

DAFTAR PUSTAKA

- Al Shukor, N., Camp, J.V., Gonzales, G.B., Staljanssens, D., Struijs, K., Zotti, M.J., Raes, K., Smagghe, G., 2013, Angiotensin-Converting Enzyme Inhibitory Effects by Plant Phenolic Compounds: A Study of Structure Activity Relationships, *Journal of Agricultural and Food Chemistry*, **61**(48), 11832-11839.
- Andersen, O.M., Markham, K.R., 2006, *Flavonoids Chemistry, Biochemistry, and Applications*, CRC Press, Boca Raton.
- Anonim, 1987, *Cowpeas (Vigna unguiculata L. Walp): Abstracts of world literature* Vol. V, 1983 – 1985, International Institute of Tropical Agriculture, Ibadan.
- Anonim, 1995, *Farmakope Indonesia IV*, Departemen Kesehatan Republik Indonesia, Jakarta.
- Anonim, 2000, *Parameter Standar Umum Ekstrak Tumbuhan Obat*, Direktorat Pengawasan Obat Tradisional, Jakarta.
- Anonim, 2007, *Riset Kesehatan Dasar 2007*, Badan Penelitian dan Pengembangan Kesehatan, Departemen Kesehatan, Jakarta.
- Anonim, 2013, *Riset Kesehatan Dasar 2013*, Badan Penelitian dan Pengembangan Kesehatan, Departemen Kesehatan, Jakarta.
- Ansel, H.C., 1989, *Pengantar Bentuk Sediaan Farmasi*, diterjemahkan oleh Farida Ibrahim, Asmanizar, Iis Aisyah, UI Press, Jakarta.
- Atlas, S.A., 2007, The renin-angiotensin aldosterone system: pathophysiological role and pharmacologic inhibition, *J Manag Care Pharm.*, **13**(8 Suppl B), 9-20.
- Balasuriya, B.W.N., Rupasinghe, H.P.V, 2011, Plant flavonoids as angiotensin converting enzyme inhibitors in regulation of hypertension, *Functional Foods in Health and Disease*, **5**, 172-188.
- Bao, Y., Fenwick, R., 2004, *Phytochemicals in Health and Disease*, Marcel Dekker, Inc., New York City.
- Battegay, E., Bakris, G.L., Lip, G.Y.H., 2005, *Hypertension: Principles and Practice*, CRC Press, Boca Raton.

- Beevers, G., Lip, G.Y. H., O'Brien, E., 2001, *The pathophysiology of hypertension*, British Medical Journal, 322(7291), 912–916.
- Belović, M.M., Ilić, N.M., Tepić, A.N., Šumić, Z.M., 2013, Selection of conditions for angiotensin–converting enzyme inhibition assay: influence of sample preparation and buffer, *Food and Feed Research*, **40**(1), 11-16.
- Brown, N.J., Vaughan, D.E., 1998, Cardiovascular Drugs: Angiotensin-Converting Enzyme Inhibitors, *Circulation*, **97**(14), 1411-1420.
- Cai, R., Hettiarachchy, N.S., Jalaluddin, M., 2003, High-performance liquid chromatography determination of phenolic constituents in 17 varieties of cowpeas, *J Agric Food Chem.*, **51**(6), 1623-1627.
- Castro-Chaves, P., Leite-Moreira, A.F., 2004, Renin-angiotensin system and its role in cardiovascular physiopathology and therapy, *Rev Port Cardiol.*, **23** (Suppl II), 61-77.
- Chauhan, B., Kumar, G., Kalam, N., Ansari, S.H., 2013, Current concepts and prospects of herbal nutraceutical: A review, *J Adv Pharm Technol Res.*, **4**(1), 4–8.
- Chikwendu, J.N., Igbatim, A.C., Obizoba, I.C., 2014, Chemical Composition of Processed Cowpea Tender Leaves and Husks, *IJSRP*, **4**(5), 1-5.
- Chobanian, A.V., *et al*, 2003, The Seventh Report of the Joint National Committee on Prevention, Detection, Evaluation, and Treatment of High Blood Pressure: The JNC 7 Report, *JAMA*, **289** (19), 2560-2572.
- Chun, O.K., Kim, D.O., Lee, C.Y., 2003, Superoxide radical scavenging activity of the major polyphenols in fresh plums, *Journal Agriculture and Food Chemistry*, **51**, 8067-8072.
- Cushman, D.W. dan Cheung, H.S., 1971, Spectrophotometric assay and properties of the angiotensin-converting enzyme of rabbit lung, *Biochemical Pharmacology*, **20** (7), 1637-1648.
- Das L., Bhaumik, E., Raychaudhuri U., Chakraborty, R., 2012, Role of nutraceuticals in human health, *J Food Sci Technol.*, **49**(2), 173–183.
- de la Rosa, L.A., Alvarez-Parrilla, E., González-Aguilar, G.A., 2010, *Fruit and vegetable phytochemicals: Chemistry, nutritional value and stability*, Blackwell Publishing, Iowa.

- Departemen Kesehatan Republik Indonesia, 1986, *Sediaan Galenik*, Direktorat Jenderal Pengawasan Obat dan Makanan, Jakarta.
- DiPiro, J.T., Talbert, R.L., Yee, G.C., Matzke, G.R., Wells, B.G., Posey L.M., 2008, *Pharmacotherapy: A Pathophysiologic Approach*, Seventh Edition, McGraw-Hill Companies Inc., New York City.
- Donoghue, M., Hsieh, F., Baronas, E., Godbout, K., Gosselin, M., Stagliano, N., Donovan, M., Woolf, B., Robison, K., Jeyaseelan, R., Breitbart, R.E., Acton, S., 2000, A novel angiotensin-converting enzyme-related carboxypeptidase (ACE2) converts angiotensin I to angiotensin 1-9, *Circ Res.*, **87**(5), E1-9.
- Duarte, J., Jiménez, R., O'Valle, F., Galisteo, M., Pérez-Palencia, R., Vargas, F., Pérez-Vizcaíno, F., Zarzuelo, A., Tamargo, J., 2002, Protective effects of the flavonoid quercetin in chronic nitric oxide deficient rats, *J Hypertens.*, **20**(9), 1843-54.
- Duarte, J., Pérez-Palencia, R., Vargas, F., Ocete, M.A., Pérez-Vizcaino, F., Zarzuelo, A., Tamargo, J., 2001, Antihypertensive effects of the flavonoid quercetin in spontaneously hypertensive rats. *Br J Pharmacol.* **133**(1), 117-124.
- Foëx, P., Sear, J.W., 2004, Hypertension: pathophysiology and treatment, *Contin Educ Anaesth Crit Care Pain*, **4**(3), 71-75.
- Fried, B., Sherma J., 1999, *Thin Layer Chromatography: Techniques and Applications*, 4th ed., Marcel Dekker, Inc., New York.
- Graefe, E.U., Wittig, J., Mueller, S., Riethling, A.K., Uehleke, B., Drewelow, B., Pforte, H., Jacobasch, G., Derendorf, H., Veit, M., 2001, Pharmacokinetics and bioavailability of quercetin glycosides in humans, *J Clin Pharmacol*, **41**(5), 492-499.
- Guilbert, J.J., 2003, The world health report 2002 - reducing risks, promoting healthy life, *Educ Health (Abingdon)*, **16**(2), 230.
- Hahn-Dienstrop, E., 2007, *Applied Thin-Layer Chromatography*, Second Edition, diterjemahkan oleh R. G. Leach, Wiley-VCH, Weinheim.
- Harborne, J.B., 1998, *Phytochemical Methods A Guide to Modern Techniques of Plant Analysis*, Third Edition, Chapman & Hall, London.

- Hayakari, M., Kondo, Y., Izumi, H., 1978, A rapid and simple spectrophotometric assay of angiotensin converting enzyme, *Analytical Biochemistry*, **84**, 361-369.
- Hernández-Ledesma, B., Martín-Alvarez, P.J., Pueyo, E., 2003, Assessment of the spectrophotometric method for determination of angiotensin-converting-enzyme activity: influence of the inhibition type, *J Agric Food Chem.*, **51**(15), 4175-4179.
- Heyne, K., 1987, Tumbuhan Berguna Indonesia, Jilid III, diterjemahkan oleh Badan Litbang Kehutanan Jakarta, Koperasi Karyawan Departemen Kehutanan, Jakarta.
- Hossain, H., Akbar, P.N., Khan, T.A., Rahman, M.M., Lipy, E.P., Rahman, S.E., Jahan, I.A., 2014, Evaluation of phenolic contents and antioxidant activity of ethanol fruit extract of *Vigna sinensis*, *WJPR*, **3**(10), 183-192.
- Huang, M.T., Ho, C.T., Lee, C.Y., 1992, *Phenolic Compounds in Food and Their Effects on Health II: Antioxidants and Cancer Prevention*, American Chemical Society, Washington.
- Hutapea, J.R., 1994, *Inventaris Tanaman Obat Indonesia (III)*, Badan Penelitian dan Pengembangan Kesehatan, Departemen Kesehatan, Jakarta.
- Hyun, S.K., Lee, H., Kang, S.K., Chung, H.Y., Choi, J.S., 2009, Inhibitory Activities of Cassia tora and its Anthraquinone Constituents on Angiotensin-Converting Enzyme, *Phytotherapy Research*, **23**(2), 178-184.
- Janeesh, P.A., Abraham, A., 2013, *Vigna unguiculata* modulates cholesterol induced cardiac markers, genotoxicity and gene expressions profile in an experimental rabbit model, *Food Funct.*, **4**(4), 568-574.
- Kalra E.K., 2003, Nutraceutical--definition and introduction, *AAPS PharmSci.*, **5**(3), E25.
- Kaplan, N.M., 2006, *Kaplan's Clinical Hypertension*, 9th Edition, Lippincott Williams & Wilkins, Philadelphia.
- Kapravelou, G., Martínez, R., Andrade, A.M., López-Chaves, C., López-Jurado, M., Aranda, P., Arrebola, F., Cañizares, F.J., Galisteo, M., Porres, J.M., 2014, Improvement of the antioxidant and hypolipidaemic effects of cowpea flours (*Vigna unguiculata*) by fermentation: results of in vitro and in vivo experiments, *J Sci Food Agric.*, doi: 10.1002/jsfa.6809.

- Katzung, B.G., Masters, S.B., Trevor, A.J., 2009, *Basic & Clinical Pharmacology*, 11th Edition, McGraw-Hill Companies, New York.
- Kearney, P.M., Whelton, M., Reynolds, K., Muntner, P., Whelton, P.K., He, J., 2005, Global burden of hypertension: Analysis of Worldwide Data. *Lancet.*, **365**, 217–223.
- Koda-Kimble, M.A., Young, L.Y., Alldredge, B.K., Corelli, R.L., Guglielmo, B.J., Kradjan, W.A., Williams, B.R., 2009, *Applied Therapeutics: The Clinical Use Of Drugs*, 9th Edition, Lippincott Williams & Wilkins, Philadelphia.
- Koda-Kimble, M.A., Young, L.Y., Alldredge, B.K., Corelli, R.L., Guglielmo, B.J., Kradjan, W.A., Williams, B.R., 2009, *Applied Therapeutics: The Clinical Use Of Drugs*, 9th Edition, Lippincott Williams & Wilkins, Philadelphia.
- Krishnaswamy, N.R., 2010, *Chemistry of Natural Products: A Unified Approach*, Second Edition, CRC Press, Boca Raton. 170.
- Kustitunto, B., 1988, *Statistika Untuk Ekonomi Dan Bisnis*, BPFE, Yogyakarta.
- Larson, A.J., Symons, J.D., Jalili, T., 2010, Quercetin: A Treatment for Hypertension?—A Review of Efficacy and Mechanisms, *Pharmaceuticals*, **3**, 237-250.
- Larson, A.J., Symons, J.D., Jalili, T., 2012, Therapeutic potential of quercetin to decrease blood pressure: review of efficacy and mechanisms, *Adv Nutr.*, **3**(1), 39-46.
- Lattanzio, V., Arpaia, S., Cardinali, A., Di Venere, D., Linsalata, V., 2000, Role of endogenous flavonoids in resistance mechanism of *Vigna* to aphids, *J Agric Food Chem.* **48** (11), 5316-5320.
- Mabry, T.J., Markham, K.R., Thomas, M.B., 1970, *The Systematic Identification of Flavonoids*, Springer Berlin Heidelberg, Berlin.
- Markham, K.R., 1982, *Cara mengidentifikasi flavonoid*, diterjemahkan oleh Kosasih Padmawinata, Penerbit ITB, Bandung.
- Mittal, B.V., Singh, A.K., 2010, Hypertension in the developing world: Challenges and opportunities. *Am J Kidney Dis.*, **55**, 590–598.

- Mongkolsilp, S., Pongbupakit, I., Sae-Lee, N., Sitthithaworn, W., 2004, Radical scavenging activity and total phenolic content of medicinal plants used in primary health care, *SWU J Pharm Sci.*, **9**(1):32–35.
- Nollet, L.M.L., Toldra, F., 2012, *Handbook of Analysis of Active Compounds in Functional Foods*, CRC Press, Boca Raton.
- Ondetti M.A., Cushman, D.W., 1982, Enzymes of the rennin-angiotensin system and their inhibitors. *Ann. Rev. Biochem.*, **51**, 283–308.
- Patel, M.J., 2008, A review of potential health benefits of flavonoids, *Lethbridge Undergrad Res J*, 3(2).
- Pegg, R.B., Rybarczyk, A., Amarowicz, R., 2007, Determination of hippuric acid by RP-HPLC using two different analytical columns - a short report, *Pol. J. Food Nutr. Sci.*, **57**(4), 447–450.
- Rahmat, H., 2009, Identifikasi Senyawa Flavonoid Pada Sayuran Indigenous Jawa Barat, *Skripsi*, Fakultas Teknologi Pertanian Institut Pertanian Bogor, Bogor.
- Rickenbacher, P., 2005, Update arterial hypertension 2015, *Praxis (Bern 1994)*, **104**(9), 461-465.
- Rohman, A., Riyanto, S., Yuniarti, N., Saputra, W.R., Utami, R., Mulatsih, W., 2010, Antioxidant activity, total phenolic, and total flavonoid of extracts and fractions of red fruit (*Pandanus conoideus* Lam), *International Food Research Journal*, **17**, 97-106.
- Sarker, S.D., Latif, Z., Gray, A.I., 2006, *Natural Products Isolation*, Second Edition, Humana Press, New Jersey. 341.
- Segura-Campos, M.R., Chel-Guerrero, L.A., Ancona, D.A.B., 2011, Purification of angiotensin I-converting enzyme inhibitory peptides from a cowpea (*Vigna unguiculata*) enzymatic hydrolysate, *Process Biochem.* **46**, 864–872.
- Shahidi, F., 2000, Antioxidants in food and food antioxidants, *Nahrung*, **44**, 158–163.
- Shahidi, F., Naczki, M., 2004, *Phenolics in Food and Nutraceuticals*, CRC Press, Boca Raton,
- Sharifi, N., Sour, E., Ziai, S. A., Amin, G., Amanlou, M., 2013, Discovery of new angiotensin converting enzyme (ACE) inhibitors from medicinal

- plants to treat hypertension using an in vitro assay., *DARU Journal of Pharmaceutical Sciences*, **21**(1), 74. doi:10.1186/2008-2231-21-74
- Singleton, V.L., Rossi, J.A., 1965, Colorimetry of Total Phenolics with Phosphomolybdic-Phosphotungstic Acid Reagents, *Am. J. Enol. Vitic.*, **16**, 144-158.
- Staessen, J.A., Wang, J., Bianchi, G., Birkenhager, W.H., Essential hypertension, *Lancet*, 361(9369), 1629–1641.
- Tipnis, S.R., Hooper, N.M., Hyde, R., Karran, E., Christie, G., Turner, A.J., 2000, A human homolog of angiotensin-converting enzyme. Cloning and functional expression as a captopril-insensitive carboxypeptidase, *J Biol Chem*, **275**(43), 33238-33243.
- Tisdale, J.E., Miller, D.A., 2005, *Drug-Induced Diseases: Prevention, Detection, and Management*, American Society of Health-Systems Pharmacists, Bethesda.
- Tsai, H., Deng, H., Tsai, S., Hsu, Y., 2012, Bioactivity comparison of extracts from various parts of common and tartary buckwheats: evaluation of the antioxidant- and angiotensin- converting enzyme inhibitory activities, *Chemistry Central Journal*, **6**(78).
- Weber, M.A., 1999, Interrupting the renin-angiotensin system: the role of angiotensin-converting enzyme inhibitors and angiotensin II receptor antagonists in the treatment of hypertension, *Am J Hypertens.*, **12**(12 Pt 3), 189S-194S.
- Werner, C., Baumhakel, M., Teo, K.K., Schmieder, R., Mann, J., Unger, T., Yusuf, S., Bohm, M., 2008, RAS blockade with ARB and ACE inhibitors: Current perspective on rationale and patient selection, *Clin Res Cardiol*, **97**, 418–431.
- Whelton, P.K., 1994, Epidemiology of hypertension, *Lancet*, **344**(8915), 101-106.
- Xiao, X., Luo, X., Chen, B., Yao, S., 2006, Determination of angiotensin converting enzyme inhibitory activity by high-performance liquid chromatography/electrospray-mass spectrometry, *Journal of Chromatography B*, **834**, 48–54.
- Yang, R.Y., Lin, S., Kuo, G., 2008, Content and distribution of flavonoids among 91 edible plant species, *Asia Pac J Clin Nutr*, **17**(S1), 275-279.

- Ye, X.Y., Wang, H.X., Ng, T.B., 2000, Structurally dissimilar proteins with antiviral and antifungal potency from cowpea (*Vigna unguiculata*) seeds, *Life Sci.*, **67**(26), 3199-3207.
- Zou, Y., Lu, Y., Wei, D., 2004, Antioxidant activity of a flavonoid-rich extract of *Hypericum perforatum* L. in vitro, *J Agric Food Chem.*, **52**(16), 5032-5039.