

DAFTAR PUSTAKA

- Abajo, A., 2012, Identification of Colorectal Cancer Metastasis Markers by an Angiogenesis-related Cytokine-antibody Array, *World Journal of Gastroenterology*, **18** (7), 637-645.
- Adair, T. dan Montani, J., 2010, *Angiogenesis*, <https://www.ncbi.nlm.nih.gov/books/NBK53238/>, diakses pada 10 September 2018 pukul 10.00 WIB.
- Adams, R.H. dan Alitalo, K., 2007, Molecular Regulation of Angiogenesis and Lymphangiogenesis, *Nature Reviews Molecular Cell Biology*, **8**, 464-478.
- Aggarwal, S., 2005, Curcumin (Diferuloylmethane) Downregulates Expression of Cell Proliferation, Antiapoptotic and Metastatic Gene Products Through Suppression of I κ -B α Kinase and AKT Activation, *Molecular Pharmacology*, **69** (1), 195-206.
- Akarasereenont, P., Techatraisak, K., Thaworn, A., dan Chotewuttakorn, S., 2002, The Expression of COX-2 in VEGF-treated Endothelial Cells is Mediated Through Protein Tyrosine Kinase, *Mediators of Inflammation*, **11**, 17-22.
- Arranz, A., Venihaki, M., Mol, B., Androulidaki, A., Dermitzaki, E., Rassouli, O., 2010, The Impact of Stress on Tumor Growth: Peripheral CRF Mediates Tumor-promoting Effects of Stress, *Molecular Cancer*, **9** (1), 261-274.
- ATCC, 2016, CT26.CL25 (ATCC® CRL-2639™)', <https://www.atcc.org/Products/All/CRL-2639.aspx#culturemethod>, diakses pada 16 November 2018 pukul 20.00 WIB.
- Bae, M.K., Kim, S.H., Jeong, J.W., Lee, Y.M., Kim, H.S., Kim, S.R., 2006, Curcumin Inhibits Hypoxia-induced Angiogenesis Via Down-regulation of HIF-1, *Oncology Reports*, **15**, 1557-1562
- Bendardaf, R., El-Serafi, A., Syrjänen, K., Collan, Y., dan Pyrhönen, S., 2017, The Effect of Vascular Endothelial Growth Factor-1 Expression on Survival of Advanced Colorectal Cancer Patients, *Libyan Journal of Medicine*, **12**, 1290741.
- Binion, D.G., Otterson, M.F., dan Rafiee, P., 2008, Curcumin Inhibits VEGF-mediated Angiogenesis in Human Intestinal Microvascular Endothelial Cells Through COX-2 and MAPK Inhibition, *Gut*, **57**, 1509-1517.
- Campbell, Shawn, F., dan McDougal, O., 2009, *Biochemistry*, 7th Edition, Nelson Education, Canada.
- Carter, M. dan Shieh, J., 2015, Molecular Cloning and Recombinant DNA Technology, *Guide to Research Techniques in Neuroscience*, **10**, 219-237.
- Castle, J.C., Loewer, M., Boegel, S., de Graaf, J., Bender, C., Tadmor, A.D., 2014, Immunomic, Genomic and Transcriptomic Characterization of CT26 Colorectal Carcinoma, *BMC Genomics*, **15**, 190-201.
- Chang, S.H., Liu, C.H., Conway, R., Han, D.K., Nithipatikom, K., Trifan, O.C., 2004, Role of Prostaglandin E2-dependent Angiogenic Switch in Cyclooxygenase-2 Induced Breast Cancer Progression, *Proceedings of the National Academy of Sciences*, **101** (2), 591-596.

- Cianchi, F., Cortesini, C., Bechi, P., Fantappiè, O., Messerini, L., Vannacci, A., dkk., 2001, Up-regulation of Cyclooxygenase-2 Gene Expression Correlates With Tumor Angiogenesis in Human Colorectal Cancer, *Gastroenterology*, **121**, 1339-1347.
- Clark, D.P., 2010, *Molecular Biology: Academic Cell Update*, Elsevier Academic Press, San Diego, USA.
- Da'i, M., 2003, Uji Aktivitas Antiproliferaif PGV-0 Terhadap Sel Raji, Sel HeLa Dan Sel Mieloma, *Tesis*, Program Pasca Sarjana Universitas Gadjah Mada, Yogyakarta.
- Da'i, M., 2007, Mekanisme Molekuler Aktivitas Analog Kurkumin Pentagamavunon Terhadap Sel Kanker Payudara (T74D), *Disertasi*, Program Pasca Sarjana Universitas Gadjah Mada, Yogyakarta.
- Dipiro, Joseph T., Barbara G. Wells, Terry L. Schwinghammer, & Cecily V. Dipiro, 2015, *Pharmacotherapy Handbook*, 9th Edition, Mc Graw Hill Education, New York.
- Ellis, L.M., Takahashi, Y., Liu, W., dan Shaheen, R.M., 2000, Vascular Endothelial Growth Factor in Human Colon Cancer: Biology and Therapeutic Implications, *The Oncologist*, **5**, 11-15.
- Folkman, J., 1996, Fighting Cancer by Attacking its Blood Supply, *Scientific American*, **275**, 150-154.
- Fu, Z., Chen, X., Guan, S., Yan, Y., Lin, H., dan Hua, Z.-C., 2015, Curcumin Inhibits Angiogenesis and Improves Defective Hematopoiesis Induced by Tumor-derived VEGF in Tumor Model Through Modulating VEGF-VEGFR2 Signaling Pathway, *Oncotarget*, **6** (23), 19469-19482.
- Gately, S., 2000, The Contributions of Cyclooxygenase-2 to Tumor Angiogenesis, *Cancer and Metastasis Reviews*, **19**, 19-27.
- Gasparini, G., Longo, R., Sarmiento, R., dan Morabito, A., 2003, Inhibitors of Cyclooxygenase-2: A New Class of Anticancer Agents, *The Lancet Oncology*, **4**, 605-615.
- Goel, A., Boland, C.R., dan Chauhan, D.P., 2001, Specific Inhibition of Cyclooxygenase-2 (COX-2) Expression by Dietary Curcumin in HT-29 Human Colon Cancer Cells, *Cancer Letters*, **172**, 111-118.
- Grösch, S., Maier, T.J., Schiffmann, S., dan Geisslinger, G., 2006, Cyclooxygenase-2 (COX-2)-Independent Anticarcinogenic Effects of Selective COX-2 Inhibitors, *JNCI: Journal of the National Cancer Institute*, **98**, 736-747.
- Hanahan, D. dan Weinberg, R.A., 2011, Hallmarks of Cancer: The Next Generation, *Cell*, **144**, 646-674.
- Hermawan, A., Fitriyanti, A., Junedi, S., Ikawati, M., Haryanti, S., Widaryanti, B., 2011, PGV-0 And PGV-1 Increased Apoptosis Induction of Doxorubicin on MCF-7 Breast Cancer Cells, *Pharmacon*, **12** (2), 55-59.
- Holme, D.J. dan Peck, H., 1998, *Analytical Biochemistry*, 3rd Edition, Prentice Hall, Addison Wesley Longman, Ltd, Singapore.
- Huang, S., Benavente, S., Armstrong, E.A., Li, C., Wheeler, D.L., & Harari, P.M., 2011, p53 Modulates Acquired Resistance to EGFR Inhibitors and Radiation, *American Association for Cancer Research*, **71**, 7071-7080.

- IARC, 2018, World Cancer Report, <https://www.uicc.org/new-global-cancer-data-globocan-2018>, diakses pada tanggal 6 Desember 2018 pukul 14.00 WIB.
- Ikawati, M., 2008, Modulasi Daur Sel Dan Pemacuan Apoptosis Pada Sel Kanker Kolon WiDr Oleh Perlakuan Tunggal Pentagamavunon-0 Dan Kombinasinya Dengan 5-Fluorouracil, *Tesis*, Program Pasca Sarjana Universitas Gadjah Mada, Yogyakarta.
- Karp, 2009, *Cell and Molecular Biology: Concepts and Experiments*, 6th Edition, John Wiley & Sons, New York.
- Kerbel, R. dan Folkman, J., 2002, Clinical translation of angiogenesis inhibitors, *Nature Reviews Cancer*, **2**, 727-739.
- Kerbel, R.S., 2008, Tumor Angiogenesis, *The New England Journal of Medicine*, **11**, 2013-2049.
- Komite Penanggulangan Kanker Nasional, 2012, *Pedoman Nasional Pelayanan Kesehatan Kanker Kolorektal*, Kementerian Kesehatan Republik Indonesia, Jakarta.
- Korsisaari, N., Kasman, I.M., Forrest, W.F., Pal, N., Bai, W., Fuh, G., dkk., 2007, Inhibition of VEGF-A Prevents the Angiogenic Switch and Results in Increased Survival of Apc+/min Mice, *Proceedings of the National Academy of Sciences*, **104** (25), 10625-10630.
- Kubota, T., Matsumura, A., Taiyoh, H., Izumiya, Y., Fujiwara, H., Okamoto, K., 2013, Interruption of the HGF Paracrine Loop by NK4, an HGF Antagonist, Reduces VEGF Expression of CT26 Cells, *Oncology Reports*, **30**, 567-572.
- Kukurba, K.R. dan Montgomery, S.B., 2015, RNA Sequencing and Analysis, *Cold Spring Harbor Protocols*, **11**, 1-20.
- Kurniawati, I., 1999, Metode Analisis Kuantitatif Pentagamavunon-0 pada Tikus Putih, *Skripsi*, Fakultas Farmasi Universitas Gadjah Mada, Yogyakarta.
- Lin, J. dan Redies, C., 2012, Histological Evidence: Housekeeping Genes Beta-Actin and GAPDH are of Limited Value for Normalization of Gene Expression, *Development Genes and Evolution*, **222** (6), 369-376.
- Lu, C.W., Hao, J.L., Yao, L., Li, H.J., dan Zhou, D.D., 2017, Efficacy of Curcumin in Inducing Apoptosis and Inhibiting the Expression of VEGF in Human Pterygium Fibroblasts, *International Journal of Molecular Medicine*, **39**: 1149-1154.
- Maciag, A., 2004, Mutant K-rasV12 Increases COX-2, Peroxides and DNA Damage in Lung Cells, *Carcinogenesis*, **25** (11), 2231-2237.
- Malhotra, K., 1998, Interaction and Effect of Annealing Temperature on Primers Used in Differential Display RT-PCR, *Nucleic Acids Research*, **26** (3), 854-856.
- Massaro, M., Scoditti, E., Carluccio, M.A., Montinari, M.R., dan De Caterina, R., 2008, Omega-3 Fatty Acids, Inflammation and Angiogenesis: Nutrigenomic Effects as an Explanation for Anti-Atherogenic and Anti-Inflammatory Effects of Fish and Fish Oils, *Journal of Nutrigenetics and Nutrigenomics*, **1**, 4-23.

- Matter, A., 2001, Tumor Angiogenesis as a Therapeutic Target, *Drug Discovery Today*, **6** (19), 1005-1024.
- McPherson, M.J. dan Moller, S.G., 2006, *PCR: The Basics*, 2nd Edition Taylor & Francis Group, New York.
- Meiyanto, E., Putri, D.D.P., Susidarti, R.A., Murwanti, R., Sardjiman, S., Fitriasari, A., 2014, Curcumin and Its Analogues (PGV-0 and PGV-1) Enhance Sensitivity of Resistant MCF-7 Cells to Doxorubicin through Inhibition of HER2 and NF- κ B Activation, *Asian Pacific Journal of Cancer Prevention*, **15** (1): 179-184.
- Murwanti, R., 2003, Pengaruh Kurkumin dan Pentagamavunon-0 Terhadap Sel Mieloma, Sel Vero, serta Angiogenesis Membran Korio Alantois Embrio Ayam Terinduksi Implan Tumor Paru Mencit, *Tesis*, Fakultas Kedokteran Hewan Universitas Gadjah Mada, Yogyakarta.
- Napione, L., Alvaro, M., dan Bussolino, F., 2017, VEGF-Mediated Signal Transduction in Tumor Angiogenesis, *Physiologic and Pathologic Angiogenesis - Signaling Mechanisms and Targeted Therapy*, **13**, 227-249.
- National Cancer Institute, 2014, *Colorectal Cancer*, <https://www.cancer.gov/types/colorectal>, diakses pada 21 Januari 2019.
- Nishida, N., Yano, H., Nishida, T., Kamura, T., dan Kojiro, M., 2006, Angiogenesis in Cancer. *Vascular Health and Risk Management*, **2** (3), 213-219.
- Nurrochmad, A., 2001, Sintesis Kurkumin, Bisdemetoksikurkumin, Bisdemetoksidehidroksikurkumin, Dan Pentagamavunon-0 Serta Uji Kesitotoksikannya Terhadap Sel Mieloma Dan Sel Mononuklear Secara In Vitro, *Tesis*, Fakultas Farmasi Universitas Gadjah Mada, Yogyakarta.
- Nurulita dan Meiyanto, 2006, The Anticancer Effects of Pentagamavunon-0 (PGV-0) to T47D Cell Line Induced by 17-B-Estadiol through Apoptosis Induction and Angiogenesis Suppression Mechanism, *Sains Kesehatan*, **19** (1), 109-125.
- Park, D. dan Dilda, P.J., 2010, Mitochondria as Targets in Angiogenesis Inhibition, *Molecular Aspects of Medicine*, **31**, 113-131.
- Pruitt, S.L., Harzke, A.J., Davidson, N.O., dan Schootman, M., 2013, Do Diagnostic and Treatment Delays for Colorectal Cancer Increase Risk of Death?, *Cancer Causes Control*, **24**, 961-977.
- Putri, N.R., 2017, Aktivitas Sitotoksik Dan Induksi Apoptosis SNEDDS (Self Nano Emulsifying Drug Delivery System) Pentagamavunon-0 Terhadap Sel Kanker Kolon CT26, *Skripsi*, Fakultas Farmasi Universitas Gadjah Mada, Yogyakarta.
- Ramakrishnan, S., Anand, V., dan Roy, S., 2014, Vascular Endothelial Growth Factor Signaling in Hypoxia and Inflammation, *Journal of Neuroimmune Pharmacology*, **9**, 142-160.
- Rapisarda, A. dan Melillo, G., 2012, Role of the VEGF/VEGFR Axis in Cancer Biology and Therapy, *Advances in Cancer Research*, **114**, 237-267.
- Reinhart, C.A., 2005, *Molecular Genetics-Biology 495: Hybridization Experiment*, <http://bioweb.wku.edu/>, diakses pada tanggal 2 Februari 2019 pukul 14.00 WIB.

- Rutala, W. A, Gergen, M. F., & Weber, D. J., 2008, Impact of Ana Oil-Based Lubricant on The Effectiveness of The Sterilization Processes, *Infection Control & Hospital Epidemiology*, **29** (1), 69-72.
- Sambrook, J. dan Russel, D.W., 2001, *Molecular Cloning: a Laboratory Manual*, 3rd Edition, Cold Spring Harbor Laboratory Press, New York.
- Sardjiman, 1993, Sintesis 2,6-bis-(3',5'-dimetil-4'-hidroksibenzilidin)-sikloheksanon; 2,5-bis-(4'-hidroksi-3'-metoksibenzilidin)-siklopentanon dan Pentadien-3-on dan Daya Antioksidannya, *Laporan Penelitian*, Fakultas Farmasi Universitas Gadjah Mada, Yogyakarta.
- Sardjiman, 2000, Synthesis of Some New Series of Curcumin Analogues, Antioxidative, Anti-Inflammatory, Antibacterial Activities and Qualitative-Structure Activity Relationship, *Disertasi*, Program Doktor Universitas Gadjah Mada, Yogyakarta.
- Semenza, G.L., 2007, Vasculogenesis, Angiogenesis, and Arteriogenesis: Mechanisms of Blood Vessel Formation and Remodeling, *Journal of Cellular Biochemistry*, **102**, 840-847.
- Shibuya, M., 2011, Vascular Endothelial Growth Factor (VEGF) and Its Receptor (VEGFR) Signaling in Angiogenesis: A Crucial Target for Anti- and Pro-Angiogenic Therapies, *Genes & Cancer*, **2**, 1097-1105.
- Shiff, S.J., Shivaprasad, P., Santini, D.L., 2003, *Cyclooxygenase Inhibitors: Drugs for Cancer Prevention*, *Current Opinion in Pharmacology*, **3**, 352-361.
- Shim, J. dan Karin, M., 2002, The Control of mRNA Stability in Response to Extracellular, *Molecules and Cells*, **14** (3), 323-331.
- Shishodia, S., Potdar, P., Gairola, C.G., dan Aggarwal, B.B., 2003, Curcumin (Diferuloylmethane) Down-regulates Cigarette Smoke-induced NF-kB Activation Through Inhibition of Ik-B α Kinase in Human Lung Epithelial Cells: Correlation With Suppression of COX-2, MMP-9 and Cyclin D1, *Carcinogenesis*, **24** (7), 1269-1279.
- Siswandono dan Bambang Soekardjo, 2008, *Kimia Medisinal*, Edisi 2, Airlangga University Press, Surabaya.
- Sriwidayanti, N. P., 2013, Mutasi K-ras pada Karsinogenesis Kanker Kolorektal, *Medicina*, **44**: 97-100.
- Switzer, R. dan Garrity, L., 1999, *Experimental Biochemistry*, 3rd Edition, W. H. Freeman, New York.
- Tan, X., Poulouse, E.M., Raveendran, V.V., Zhu, B.T., dan Dileepan, K.N., 2012, Regulation of the Expression of Cyclooxygenases and Production of Prostaglandin I₂ and E₂ in Human Coronary Artery Endothelial Cells by Curcumin, *J Physiol Pharmacol*, **62** (1): 21-28.
- Tang, S.H., Gao, J.H., Wen, S.L., Tong, H., Yan, Z.P., Liu, R., 2017, Expression of Cyclooxygenase-2 is Correlated with lncRNA-COX-2 in Cirrhotic Mice Induced by Carbon Tetrachloride., *Molecular Medicine Reports*, **15**, 1507-1512.
- Tim Molnas, 2001, *Laporan Penelitian Bidang Farmakologi Proyek Molnas*, Buku III, Fakultas Farmasi Universitas Gadjah Mada, Yogyakarta.

- Toomey, D.P., Murphy, J.F., dan Conlon, K.C., 2009, COX-2, VEGF and Tumour Angiogenesis, *The Surgeon*, **7** (3), 174-180.
- Turini, M.E. dan DuBois, R.N., 2002, Cyclooxygenase-2: A Therapeutic Target, *Annual Review of Medicine*, **53**, 35-57.
- Wang, D., 2006, Prostaglandins and Cancer, *Gut*, **55**, 115-122.
- Wang, D. dan DuBois, R.N., 2004, Cyclooxygenase-2 Derived Prostaglandin E2 Regulates the Angiogenic Switch, *Proceedings of the National Academy of Sciences*, **101** (2), 415-416.
- Wang, D. dan DuBois, R. N., 2009, The role of COX-2 in intestinal inflammation and colorectal cancer, *Oncogene*, **29** (6), 781-788.
- Workman, P., Al-Lazikani, B., dan Clarke, P.A., 2013, Genome-based Cancer Therapeutics: Targets, Kinase Drug Resistance and Future Strategies for Precision Oncology, *Current Opinion in Pharmacology*, **13**, 486-496.
- Xiong, B., 2003, Cyclooxygenase-2 Expression and Angiogenesis in Colorectal Cancer, *World Journal of Gastroenterology*, **9** (6), 1237-1240.
- Xu, L. dan Croix, B.S., 2014, Improving VEGF-targeted Therapies Through Inhibition of COX-2/PGE₂ Signaling, *Molecular & Cellular Oncology*, **1**, 1-4.
- Yeatman, T.J., 2001, *Colon Cancer*, Ncyclopedia of Life Sciences, Florida.
- Yoysungnoen, B., 2008, Role of Curcumin on Tumor Angiogenesis in Hepatocellular Carcinoma, *Naresuan University Journal*, **16** (3), 239-254.
- Yoysungnoen, P., Wirachwong, P., Bhattarakosol, P., Niimi, H., dan Patumraj, S., 2006, Effects of Curcumin on Tumor Angiogenesis and Biomarkers, COX-2 and VEGF, in Hepatocellular Carcinoma Cell-implanted Nude Mice, *Clinical Hemorheology and Microcirculation*, **34**, 109-115.
- Yuwono, 2005, *Biologi Molekuler*, Penerbit Erlangga, Jakarta.
- Zelenay, S., Van der Veen, A.G., Böttcher, J.P., Snelgrove, K.J., Rogers, N., Acton, S.E., 2015, Cyclooxygenase-Dependent Tumor Growth through Evasion of Immunity, *Cell*, **162**, 1257-1270.
- Zetter, B.R., 1998, Angiogenesis and Tumor Metastasis, *Annual Review of Medicine*, **49**, 407-424.
- Zhang, B., Halder, S.K., Zhang, S., dan Datta, P.K., 2009, Targeting Transforming Growth Factor- β Signaling in Liver Metastasis of Colon Cancer, *Cancer Letters*, **277**: 114-120.
- Zhang, Y. dan Daaka, Y., 2011, PGE2 Promotes Angiogenesis Through EP4 and PKA C Pathway, *Blood*, **118** (19), 5355-5364.
- Zheng, J., Wen, Y., Song, Y., Wang, K., Chen, D.B., dan Magness, R.R., 2008, Activation of Multiple Signaling Pathways Is Critical for Fibroblast Growth Factor-2 and Vascular Endothelial Growth Factor-Stimulated Ovine Fetoplacental Endothelial Cell Proliferation-1, *Biology of Reproduction*, **78**, 143-150.
- Zhou, S., Zhang, S., Shen, H., Chen, W., Xu, H., Chen, X., dkk., 2017, Curcumin Inhibits Cancer Progression Through Regulating Expression of microRNAs, *Tumor Biology*, **39**, 1-12.
- Zhu, J., He, F., Hu, S., dan Yu, J., 2008, On the Nature of Human Housekeeping Genes, *Trends in Genetics*, **24** (10), 481-484.