

DAFTAR PUSTAKA

- Abdel-Aal, El Sayed, Christoper, J. Y., and Rabalski, I. 2006. Anthocyanin Composition in Black, Blue, Pink, Purple, and Red Cereal Grain. *Journal of Agricultural and Food Chemistry* 54 : 4696 - 4704.
- Alberts, B., A. Johnson, J. Lewis, M. Raff, K. Roberts & P. Walter. 2008. *Molekuler Biology of The Cell* 5th ed. Garland Science. UK. Pp : 1207-1208, 1241-1244
- Al-Tameme, Huda Jasim Mohammed. 2015. Chemical profiles as chemotaxonomic tools for some species in Fabaceae in Iraq. https://www.researchgate.net/profile/Huda_profiles_as_chemotaxonomic_tools_for_some_species_in_Fabaceae_in_Iraq/links/5560d39808ae6f4dcc93c1fa.pdf. Diakses 21 Mei 2017
- Amalia, A.R. 2015. *Efek Fraksi Ekstrak Metanolik dan Air Bekatul Padi Hitam (Oryza sativa L.) 'Cempo Ireng' Terhadap Induksi Apoptosis dan Profil Siklus Sel T47D dan WiDr*. Tesis. Fakultas Biologi Universitas Gadjah Mada. Yogyakarta
- American Cancer Society. 2011. *Global Cancer : Facts & Figures* 2nd ed. American Cancer Society Inc. Atlanta. P: 1, 9, 13
- Apridamayanti, P. 2014. *Analisis antosianin dan kandungan nutrisi pada bekatul beras hitam (Oryza sativa L. cv. Cempo ireng Sayegan, Yogyakarta)*. Tesis. Universitas Gadjah Mada. Yogyakarta
- Artanti, N. A. 2014. *Sinergisitas Efek Sitotoksik Brazilein dan Cisplatin melalui Modulasi Siklus Sel dan Induksi Apoptosis pada sel kanker payudara T47D*. Tesis. Program Pascasarjana. Fakultas Farmasi. Universitas Gadjah Mada. Yogyakarta
- Bhattacharjee, P., Singhal, R. S., & P.R. Kulkarni. 2002. Basmati rice: A review. *International Journal of Food Science & Technology* 37: 1-12
- Chang KK, Kikuchi S, Kim YK, Park SH, Yoon U, Lee GS, Choi JW, Kim YH, Park SC. 2010. Computational identification of seed specific transcription factors involved in anthocyanin production in black rice. *Biochip J* 4(3):247–255
- Cempaka, S. 2011. *Eksresi procaspase-3 pada Karsinoma Kolorektal*. Tesis. Fakultas Kedokteran. Universitas Gadjah Mada. Yogyakarta
- Chen, P.N., W.H. Kuo, C.L. Chiang, H.L. Chiou, Y.S. Hsieh & S.C.Chu. 2006. Black Rice Anthocyanins Inhibit Cancer Cells Invasion Via Repressions of MMPs and u-PA expression. *Chemico-Biological Interaction*. 163: 219
- Chen, P-N., Chu, S-C., Chiou, H-L., Chiang, C-L., Yang, S-F and Hsieh, Y-S. 2005. Cyanidin-3-glucoside and Pheonidin-3-glucoside Inhibit Tumor Cell Growth and Induce Apoptosis In Vitro and Suppress Tumor Growth In Vivo. *Nutrition and Cancer* 53 (2) : 232-243.
- Choudhary, D., Johri, B., & A. Prakash. 2008. Volatiles as priming agents that initiate plant growth and defence responses. *Curr. Sci* 94: 595–604

- Crawford, K.W., & W.D. Bowen. 2002. Sigma-2 Receptor Agonists Activate a Novel Apoptotic Pathway and Potentiate Antineoplastic Drugs in Breast Tumor Cell Lines. *Cancer Res.*, 62 : 313-322
- ECACC. 2016. *Cell line profile : Vero*. Public Health England. <https://www.phc-culturecollections.org.uk/media/122249/vero-cell-line-profile.pdf>. Diakses 21 Mei 2017
- Elmore, S. 2007. Apoptosis: a review of programmed cell death. *Toxicology Pathology* 35(4): 495-516
- Fahrunnida. 2017. *Ekspresi Procaspase-3 dan Caspase 3 Pada Sel Kanker usus Besar WiDr Setelah Perlakuan Fraksi Aktif Ekstrak Metanolik Bekatul Padi Hitam (*Oryza sativa* L.) ‘Cempo Ireng’*. Skripsi. Fakultas Biologi Universitas Gadjah Mada. Yogyakarta
- Fan, T. J., L. H. Han, R. S. Cong, & J. Liang. 2005. Caspase family protease and apoptosis. *Acta Biochimica et biophysica Sinica*. 37(11): 719-727
- FAO. 1994. *Definition and classification of commodities*. <http://www.fao.org/es/faodef/fdef11e.htm>. Diakses tanggal 6 Mei 2016
- Feist, P. & A.B. Hummon. 2015. Proteomic Challenges : Sample Preparation Techniques for Microgram-Quantity Protein Analysis from Biological Samples. *Int. J. Mol. Sci.* 16: 3540
- Freshney, R.I. 2000. *Culture of Animal Cells: A manual of Basic Techniques* 4th Ed Wiley-Lies, Canada.
- Friedman, M. 2013. Rice Brans, Rice Bran Oil and Rice Hulls : Cpmposition Food and Industrial Uses, and Bioactivities in Humans, Animals and Cells. *Journal of agricultural and food chemistry*.
- Forster, G.M., K. Raina, A. Kumar, S. Kumar, R. Agarwal, M. Chen, J.E. Bauer, A.M. McClung & E.P. Ryan. 2013. Rice Varietal Differences in Bioactive Bran Components for Inhibition of Colorectal Cancer Cell Growth. *Food Chemistry* 141: 1545
- Fuggetta, M.P., G. Lamzilli, M. Tricarico, A. Cottarelli, R. Falchetti, G. Ravagnan & E. Bonmassar. 2006. Effect of resveratrol on roliferation and telomerase activity of human colon cancer cell *in vitro*. *J.Exp.Clin.Cancer Res* 25(2) : 189-192
- Gewirtz, D.A., 1999, A critical evaluation of the mechanisms of action proposed forthe antitumor effects of the anthracycline antibiotics adriamycin and daunorubicin, *Biochem. Pharmacol.* 57:727-741.
- Ghasemdah, A., H.Z.E. Jaafar, A.S. Juraimi & A.Tayebi-Meigooni. 2015. Comparative Evaluation of Different Exctraction Techniques and Solvets for the Assay of Phytochemicals and Antioxidant Activity of Hashemi Rice Brain. *Molecules*. 20: 10823
- Haggar, F. A. & R.P. Boushey. 2009. Colorectal Cancer Epidemiology: Incidence, Mortality, Survival, and Risk Factors. *Clinics in Colon and Rectal Surgery* 22 (4) : 191 – 197
- Haryadi. 2008. *Teknologi Pengolahan Beras*. Gadjahmada University Press. Yogyakarta.

- Hiemori, M., E. Koh & A.E. Mitchell. 2009. Influence of Cooking on Anthocyanins in Black Rice (*Oryza sativa* L. *japonica* var. SBR). *Journal of Agricultural and Food Chemistry* 57(5) : 1910
- Hyun JW and Chung HS. 2004. Cyanidin-3-glucoside and malvidin from *Oryza sativa* cv. Heugjinjubyeo mediate cytotoxicity against human monocytic leukemia cells by arrest of G2/M phase and induction of apoptosis. *J. Agric. Food Chem.*: 52:2213–2217.
- Ionov, Y., Peinado, M. A., Malkhosyan, S., Shibata, D., & Perucho, M. 1993. Ubiquitous Somatic Mutations in Simple Repeated Sequences Reveal A New Mechanism for Colonic Carcinogenesis. *Nature* 363 (6429) : 558-561
- Jemal, A., Bray, F., Center M. M., & J. Ferlay. 2011. Global Cancer Statistics. *A Cancer Journal for Clinicians* 61 : 69 – 90
- Jordheim, Monica. 2007. *Isolation, Identification and Properties of Pyranoanthocyanins and Anthocyanin Forms*. Disertasi. Department of Chemistry University of Bergen.
- Joshi, Y. & B. Goyal. 2011. Anthocyanins : A Lead for Anticancer Drugs. *International Journal of Research in Pharmacy and Chemistry* 1(4): 2231-2232
- Kaneda I, Kubo F & Sakurai H. 2006. Antioxidative compounds in the extracts of black rice brans. *J Health Sci.* 52(5):495–511.
- Katsube, N., Iwashita, K., Tsushida, T., Yamaki, K., Kobori, M. 2003. Induction of Apoptosis in cancer cells by biliberry and the anthocyanins. *Journal of Agricultural and food chemistry.* 51 : 68-75.
- Kim, H.K., Y.H. Choi & R. Verpoorte. 2010. NMR-based Metabolomic Analysis of Plants. *Nature Protocols* 5(3) : 541
- Koda, M., K. Furihata, F. Wei, T. Miyakawa & M. Tanokura. 2012. NMR-Based Metabolic Profiling of Rice Wines by F₂-Selective Total Correlation Spectra. *J. Agric. Food Chem.* 60 : 4819-4820
- Kristamtini, Taryono, P. Basunanda, R.H.Murti & Supriyanta. 2012. Morphological of genetic relationships among black rice landraces from Yogyakarta and surrounding areas. *ARPN Journal of Agricultural and Biological Science* 7(12): 983
- Lapenna, S. & A. Giordano. 2009. Cell cycle kinases as therapeutic target for cancer. *Nat. Rev. Drug Discov.* 8(7): 547-566
- Leardkamolkarn, V., W. Thongthep, P. Suttiarporn, R. Kongkachuichai, S.Wongpornchai, A. Wanavijitr. 2011. Chemopreventive Properties of The Bran Extracted from A Newly-developed Thai Rice: The Riceberry. *Food Chemistry*, 125 : 978–985.
- Lee, Jin Hwan. 2010. Identification and Quantification of Anthocyanins from the Grains of Black Rice (*Oryza sativa* L.) Varieties. *Food Sci. Biotechnol* 19(2) : 396
- Levrero, M., Laurenzi, V. De., Constanzo, A., Gong, J., Wang, J.Y., & G. Melino. 2000. The p53/p63/p73 Family of Transcription Factors: Overlapping and Distinct Function. *Journal of Cell Science* 113 : 1661-1670

- Lin B., C. Gong, H. Song & Y. Cui. 2017. Effects of anthocyanins on the prevention and treatment of cancer. *British Journal of Pharmacology* 174:1230
- Macias, F., Galindo, J. & J. Galindo. 2007. Evolution and current status of ecological phytochemistry. *Phytochemistry* 68: 2917–2936
- Meyer, B.N., N.R. Ferrign, J.E. Putnam, L.B. Jacobsen, D.E. Nichols & J.L. McLaughlin. 1982. Brine Shrimp: A Convenient General Bioassay for Active Plant Constituents. *Plant Med* 45(5): 31-34
- Meiyanto, E. & P. Septisetyani. 2005. Efek antiproliferasi dan apoptosis fraksi fenolik ekstrak etanolik daun *Gynura procumbens* (Lour.) Merr. Terhadap sel HeLa. *Artocarpus* 2 (5); 74-80
- Moko, E.M., H. Purnomo, J.Kusnadi & F.G. Ijong. 2014. Phytochemical Content and Antioxidant Properties of Colored and Non Colored Varieties of Rice Bran from Minahasa, North Sulawesi, Indonesia. *International Food Research Journal* 21(3): 1053
- Monakhova, Y.B., D.N. Rutledge, A. Robmann, W. Hans-Ulrich, M. Mahler, M. Ilse, T. Kuballa & D.W. Lachenmeier. Determination of Rice Type by ¹H NMR Spectroscopy in Combination with Different Chemometric Tools. *J.Chemometrics* 28:84
- Mosmann, Tim. 1983. Rapid Colorimetric Assay for Cellular Growth and Survival : Application to Proliferation and Cytotoxicity Assays. *Journal of Immunological Methods* 65(1-2): 55-63
- Mpofu A, Sapirstein HD & Beta T. 2006. Genotype and environment variation in phenolic content, phenolic acid composition, and antioxidant activity of hard spring wheat. *J Agric Food Chem.* 54(4):1265–70.
- Mursyidi, A. 1985. *Statistika Farmasi dan Biologi*. Ghalia. Jakarta
- Noguchi, P., Wallace, R., Johnson, J., Earley, E. M., O'Brien, S., Ferrone, S., Pellegrino, M. A , Milstien, J., Needy, C., Browne, W., & J. Petriccioni. 1979. Characterization of WiDr: A Human Colon Carcinoma Cell Line. *In Vitro* 15 (6) : 401-408
- Nurulita, N. A., Meiyanto, E., Sugiyanto, Matsuda, E., & M. Kawaichi. 2011. The Ethyl Acetate Fraction of *Gynura procumbens* Sensitizes WiDr Colon Cancer Cell Line against 5-Fluorouracil but Shows Antagonism with Cisplatin. *International Journal of Phytomedicine* 3 : 392-405
- Nussbaum RL, McInnes RR., & A. Hamosh. 2007. The human genome: Gene structure and function. Thompson & thompson genetics in medicine. 7th ed. Saunders Elsevier. Philadelphia. p. 30-3
- Ogawa K., Sakakibara H., Iwata R., Ishii T., Sato T., Goda T., Shimoi K., & S. Kumazawa. 2008. Anthocyanin composition and antioxidant activity of the Crowberry (*Empetrum nigrum*) and other berries. *J Agric Food Chem* 56: 4457–4462
- Palozza, P., Serini, S., Maggiano, N., Tringali, G., Navarra, P., Ranelletti, F.O. * G. Calviello. 2005. β -Carotene Downregulates the Steady-State and Heregulin-a-Induced COX-2 Pathways in Colon Cancer Cells. *J.Nutr.* 135 : 129 - 136

- Park, Y.Sam, S.Kim & H.Chang. 2008. Isolation of Anthocyanin from Black Rice (Heugjinjubyeo) and Screening of its Antioxidant Activities. *Kor.J.Microbiol.Biotechnol.* 36(1): 55-56
- Pengkumsri, N., C. Chaiyasut, C. Saenjum, S. Sirilun, S. Peerajan, P. Suwannalert, S. Sirisattha & B.S. Sivamaruthi. 2015. Phsicochemical and Antioxidative Properties of Black, Brown and Red Rice Varieties of Northern Thailand. *Food Science and Technology* 35(2) : 331-332
- Pereira-Caro, G., S. Watanabe, A. Crozier, T. Fujimura, T. Yokota & H. Ashihara. 2013. Phytochemical Profile of a Japanese black-purple rice. *Food Chemistry* 141: 2821-2822
- Pranatami, Dwimeia A. 2016. *Uji Sitotoksik dan Induksi Apoptois Fraksi Etanolik Bekatul Beras Hitam 'Woja Laka' Terhadap Kanker Kolon WiDr.* Tesis. Universitas Gadjah Mada. Yogyakarta
- Pratiwi, R., W.A.S.Tunjung, Rumiya & A.R. Amalia. 2015. Black rice bran extract and fractions containing Cyanidin-3-glucoside and Pheonidin-3-glucoside induce apoptosis in human cervical cancer cells. *Indonesian Journal of Biotechnology* 20(11): 74
- Pratiwi, R. & Y.A. Purwestri. 2017. Black rice as a functional food in Indonesia. *Functional Foods in Health and Disease* 7(3):182-183, 186-187
- Purwestri, Y.A., N.S. Handayani, N.Wijayanti, W.Anindito & A.Agus. 2012. *Basic Techniques in Molecular Biology.* Fakultas Biologi UGM. Hal : 36-37
- Puspitasari, E. & E.U. Ulfa. 2009. Uji Sitotoksisitas Ekstrak Metanol Buah Buni (*Antidesma bunius* (L) Spreng) terhadap Sel Hela. *Jurnal Ilmu Dasar* 10 (2): 181-185
- Rahman MM, Lee KE, Lee ES, Matin MN, Lee DS, Yun JS, Kim JB, Kang SG. 2013. The genetic constitutions of complementary genes Pp and Pb determine the purple color variation in pericarps with Cyanidin-3-glucoside-3-O-glucoside depositions in black rice *J. Plant Biol* 56:24–31
- Rai M. 2002. Genetic diversity in rice production: past contribution and the potential of utilization for sustainable rice production. In Proceedings of the 20th Session of the International Rice Commission: Sustainable rice production for food security, Produced by Agriculture and Consumer Protection Bangkok, Thailand 23-26 July 2002. FAO. Part III.2003.
- Rastogi, R. P., Richa & R. P. Sinha. 2009. Apoptosis: molecular mechanism and pathogenicity. *Experimentasl and Clinical Science Journal.* 8: 155:181
- Ravagnan L, Roumer T, & G. Kroemer. 2002. Mitochondria, the killer organelles and their weapons. *J Cell Physiol* (192) : 131
- Reddivari, L., J.Vanamala, S. Chintharlapalli, SH Safe & JC. Miller Jr. 2007. Anthocyanin fraction from potato extract is cytotoxic to prostate cancer cells through activation of caspase-dependent and caspase-independent pathways. *Carcinogenis* 28(10): 2227-2235.

- Riss, T.L., R.A. Moravec, A.L. Niles, H.A. Benink, T.J. Worzella & L. Minor. 2015. *Cell Viability Assays*. <http://www.ncbi.nlm.nih.gov/books/NBK144065/>. Diakses 7 Mei 2015
- Rhodriguez-Saona, Luis E. & R.E. Wrolstad. 2003. *Current protocols in food analytical chemistry*. <http://onlinelibrary.wiley.com/doi/10.1002/0471142913.faf0101s00/abstract>. Diakses 21 Mei 2017
- Satyanarayana, A. & Kaldis P. 2009. Mammalian cell cycle regulation : Several Cdk's, numerous cyclin, and diverse compensatory mechanism. *Oncogen* 28 : 2925-2939
- Sena, P., L. Roncucci, L. Marzona, F. Mariani, S. Maffei, A. Manenti & A. De Pol. 2010. Altered Expressions of Apoptosis Biomarkers in Human Colorectal Microadenomas. *Cancer Cell Epidemiology Biomarkers Prev.* 19(2) : 354
- Shi, Y. 2004. Caspase activation: revisiting the induced proximity model. *Cell*. 117: 855-858
- Shinta, S. Indriyani & E. Arisoesilaningih. 2014. Morphological Variation of Six Pigmented Rice Local Varieties Grown in Organic Rice Field in Sengguruh Village, Kepanjen Distric, Malang Regency. *The Journal of Tropical Life Science* 4(2) : 151-157
- Sugimoto, M., M. Koike, N. Hiyana, and N. Nagao. 2003. Genetic, morphological and virulence characterization of the entomopathogenic fungus *Verticillium lecanii*. *J Invertebr Pathol* 82(3):176-187.
- Suhendi, A., L.R. Sjahid & D. Hanwar. 2011. Isolasi dan identifikasi flavonoid dari daun dewandaru (*Eugenia uniflora* L.). *Pharmakon* 2(12) : 73-81
- Sun, Z. 2005. *Molecular Cardiology: Methods and Protocols*. Humana Press Inc. Totowa.
- Suttiarporn, P., W. Chumpolsri, S. Mahatheeranont, S. Luangkamin, S. Teepsawang & V. Leardkamolkarn. 2015. Structures of Phytosterols and Triterpenoids with Potential Anti-Cancer Activity in Bran of Black Non-Glutinous Rice. *Nutrients* 7 : 1679-1680
- Tokarska-Schlattner, M., Schlattner, U., Wallimann, T. 2006. Mitochondrial creatine kinase in human health and disease. *Biochim Biophys Acta*. 1762(2):164-180.
- Van der Sar, S., H.K. Kim, A. Meissner, R. Verpoorte & Y.H. Choi. 2013. *Nuclear Magnetic Resonance Spectroscopy for Plant Metabolite Profiling*. The Handbook of Plant Metabolomics 1st ed. Wiley-VCH Verlag GmbH & Co. KGaA. Pp : 59-60
- Vermeulen, K., Z.N. Berneman, D.R. Van Bockstaele. 2003. Cell cycle and apoptosis. *Cell Prolif* 36(3) : 165-175
- Verpoorte, R., Choi, Y.H., & H.K. Kim. 2007. NMR-based metabolomics at work phytochemistry. *Phytochem. Rev.* 6 : 3-14
- Weich, C.R., Q. Wu, J.E. Simon. Recent advance in anthocyanin analysis and characterization. *Curr Anal Chem* 4(2): 75-101
- Yang, W., T. Addona, D.G. Nair, Q. Lixin & T.S. Ravikumar. 2003. Apoptosis Induced by Cryo-Injury in Human Colorectal Cancer Cells is Associated with Mitochondrial Dysfunction. *Int. J. Cancer* 103 : 361

- Yawadio, R., Tanimori, S. & N. Morita. 2007. Identification of phenolic compounds isolated from pigmented rices and their aldose reductase inhibitory activities. *Food Chemistry* 101 (4): 1616-1625
- Yin, N., Ma, W., Pei, J., Ouyang, Q., Tang, C. and Lai, L. 2012. *Synergistic and Antagonistic Drug Combinations depend on Network Topology*. <http://www.plosone.org>. Diakses tanggal 1 April 2016.
- Yodmanee, S., T.T. Karrila & P. Pakdeechanuan. 2011. Physical, Chemical and Antioxidant Properties of Pigmented Rice Grown in Southern Thailand. *International Food Research Journal* 18(3): 901
- Yoshida, H., Y. Tomiyama, Y. Mizushima & N. Yoshida. 2012. Profiles of Fatty Acid Distribution of Different Acyl Lipids from Red and Black Rices. *Journal of Food Research* 1(3): 46
- Yoshimura, Y., N. Zaima, T. Moriyama & Y. Kawamura. 2012. Different Localization Patterns of Anthocyanin Species in the Pericarp of Black Rice Revealed by Imaging Mass Spectrometry. *Plos One* 7(2) : 1
- Yu J., Y. Xu, V. Khaoustov & B. Yoffe. 2011. Identification of components of grape powder with anti-apoptotic effects. *Toxicol Ind Health* 27 : 19-28.
- Yu, L. L., R. Tsao, & F. Shahidi. 2012. *Cereals and Pulses: Nutraceutical Properties and Health Benefits*. John Wiley & Sons. New York. P:38.
- Zhang, M.W., R.F. Zhang, F.X. Zhang & R.H. Liu. 2010. Phenolic Profiles and Antioxidant Activity of Black Rice Bran of Different Commercially Available Varieties. *Journal of Agriculture and Food Chemistry* 1(58) 7580-7581
- Zhang, M.W., Guo, B.J., Zhang, R.F., Chi, J.W., Wei, Z.C., Xu, Z.H., Zhang, Y., & X.J. Tang. 2006. Separation, purification and identification of antioxidant compositions in black rice. *Agricultural Science in China* 5 (6): 431-440
- Zhivotovsky, B. & S. Orrenus. 2011. Calcium and cell death mechanisms : A Perspective from the Cell death community. *Cell Calcium* 50 : 211-212