals of *Melilotus indicus* and Alpha-Amylase and Lipase Inhibitory Activities of its Methanolic Extract and Fractions in Different Solvents' ,*ChemistrySelect*, 4(26), 7679-7685.
- International Diabetes Federation, 2015, *IDF Diabetes Atlas Seventh Edition 2015*, Dunia, IDF.
- Joseph, S., Kumar, L., & Bai, V. N. 2016, 'Evaluation of Antidiabetic Activity of *Strobilanthes cuspidata* in Alloxan Induced Diabetic Rats and The Effect of Bioactive Compounds on Inhibition of α -Amylase Enzyme' ,*Journal of Pharmacognosy and Phytochemistry*, 5(3), 169
- Kazeem, M. I., Abimbola, S. G., & Ashafa, A. O. T. 2013, 'Inhibitory Potential of *Gossypium arboreum* Leaf Extracts on Diabetes Key Enzymes, α -Amylase and α -Glucosidase' ,*Bangladesh Journal of Pharmacology*, 8(2), 149-155.
- Kazeem, M. I., Azeez, G. A., & Ashafa, A. O. 2015, 'Effect of *Senna alata* (L) roxb (Fabaceae) Leaf Extracts on Alpha-Amylase, Alpha-Glucosidase and Postprandial Hyperglycemia in Rats' ,*Tropical Journal of Pharmaceutical Research*, 14(10), 1843-1848.
- Kolo, S. M., & Edi, E. 2018, 'Hidrolisis Ampas Biji Sorgum dengan Microwave untuk Produksi Gula Pereduksi sebagai Bahan Baku Bioetanol' ,*Jurnal Saintek Lahan Kering*, 1(2), 22-23.
- Kothari, S., Thangavelu, L., & Roy, A. 2017, 'Anti-diabetic Activity of *Sesbania grandiflora* Alpha Amylase Inhibitory Effect. *Journal of Advanced Pharmacy Education & Research*, Oct-Dec, 7(4).
- Kumar, R. P., Sujatha, D., Saleem, T. M., Chetty, C. M., & Ranganayakulu, D. 2010, 'Potential Antidiabetic and Antioxidant Activities of *Morus indica* and *Asystasia gangetica* in Alloxan-induced Diabetes Mellitus' ,*Journal of experimental pharmacology*, 2, 29.
- Lu, Y., Demleitner, M. F., Song, L., Rychlik, M., & Huang, D. 2016, 'Oligomeric Proanthocyanidins Are the Active Compounds in *Abelmoschus esculentus* Moench for its α -Amylase and α -Glucosidase Inhibition Activity' ,*Journal of functional foods*, 20, 463-471.
- Majeed, M., Majeed, S., Mundkur, L., Nagabhushanam, K., Arumugam, S., Beede, K., & Ali, F. 2020, 'Standardized *Emblica officinalis* Fruit Extract Inhibited the Activities of α -Amylase, α -Glucosidase, and Dipeptidyl Peptidase-4 and Displayed Antioxidant Potential' ,*Journal of the Science of Food and Agriculture*, 100(2), 509-516.

- Makheswari, M. U., & Sudarsanam, D. 2012, 'Database on Antidiabetic Indigenous Plants of Tamil Nadhu, India' ,*Int J Pharma Sci Res*, 3(2), 287-293.
- Makinde, E. A., Ovatlarnporn, C., Sontimuang, C., Herbette, G., & Olatunji, O. J. 2020,'Chemical Constituents From the Aerial Part of *Tiliacora triandra* (Colebr.) Diels and Their α -Glucosidase and α -Amylase Inhibitory Activity', *Natural Product Communications*, 15(1), 1934578X19899595.
- Malviya, N., Jain, S., & Malviya, S.A.P.N.A. 2010, 'Antidiabetic Potential of Medicinal Plants', *Acta pol pharm*, 67(2), 113-118.
- Martinez-Gonzalez, A. I., Díaz-Sánchez, Á. G., de La Rosa, L. A., Bustos-Jaimes, I., & Alvarez-Parrilla, E. 2019,'Inhibition of α -Amylase by Flavonoids: Structure Activity Relationship (SAR)',*Spectrochimica Acta Part A: Molecular and Biomolecular Spectroscopy*, 206, 437-447
- Masi, G.N., & Mulyadi, N. 2017, 'Hubungan Pola Aktivitas Fisik Dan Pola Makan Dengan Kadar Gula Darah Pada Pasien Diabetes Melitus Tipe II Di Poli Penyakit Dalam Rumah Sakit Pancaran Kasih Gmim Manado',*Jurnal Keperawatan*, 5(1).
- Miloski, K., Wallace, K., Fenger, A., Schneider, E., & Bendinskas, K. 2008, 'Comparison of Biochemical and Chemical Digestion and Detection Methods for Carbohydrates' ,*Am. J. Undergrad. Res*, 7(2), 7-18.
- Mohamed, E. A. H., Siddiqui, M. J. A., Ang, L. F., Sadikun, A., Chan, S. H., Tan, S. C.,& Yam, M. F. 2012, 'Potent α -Glucosidase and α -Amylase Inhibitory Activities of Standardized 50% Ethanolic Extracts and Sinensetin from *Orthosiphon stamineus* Benth as Anti-diabetic Mechanism',*BMC complementary and alternative medicine*, 12(1), 176.
- Mugiyanto, E., & Setyahadi, S. 2017, 'Identifikasi Senyawa Aktif Fraksi Etanol Daun Sirsak (*Annona Muricata* Linn.) sebagai Inhibitor α -Amylase' ,*Jurnal Ilmiah Farmasi*, 6(2).
- Narkhede, M. B., Ajimire, P. V., Wagh, A. E., Mohan, M., & Shivashanmugam, A. T. 2011, 'In Vitro Antidiabetic Activity of *Caesalpina digyna* (R.) Methanol Root Extract',*Asian Journal of Plant Science and Research*, 1(2), 101-106.
- Nickavar, B., & Abolhasani, L. 2013,'Bioactivity-Guided Separation of an α -Amylase Inhibitor Flavonoid from *Salvia virgata*',*Iranian journal of pharmaceutical research: IJPR*, 12(1), 57.
- Noor, Z. I., Ahmed, D., Rehman, H. M., Qamar, M. T., Froeyen, M., Ahmad, S., & Mirza, M. U. 2019,'In Vitro Antidiabetic, Anti-Obesity and

Antioxidant Analysis of *Ocimum basilicum* Aerial Biomass and in Silico Molecular Docking Simulations with Alpha-Amylase and Lipase Enzymes', *Biology*, 8(4), 92

- Oboh, G., Ademosun, A. O., Ayeni, P. O., Omojokun, O. S., & Bello, F. 2015, 'Comparative Effect of Quercetin and Rutin on α -Amylase, α -Glucosidase, and Some Pro-oxidant-induced Lipid Peroxidation in Rat Pancreas', *Comparative Clinical Pathology*, 24(5), 1103-1110
- Ogundajo, A. L., Kazeem, M. I., Owoyele, O. A., Ogunmoye, A. R. O., & Ogunwande, I. A. 2016, 'Inhibition of α -Amylase and α -Glucosidase by *Acanthus montanus* Leaf Extracts', *Journal of Pharmaceutical Research International*, 2015-10.
- Padilla-Camberos, E., Lazcano-Díaz, E., Flores-Fernandez, J. M., Owolabi, M. S., Allen, K., & Villanueva-Rodríguez, S. 2014, 'Evaluation of The Inhibition of Carbohydrate Hydrolyzing Enzymes, The Antioxidant Activity, and The Polyphenolic Content of *Citrus limetta* Peel Extract', *The Scientific World Journal*, 2014.
- Pandhare, R. B., Sangameswaran, B., Mohite, P. B., & Khanage, S. G. 2012. 'Antihyperglycaemic and Lipid Lowering Potential of *Adenanthera pavonina* Linn. in Streptozotocin Induced Diabetic Rats' ,*Oriental pharmacy and experimental medicine*, 12(3), 197-203.
- Partha, G., & Rahaman, C. H. 2015, 'Pharmacognostic, Phytochemical and Antioxidant Studies of *Adenanthera pavonina* L', *Int. J. Pharmacog. & Phytochem. Res*, 7(1), 30-37.
- PERKENI, 2015, *Pengelolaan dan Pencegahan Diabetes Melitus Tipe 2 di Indonesia*, PB. Perkeni, Jakarta.
- Pimpriker, B. R., Patil, V. V., SinthalKumar, K., & Sufiyan, A. 2009, 'Hypoglycemic activity of *Tinospora sinensis* (Linn) Leaves', *Journal of Pharmacy Research*, 2(4), 729-730.
- Priyanga, S., Hemmalakshmi, S., Sowmya, S., Vidya, B., Chella Perumal, P., Gopalakrishnan, V. K., & Devaki, K. 2015, 'In Vitro Enzyme Inhibitory Evaluation and Free Radical Scavenging Potential of Ethanolic Leaf Extract of *Macrotyloma uniflorum* (L.)', *Int J Curr Pharm Rev Res*, 6, 169-177.
- Proença, C., Freitas, M., Ribeiro, D., Tomé, S. M., Oliveira, E. F., Viegas, M. F., & Fernandes, E. 2019, "Evaluation of a Flavonoids Library for Inhibition of Pancreatic α -Amylase Towards a Structure–Activity Relationship", *Journal of enzyme inhibition and medicinal chemistry*, 34(1), 577-588.

- Pujiyanto, S., Wijanarka, W., & Raharjo, B. 2019, 'Aktivitas Inhibitor α -Amilase Ekstrak Etanol Tanaman Brotowali (*Tinospora crispera* L.)', *Bioma: Berkala Ilmiah Biologi*, 21(2), 91-99.
- Rais, I. R., Samudra, A.G., Widayari, S., & Nugroho, A E. 2013, 'Determination of Andrographolide Isolate Activity to α -Amylase and α -Glucosidase Using Apostolidis and Mayur Method' ,*Traditional Medicine Journal*. 18(3). 162-166.
- Ramadhan, R., Kristanti, A.N., Amirta, R., Kusuma, I. W., Phuwapraisirisan, P., Haqiqi, M. T., & Saparwadi, S. 2019, 'Screening for Potential Antidiabetes and Antioxidant Activities of Selected Plants from East Kalimantan, Indonesia' ,*Biodiversitas Journal of Biological Diversity*, 20(7).
- Reddy, N. V. L. S., Anarthe, S. J., & Raghavendra, N. M. 2010, 'In vitro Antioxidant and Antidiabetic Activity of *Asystasia gangetica* (Chinese Violet) Linn. (Acanthaceae)' ,*International Journal of Research in Pharmaceutical and Biomedical Sciences*, 1(2), 72-75.
- Rezzoug, M., Bakchiche, B., Gherib, A., Roberta, A., Kiliçarslan, Ö., Mammadov, R., & Bardaweel, S. K. 2019, 'Chemical Composition and Bioactivity of Essential Oils and Ethanolic extracts of *Ocimum basilicum* L. and *Thymus algeriensis* Boiss. & Reut. from the Algerian Saharan Atlas', *BMC complementary and alternative medicine*, 19(1), 146.
- Sabitha, V., Panneerselvam, K., & Ramachandran, S. 2012, 'In Vitro α -Glucosidase and α -Amylase Enzyme Inhibitory Effects in Aqueous Extracts of *Abelmoschus esculentus* (L.) Moench', *Asian Pacific journal of tropical biomedicine*, 2(1), S162-S164.
- Sabitha, V., Ramachandran, S., Naveen, K. R., & Panneerselvam, K. 2011, 'Antidiabetic and Antihyperlipidemic Potential of *Abelmoschus esculentus* (L.) Moench. in Streptozotocin-Induced Diabetic Rats', *Journal of pharmacy and bioallied sciences*, 3(3), 397.
- Safamansouri, H., Nikan, M., Amin, G., Sarkhail, P., Gohari, A. R., Kurepaz-Mahmoodabadi, M., & Saeidnia, S. 2014, ' α -Amylase Inhibitory Activity of Some Traditionally Used Medicinal Species of Labiatae', *Journal of Diabetes & Metabolic Disorders*, 13(1), 114.
- Saha, S., & Verma, R. 2012, 'Inhibitory Potential of Traditional Herbs on α -Amylase Activity' ,*Pharmaceutical biology*, 50(3), 326-331.
- Saini, R., Saini, H.S., & Dahiya, A. 2017, 'Amylases: Characteristics and industrial applications' ,*J. Pharmacogn. Phytochem*, 6(4), 1865-1871.

- Samudra, A. G., A. E. Nugroho, A. Husni. 2015, 'Aktivitas Inhibisi α -Amilase Ekstrak Karagenan dan Senyawa Polifenol dari *Eucheuma denticulatum*' ,*Media Farmasi*. Vol. 12 No. 1.
- Sari, N, N., Agata, A., & Hervidea,R .2019, 'Hubungan Obesitas Sentral dan Non Obesitas Sentral dengan Kejadian Diabetes Mellitus Tipe II' ,*Indonesian Journal of Nursing Sciences and Practice*, 1(2), 34-40.
- Sari, R. K. 2015, 'Uji Efektivitas Protein Biji Melinjo (*Gnetum gnemon* l.) sebagai Inhibitor Aktivitas α -Amilase dan α -Glukosidase secara *In Vitro*' ,*Skripsi*, Fakultas Kedokteran Universitas Jember, Jember.
- Setiawan, M. 2012, 'Pre-diabetes dan Peran HbA1c dalam Skrining dan Diagnosis Awal Diabetes Melitus' *Saintika Medika: Jurnal Ilmu Kesehatan dan Kedokteran Keluarga*, 7(1).
- Shetti, A. A., Sanakal, R. D., & Kaliwal, B. B. 2012, 'Antidiabetic Effect of Ethanolic Leaf Extract of *Phyllanthus amarus* in Alloxan Induced Diabetic Mice' ,*Asian journal of plant science and research*, 2(1), 11-15.
- Sukmawati., Harsita, M.A., & Kosman, R. 2016, 'Uji Efek Hipoglikemik Kombinasi Ekstrak Etanol Daun Sambiloto (*Andrographis Paniculata* Nees) dengan Acarbose pada Tikus Putih (*Rattus norvegicus*) Terinduksi Aloksan' ,*As-Syifaa Jurnal Farmasi*, 8(2), 75-82.
- Sunaryo, H., Wasmen Manalu., Adi Winarto, & Bambang Kiranadi. 2014, 'Perkembangan Anak Tikus (F1) Asal Induk Penerima Asam Valproat sebagai Model Diabetes Mellitus' .*Jurnal Ilmu kefarmasian Indonesia*, 12(2).
- Tadera, K., Minami, Y., Takamatsu, K., & Matsuoka, T. 2006, 'Inhibition of α -Glucosidase and α -Amylase by Flavonoids' ,*Journal of nutritional science and vitaminology*, 52(2), 149-153.
- Takahama, U., & Hirota, S. 2018, 'Interactions of Flavonoids with α -Amylase and Starch Slowing Down Its Digestion' ,*Food & function*, 9(2), 677-687.
- Tamil, I. G., Dineshkumar, B., Nandhakumar, M., Senthilkumar, M., & Mitra, A. 2010, 'In Vitro Study on α -Amylase Inhibitory Activity of An Indian Medicinal Plant, *Phyllanthus amarus*' ,*Indian journal of pharmacology*, 42(5), 280.
- Tofighi, Z., Alipour, F., Hadavinia, H., Abdollahi, M., Hadjiakhoondi, A., & Yassa, N. 2014, 'Effective Antidiabetic and Antioxidant Fractions of *Otostegia persica* Extract and Their Constituents' ,*Pharmaceutical Biology*, 52(8), 961-966.

- Varghese, G. K., Bose, L. V., & Habtemariam, S. 2013, 'Antidiabetic components of *Cassia alata* Leaves: Identification Through α -Glucosidase Inhibition Studies. *Pharmaceutical biology*, 51(3), 345-349.
- Wickramaratne, M. N., Punchihewa, J. C., & Wickramaratne, D. B. M. 2016, ' In-Vitro Alpha Amylase Inhibitory Activity of the Leaf Extracts of *Adenanthera pavonina*' ,*BMC complementary and alternative medicine*, 16(1), 466.
- Wulandari, L., Nugraha, A. S., & Azhari, N. P. 2020, 'Penentuan Aktivitas Antioksidan dan Antidiabetes Ekstrak Daun Kepundung (*Baccaurea racemosa* Muell. Arg.) Secara In Vitro',*Jurnal Sains Farmasi & Klinis*, 7(1), 60-66.
- Yang, C. Y., Yen, Y. Y., Hung, K. C., Hsu, S. W., Lan, S. J., & Lin, H. C. 2019,' Inhibitory Effects of Pu-erh Tea on Alpha Glucosidase and Alpha Amylase: A Systemic Review',*Nutrition & diabetes*, 9(1), 1-6.
- Yuan, E., Liu, B., Wei, Q., Yang, J., Chen, L., & Li, Q. 2014,'Structure Activity Relationships of Flavonoids as Potent α -Amylase Inhibitors',*Natural product communications*, 9(8), 1934578X1400900829.
- Zuhro, F., Puspitasari, E., Muslichah, S., & Hidayat, M. A. 2016,'Aktivitas Inhibitor α -Glukosidase Ekstrak Etanol Daun Kenitu (*Chrysophyllum cainito* L)', *Pustaka Kesehatan*. 4(1), 1-7.

