

DAFTAR PUSTAKA

- Anonim, 2005, BALB/c Nude Spontaneous Mutant Mice, <http://www.taconic.com>, 22 Januari 2019.
- Anonim, 2013, Riset Kesehatan, Badan Penelitian dan Pengembangan Kesehatan, Kementerian Kesehatan RI, Jakarta.
- Anonim, 2015, Hematoxilin Dan Eosin Dalam Pewarnaan Jaringan, <https://www.edubio.info>, 05 April 2019.
- Anonim, 2018, GLOBOCAN, International Agency for Research on Cancer, <http://gco.iarc.fr>, 28 Oktober 2018.
- Alrawi, S. J., Schiff, M., Carroll, R. E., Dayton, M., Gibbs, J. F., Kulavlat, M., dan Anderson, G. R., 2006, Aberrant crypt foci, *Anticancer Res*, 107-19.
- Ames, B.N., 2001, DNA damage from micronutrient deficiencies is likely to be a major cause of cancer, *Mutation Res*, **475**(1-2), 7-20.
- Anand, P., Sundaram, C., Jhurani, S., Kunnumakkara, A.B., dan Aggarwal, B.B., 2008, Curcumin and cancer: An “old-age” disease with an “age-old” solution, *Cancer Lett*, **267**, 133-164.
- Bharti, A.C., Donato, N., Singh, S., dan Aggarwal, B.B., 2003, Curcumin (diferloymethane) downregulates the constitutive action of nuclear factor- κ B and I κ B α kinase in human multiple myeloma cells, leading to suppression of proliferation and induction of apoptosis, *Blood*, **101**(3), 1053-1062.
- Bird, R.P., 1987, Observation and quantification of aberrant crypts in the murine colon treated with a colon carcinogen: preliminary findings, *Cancer Lett*, **37**, 147-51.
- Bird, R.P., 1995, Role of aberrant crypt foci in understanding the pathogenesis of colon cancer, *Cancer Lett*, **93**, 55-71.
- Bird, R.P., dan Good, C.K, 2000, The significance of aberrant crypt foci in understanding the pathogenesis of colon cancer, *Toxicology Lett*, **112-113**, 395-402.
- Gregorio, C.DI., Losi, L., Fante, R., Modica, S., Ghidoni, M., Pedroni, M., Tamassia, M.G., Gafa, L., Ponz De Leon, M., dan Roncucci, L., 1997, Histology of aberrant crypt foci in the human colon, *Histopatologi*, **30**, 328-334.

- Gupta A.P., Gupta M.M., dan Kumar S., 1999, Simultaneous Determination Of Curcuminoids In Curcuma Samples Using High Performance Thin Layer Chromatography, *J. Liq. Chrom. & Rel. Technol.*, **22**(10), 1561–1569
- Chen, J., dan Huang, X.F., 2009, The signal pathways in *azoxymethane*-induced colon cancer and preventive implication, *Cancer Biology & Therapy*, **8**(14), 1313-1317.
- Chiou, Y.S., Tsai, M.L., Wang, Y.J., Chieng, A.C., Lai, W.M., Badmev, V., Ho, C.T., dan Pan, M.H., 2010, Pterostilbene Inhibits Colorectal Aberrant Crypt Foci (ACF) and Colon Carcinogenesis via Suppression of Multiple Signal Transduction Pathways in *Azoxymethane*-Treated Mice, *J. Agric. Food. Chem.*, **58**, 8833-8841.
- Chun, K.S., dan Surh, Y.J., 2004, Signal transduction pathways regulating cyclooxygenase-2 expression: potential molecular targets for chemoprevention, *Biochemical Pharmacology*, **68**, 1089-1100.
- Devita, V.T., dan Rosenberg, S.A., 2012, Two hundred years of cancer research, *N Engl. J. Med.*, **366**(23), 2207–2214.
- McLellan, E.A., Medline, A., dan Bird, R.P., 1991, Sequential analyses of the growth and morphological characteristics of aberrant crypt foci: putative preneoplastic lesions, *Cancer Res.*, **51**, 5270–527.
- Fodde, R., Smith, R., dan Clevers, H., 2001, *APC*, Signal transduction and genetic instability in colorectal cancer, *Nature revs.*, **1**, 55-67.
- Fodde, R., 2002, The *APC* gene in colorectal cancer, *Eur. J. Cancer*, **38**, 867-871.
- Fearon, E.R, dan Vogelstein, B., 1990, A genetic model for colorectal tumorigenesis, *Cell*, **61**, 759-67.
- Fessenden, R. J., dan Fessenden, J. S. (1999), *Kimia Organik*, Jilid 1, Edisi ketiga, Penerbit Erlangga, Jakarta.
- Hanahan, D., dan Weinberg, R.A., 2011, Hallmarks of Cancer: The Next Generation, *Cell*, **144**, 646-674.
- Harris, R.E., Alshafie, G.A., Abou-Issa, H., dan Seibert, K., 2000, Chemoprevention of Breast Cancer in Rats by Celecoxib, a Cyclooxygenase 2 Inhibitor, *Cancer Res.*, **60**, 2101-2103.
- Institute of Animal Studies, 2014, *Recomended Methode of Anesthesia, Analgesia, and Euthanasia fos Laboratory Animal Species*, New York: Albert Einstein College of Medicine, 1-12.

- Jemal, A., Bray, F., Center, M.M., Ferlay, J., Ward, E., dan Forman, D., 2011, Global cancer statistics, *Cancer J*, **61**(3), 69–90.
- King, R.J.B, 2000, *Cancer Biology*, 2nd edition, Pearson Education Ltd., London.
- Komiya, Y., dan Habas, R., 2008, Wnt signal transduction pathway, *Organogenesis*, **4**(2): 68-75.
- Kushida, M., Wanibuchi, H., Wei, M., Kakehashi, A., Ozaki, K., Sukata, T., Miyaka, K., Ogata, K., Uwagawa, S., dan Fukushima, S., 2009, Ethanol does not promote MeIQ_x-initiated rat colon carcinogenesis based on evidence from analysis of a colon cancer surrogate marker, *J. Toxicol. Pathol*, **22**(1): 65-70.
- Lubbad, A., Oriowo, M.A., dan Khan, I., 2009, Curcumin attenuates inflammation through inhibition of TLR-4 receptor in experimental colitis, *Mol Chem Biochem*, **322**, 127-135.
- Majeed, M., Badmaev, V., Shirakumar U., dan Rajendran, R., 1995, *Curcuminoids Antioxidant Phytonutrients*, 3-80, NutriScience Publisher Inc., PisCataway, New Jersey.
- Meiyanto, E., 1999, Kurkumin Sebagai Obat Kanker: Menelusuri Mekanisme Aksinya, *Majalah Farmasi Indonesia*, **10**(4), 224-236.
- Nugroho, A.E., Suhardjono, D., Mulyono, dan Margono, S.A., 2008, Efek vasodilatasi kurkumin dan turunannya pada organ aorta tikus terisolasi, *Majalah Farmasi Indonesia*, **19**(2), 70-77.
- Ochiai, M., Ushigome, M., Fujiwara, K., Ubagai, T., Kawamori, T., Sugimura, T., Nagao, M., dan Nakagama, H., 2003, Characterization of Dysplastic Aberrant Crypt Foci in the Rat Colon Induced by 2-Amino-1-Methyl-6Phenylimidazo[4,5-b]Pyridine, *American. J. Pathol*, **163**(4), 1607-1614.
- Papanikolaou, A., Wang, Q.S., Delker, D.A., dan Rosenberg, D.W., 1998, *Azoxymethane*-induced colon tumors and aberrant crypt foci in mice of different genetic susceptibility, *Cancer Lett*, **130**, 29-34.
- Patel, V.B., Misra, S., Patel, B.B., dan Najumdar, A.P.N., 2010, Colorectal Cancer: Chemopreventive Role of Curcumin and Resveratrol, *Nutr Cancer*, **62**(7), 2-21.
- Park, W., Amin R.A.R.M., Chen, Z.G., dan Shin, D.M., 2013, New Perspectives of Curcumin in Cancer Prevention, *Cancer Prev Res*, **6**(5), 387–400.
- Perkins, S., Verschoyle, R.D., dan Hill, K., 2002, Chemopreventive efficacy and pharmacokinetics of curcumin in the min/+ mouse, a model of familial adenomatous polyposis. *Cancer Epidemiol Biomarkers Prev*, **11**, 535-540.

- Pillai, G.R., Srivastava, A.S., Hassanein, T.I., Chauhan, D.P., dan Carrier, E., 2004, Induction of apoptosis in human lung cancer cells by curcumin, *Cancer Lett*, **208**(2): 163-170.
- Prasad, S., Tyagi, A.K., dan Aggarwal, B.B., 2014, Recent Developments in Delivery, Bioavailability, Absorption and Metabolism of Curcumin: the Golden Pigment from Golden Spice, *Cancer Res Treat*, **46**(1), 2-18.
- Rao, C.V., Rivenson, A., Simi, B., dan Reddy, B.S., 1995, Chemoprevention Of Colon Carcinogenesis By Dietary Curcumin, A Naturally Occuring Plant Phenolis Compound, *Cancer Res*, **55**, 259-266.
- Rao, C.V., Simi, B., dan Reddy, B.S., 1993, Inhibition by dietary curcumin of *azoxymethane*-induced ornithine decarboxylase, tyrosine protein kinase, arachidonic acid metabolism and aberrant crypt foci formation in the rat colon, 1993, *Carcinogenesis*, **14**(11), 2219-2225.
- Rao, C.V., Indranie, C., Simi, B., Manning, P.T., Connor, J.R., dan Reddy, B.S., 2002, Chemopreventive properties of a selective inducible nitric oxide synthase inhibitor in colon carcinogenesis, administered alone or in combination with celecoxib, a selective cyclooxygenase-2 inhibitor, *Cancer Res*, **62**, 165–170 cit. Chiou, Y.S., Tsai, M.L., Wang, Y.J., Chieng, A.C., Lai, W.M., Badmev, V., Ho, C.T., dan Pan, M.H., 2010, Pterostilbene Inhibits Colorectal Aberrant Crypt Foci (ACF) and Colon Carcinogenesis via Suppression of Multiple Signal Transduction Pathways in *Azoxymethane*-Treated Mice, *J Agric Food Chem*, **58**, 8833-8841.
- Ray, B., Bisht, S., Maitra, A., Maitra, A., dan Lahiri, D.K., 2011, Neuroprotective and Neurorescue Effects of a Novel Polymeric Nanoparticle Formulation of Curcumin (NanoCurc™) in the Neuronal Cell Culture and Animal Model: Implications for Alzheimer's Disease, *J Alzheimers Dis*, **23**(1), 61-77.
- Reddy, B.S., Rao, C.V., dan Seibert, K., 1996, Evaluation of Cyclooxygenase-2 Inhibitor for Potential Chemopreventive Properties in Colon Carcinogenesis, *Cancer Res*, **56**, 4566-4569.
- Reddy, B.S., Hirose, Y., Lubet, R., Steele, V., Kellof, G., Paulson, S., Seibert, K., dan Rao, C.V., 2000, Chemoprevention of Colon Cancer by Specific Cyclooxygenase-2 Inhibitor, Celecoxib, Administered during Different Stages of Carcinogenesis, *Cancer Res*, **60**, 293-297.
- Revalthy S., Elumalai S., Benny M., dan Antony B., 2011, Isolation, Purification and Identification of Curcuminoids from Turmeric (*Curcuma longa* L.) by Column Chromatography, *J Exp Sci*, **2**(7): 21-25.

- Rosenberg, D.W., Yang, S., Pleau, D.C., Greenspan, E.J., Stevens, R.G., Rajan, T.V., Heinen, C.D., Levine, J., dan Zhou, Y., 2007, Mutations in BRAF and KRAS Differentially Distinguish Serrated versus Non-Serrated Hyperplastic Aberrant Crypt Foci in Humans, *Cancer Res*, **67**(8), 3551-3554.
- Sardjiman, 2000, Synthesis of Some New Series of Curcumin Analogues, Antioxidative, Antiinflammatory, Antibacterial Activities and Quantitative-Structure Activity Relationship, *Disertasi*, Universitas Gadjah Mada, Yogyakarta.
- Sakano, K., Takahashi, M., Kitano, M., Sugimura, T., dan Wakabayashi, K., 2006, Suppression of *Azoxymethane*-induced Colonic Premalignant Lesion Formation by Coenzyme Q10 in Rats, *Asian Pacific J Cancer Prev*, **7**, 599-603.
- Shanmugan M.K., Rane G., Knchi M.M., Arfuso F., Chinnathambi A., Zayed M.E., Aliharbi S.A., Tan B.K.H., Kumar A.P., dan Sethi G., 2015, The Multifaceted Role of Curcumin in Cancer Prevention and Treatment, *Molecules*, **20**: 2728-2769.
- Sharma, R.A., McLellan, H.R., Hill, K.A., Ireson, C.R., Euden, S.A., Manson, M.M., Pirmohamed, M., Marnet, L.J., Gescher, A.J., dan Steward, W.P., 2001, Pharmacodynamic and pharmacokinetic study of oral curcuma extract in patients with colorectal cancer, *Clin Can Res*, **7**(7), 1894-1900.
- Sharma, R.D., Raghuram, T.C., dan Rao, N.S., 1990, Effect of fenugreek seeds on blood glucose and serum lipids in type I diabetes, *Eur J Clin Nutr*, **44**, 301-6.
- Singh B., Berry JA., Shoher A., Ramakrishnan V., dan Lucci A., 2005, COX-2 overexpression increases motility and invasion of breast cancer cells, *Intern J Oncology*, **26**, 1393-1399.
- Soslow, R.A, Dannenberg, A.J, Rush, D., Woerner, B.M., Khan, K.N., Masferrer, J., dan Koki, A.T., 2000, COX-2 is expressed in human pulmonary, colonic, and mammary tumors, *Cancer*, **89**, 2637-45.
- Stopera, S.A., Murphy, L.C., dan Bird, R.P., 1992, Evidence for a *ras* gene mutation in *azoxymethane*-induced colonic aberrant crypts in Sprague—Dawley rats: earliest recognizable precursor lesions of experimental colon cancer, *Carcinogenesis*, **13**(11), 2081-2085.
- Surh, Y., 2003, Cancer Chemoprevention With Dietary Phytochemicals, *Nature Revs*, **3**, 768-780.

- Tatuhey, W.S., Nikijuluw, H., dan Mainase, J., 2014, Karakteristik Kanker Kolorektal di RSUD De. M Haulussy Ambon Periode Januari 2012-Juni 2013, *Molucca Medica (MM) Jurnal Kedokteran dan Kesehatan ISSN*, **4**(2), 1979-6358.
- Takayama T., Miyanishi K., Hayashi T., Kukitsu T., Takanashi K., Ishiwatari H, Kogawa T., Abe T., dan Niitsu Y., 2005, Aberrant Crypt Foci: Detection, Gene Abnormalities, and Clinical Usefulness. *Clinical Gastroenterology and Hepatology*, **3**, S42-S45.
- Thorup, I., 1997, Histomorphological and immunohistochemical characterization of colonic aberrant crypt foci in rats: relationship to growth factor expression, *Carcinogenesis*, **18**(3), 465-472.
- Tjarta, A., 1973, *Neoplasm in PATOLOGI*, Bagian Patologi Anatomik Fakultas Kedokteran Universitas Indonesia, pp: 77-82, Depok.
- Tong, F., Chai, R., Jiang, H., dan Dong, B., 2018, In vitro/vivo drug release and anti-diabetic cardiomyopathy properties of curcumin/PBLG-PEG-PBLG nanoparticles, *Int. J. Nanomedicine*. **13**, 1945-1962.
- Tonnesen H.H., dan Karlsen J., 1985, Studies on Curcumin and Curcuminoids, *Z Lebensm Unters Forsch*, **180**: 402-404.
- Tsujii, M., dan DuBois, R. N., 1995, Alterations in cellular adhesion and apoptosis in epithelial cells overexpressing prostaglandin endoperoxide synthases-2. *Cell*, **83**, 493.
- Unlu, A., Nayir, E., Kalenderoglu M.D., Kirca O., dan Ozdogan M., 2016, Curcumin (Turmeric) and cancer, *JBUON*, **21**(5), 1050-1060.
- Velmurugan, B., Singh, R.P., Tyagi, A., dan Aggarwal, R., 2008, Inhibition of Azoxymethane-Induced Colonic Aberrant Crypt Foci Formation by Silibinin in Male Fisher 344 Rats, *Cancer Prev Res*, **1**(5), 376-384.
- Wang, Y.J., Pan, M.H., Cheng, A.L., Lin, L.I., dan Ho, Y.S., 1997, Stability of curcumin in buffer solution and characterization of its degradation product, *J Pharm Biomed Anal*, **15**(12), 1867-1876.
- Weinberg, R.A., 2007, *The Biology of Cancer*, New York: Garland Science.
- Weisberg, S.P., Leibel, dan Tortoriello D.V., 2008, Dietary Curcumin Significantly Improves ObesityAssociated Inflammation and Diabetes in Mouse Models of Diabetes, *Endocrinology*, **149**(7), 3549-3558.
- Wilken, R., Veena, M.S., Wang, M.B., dan Srivatsan, E.S., 2011, Curcumin: A review of anti-cancer properties and therapeutic activity in head and neck squamous cell carcinoma, *Mol Cancer*, **10**, 12.

Yulianti, R., Hakim, L., Sardjiman, Alam, G., dan Widyarini, S., 2017, Chemopreventive properties of curcumin analogues, hexagamavunone-0 and gamavutone-0, in rat colorectal cancer model, *Trop. J. Pharm. Res*, **16**(9), 2141.

Zheng Q.T., Yang Z.H., Yu L.Y., Ren Y.Y., Huang Q.X., Liu Q., Ma X.Y., Chen Z.K., Wang Z.B., dan Zheng X., 2016, Synthesis and antioxidant activity of curcumin analogs, *J Asian Natural Product Res*, 1477-2213.