

DAFTAR PUSTAKA

- Abdou, H. and Newairy. A 2006. Hepatic and Reproductive Toxicity of Lead in Female Rats and Attenuation by Flaxseed Lignans. *Journal of Medicinal Plants Research*, **27**: 295-302.
- Asakawa, Y., Ludwiczuk, A., Nagashima, F., Toyota, M., Hashimoto, T., Tori, M., Fukuyama, Y., Harinantenaina, L. 2009. Bryophytes: bio and chemical diversity, bioactivity and chemosystematics. *Heterocycles*. **77**: 99–150.
- Asakawa, Y., and Wagner, H., 1995. Effect of Marchantins and related compounds on 5-lipoxygenase and cyclooxygenase and their antioxidant properties: a structure activity relationship study. *Phytomedicine*. **2**: 113–117.
- Aykin-Burns, N., Laegeler, A., Kellogg, G., Ercal, N. 2003. Oxidative effects of lead in young and adult fisher 344 rats. *Arch. Environmental Contamination Toxicology*. **44**: 417-420.
- Basson, R. 2006. Heat Shock Protein 70 and Cortisol as Biomarkers for Cadmium, Chromium and Nickel Contamination in *Oreochromis mossambicus*. Disertasi dipublikasi. Faculty of Science. University of Johannesburg. South Africa.
- Birkner, E. S. Kasperczyk, A. Kasperczyk, J. Zalejska-Fiolka, K. Zwirska-Korczala, B. Stawiarska-Pieta, and E. Grucka-Mamczar. 2005. Metabolic and Antioxidative Changes in Liver Steatosis Induced by High-Fat, Low Carbohydrat Diet in Rabbits. Department of Biochemistry. Medical University of Silesia. Polandia.
- Brambilla, D., C. Mancuso, M.R. Scuderi, P. Bosco, G. Cantarella, L. Lempereur, G. Di Benedetto, S. Pezzino, and R. Bernadini, 2008. The Role of antioxidant supplement in immune system, neoplastic, and neurodegenerative disorder : a point of view for an assessment of the risk/benefit profile. *Nutritional Journal* **7** :1-9
- Budiono, B. and Herwiyanti, S. 2000. The Histological Structure of Liver of Rats after Consuming Extract of Lamtoro Leaf and Green Tea (*Leucaena leucocephala*). *Jurnal Kedokteran Yarsi*. **8**(2): 16-24

- Buraimoh, A.A., Bako, I.G. and Ibrahim, F.B. 2011. Hepatoprotective Effect of Ethanolic Leaves Extract of *Moringa oleifera* on the Histology of Paracetamol Induced Liver Damage in Wistar Rat. *International Journal of Animal and Veterinary Advances*, **3**: 10-13
- Campbell, N.A., Reece, J.B., dan Mitchell, L.G.. 2003. *Biologi*. Diterjemahkan oleh: Wasmen Menalu. Erlangga: Jakarta.
- Chander, K., Vaibhav., Md. A., Hayate, J., Rizwana, T., Andleeb K., Mukesh, K., Anju K, Fakhrul, I. 2014. Quercetin Mitigates Lead Acetate-Induced Behavioral and Histological Alterations Via Suppression of Oxidative Stress, HSP-70, Bak and Upregulation of Bcl-2. *Food and Chemical Toxicology*. 68 : 297–306
- Chena, H. Yifan. W, Yiqing Z, Lina .J, Lan L, Bin X, Chen L, Xiran Z, Zhimin Y. 2006. Hsp70 inhibits lipopolysaccharide-induced NF- κ B activation by interacting with TRAF6 and inhibiting its ubiquitination. *FEBS Letters*. **580**: 3145–3152)
- Devlin, M.T. 2002. Bioenergetics and oxidative metabolism In: Biochemistry with clinical correlations. 5th ed. Wiley-liss, Canada. 590-592.
- Cheville, N. F. 2006. *Introduction to Veterinary Pathology*. 3rd Ed. Blackwell Publishing. USA.
- Clayton, C.A., Pellizzari, E.D. and Quackenboss, J.J. 2002. National Human Exposure Assessment Survey: Analysis of Exposure Pathways and Routes for Arsenic and Lead in EPA Region 5. *Journal of Exposure Analysis and Environmental Epidemiology*, **12**: 29-43.
- Daozong Xia, Xinfen Yu, Sipei Liao, Qijia Shao, Huili Mou, Wei Ma. 2010. Protective effect of *Smilax glabra* extract against lead-induced oxidative stress in rats. *Journal of Ethnopharmacology*. **130**: 414–420
- Darelanko, M.J. 2000. Toxicologist's Pocket Handbook. Department of Toxicology and Risk Assessment. Honeywell International Inc. CRC Press. Morristown, New Jersey.
- Darmono. 2010. Lingkungan Hidup dan Pencemaran. Jakarta: Universitas Indonesia Press.

- Ding, Y., Gonick, H.C., Vaziri, N.D. 2000. Lead promotes hydroxyl radical generation and lipid peroxidation in cultured aortic endothelial cells. *Am J Hypertens.* 13: 552-555.
- Elamir, M.H.F., Eldeen, A.M.G., Halawany, A.M.E., Mohamed, A.E.H.H., dan Par, P.W. 2012. Steroidal Metabolites Transformed by *Marchantia polymorpha* Cultures Block Breast Cancer Estrogen Biosynthesis. *Cell Biochemistry Biophys.* 63:85–96
- El-Sokkary, GH., E.S. Kamel. 2005. Melatonin protect against lead-induced hepatic and renal toxicity in male rats. *Toxicology*, 213. 25-33.
- Ercal, N., Gurer, H., Aykin-Burns, N. 2001. Toxic metals and oxidative stress. Part 1. Mechanisms involved in metal induced oxidative damage. *Curr Top Med Chem.* 1:529-539
- Friederich S, Maier UH, Deus-Neumann B et al. Biosynthesis of cyclic bis(bibenzyls) in *Marchantia polymorpha*. *Phytochemistry* 50: 589-598, 1999.
- Flaquer M, Romagnani P, and Cruzado JM. *Growth Factors and Renal Regeneration*. *Nefrologia.* 2010; 30(4): 385-393.
- Flora, G., Gupta, D., dan Tiwari, A. 2012. Toxicity of lead: A Review With Recent Updates. *Interdisciplinary Toxicology.* 5 (2): 47–58.
- Flora, G., Mittal, M., dan Mehta, A. 2008. Heavy Metal Induced Oxidative Stress dan Its Possible Reversal by Chelation Therapy. *Indian Journal Medical Research.* 128: 501-523.
- Flora, S.J.S., Pande, M., Kannan, G.M., dan Mehta. 2004. Lead Induced Oxidative Stress And Its Recovery Following Co-Administration of Melatonin or N-Acetylcysteine During Chelation with Succimer in Male Rats. *Cellular and Molecular Biology.* 50 : OL543-OL551.
- Francis, George, Kareem, Zohar, Makkar, Harinder P.S., dan Becker, Klaus. 2002. The Biological Action of Saponin in Animal System: areviw. *British Journal of Nutrition.* 88: 587-605.
- Gajawat, S., Sancheti, G., Goyal, P.K. 2006. Protection against lead-induced hepatic lesions in swiss albino mice by ascorbic acid. *Pharmacologyonline.* 1: 140-149
- Gartner J. P., Hiatt J. L. 2007. *Color Text Book of Histology.* 3th ed. Philadelphia: Elsevier Saunders, pp: 437-45.

- Gidlow, D. A. 2004. Lead Toxicity. Occupational Medicine ,UK , vol: 54, p: 76-81
- Gurer, H., Ercal, N. 2000. Can antioxidants be beneficial in the treatment of lead poisoning? Free Radic Biol Med. 29 (10): 927-945
- Halliwell B. 2006. Reactive spesies and antioxidants: Redox biology is a fundamental theme of aerobic life. *Plant Physiol.* **141**:312-322.
- Haouas Z, Sallem A, Zidi I, Hichri H, Mzali I, 2014. Hepatotoxic Effects of Lead Acetate in Rats: Histopathological and Cytotoxic Studies. *J Cytol Histol* **5**: 256.
- Hariono, B., 2005, *Efek Pemberian Plumbum (Timah Hitam) Anorganik pada Tikus Putih (Rattus norvegicus)*, *J. Sain Vet.* **23**. 107-108
- Hegazy, A.M.S. and Fouad, U.A. 2014. Evaluation of Lead Hepatotoxicity; Histological, Histochemical and Ultrastructural Study. *Forensic Medicine and Anatomy Research*, **2**, 70-79.
- Hemalatha et al, 2013. Sequestration Property of Spirulina Against Lead Induced Histological Changes in Male Albino Wister Rat *Rattus norvegicus*. *Int. Res. J. Pharm* **4** (3)
- Ho Kim. Y, Eun-Ju, P., Sang T. H., Jong-W, P., Taeg, K. K. 2005. Arsenic trioxide induces Hsp70 expression via reactive oxygen species and JNK pathway in MDA231 cells. *Life Sciences* **77**. 2783–2793
- Howarth, D. 2012. Lead Exposure: Implications for General Practice. *Australian Family Physician.* **41** (5) :311-315
- Huang, W.J., Wu, C.L., Lin, C.W., Chi, L.L., Chen, P.Y., Chiu, C.J., Huang, C.Y., Chen, C.N., 2010. Marchantin A, a cyclic bis(bibenzyl ether), isolated from the liverwort *Marchantia emarginata* subsp. *tosana* induces apoptosis in human MCF-7 breast cancer cells. *Cancer Letters* **291**, 108–119.
- Iwai, Y., Murakami, K., Gomi, Y., Hashimoto, T., Asakawa, Y., Okuno, Y., Ishikawa, T., Hatakeyama, D., Echigo, N., Kuzuhara, T., 2011. Anti-influenza activity of marchantins, macrocyclic bisbibenzyls contained in liverworts. *PLoS One* **6**, 11.

Iwama, G.K.; L.O.B. Afonso dan M.M. Vijayan, 2004a. Stress in Fish. AquaNet Workshop on Fish Welfare.

Jurczuk, M., Brzóška, M.M., Moniuszko, J., 2007. Hepatic and renal concentrations of vitamins E and C in lead- and ethanol-exposed rats. An assessment of their involvement in the mechanisms of peroxidative damage. *Food and Chemical Toxicology*.45.8. 1478–1486

Kevin C, Kregel, Hannah J, Zhang. 2006. An integrated view of oxidative stress in aging: basic mechanisms, functional effects, and pathological considerations. *Am J Physiol Regul Integr Comp Physiol*. **292**:R18-R36.

Kansal, L., Veena S., Arti S., Shweta L., Sharma. 2011. Protective Role Of *Coriandrum Sativum* (Coriander) Extracts Against Lead Nitrate Induced Oxidative Stress And Tissue Damage In The Liver And Kidney In Male Mice.*International Journal of Applied Biology and Pharmaceutical Technology*.**(2)**. 3

Kardena dan Winaya. 2011. Kadar Perasan Kunyit yang Efektif Memperbaiki Kerusakan Hati Mencit yang Dipicu Karbon Tetrachlorida. *Jurnal Veteriner*.

Karrari, P., Mehrpour, O. and Abdollahi, M. (2012) A Systematic Review on Status of Lead Pollution and Toxicity in Iran; Guidance for Preventive Measures. *DARU Journal of Pharmaceutical Sciences*, **20**, 2.

Khrisna dan Murungan. 2013. Polyphenols From *Marchantia Polymorpha* L. A Bryophyta: A Potential Source as Antioxidants. *World Journal of Pharmacy and Pharmaceutical Sciences*. 2.

Kiernan JA. 1990. Histological dan Histochemical Methods: Theory and Practice. Second Edition. Oxford: Pergamon Press.

Kabakov, A.E., Budagova, K.R., Bryantsev, A.L., Latchman, D.S., 2003. Heat shock protein 70 or heat shock protein 27 overexpressed in human endothelial cells during posthypoxic reoxygenation can protect from delayed apoptosis. *Cell Stress Chaperones* 8, 335 – 347.

Kumar dan Newari. 2008. Antimicrobial Activity of *Marchantia Polymorpha*. *Pharmateucal Biology*

Kumar, R. S., K.A. Kumar, and N. V. Murthy. 2010. Hepatoprotective and Antioxidant Effects of *Caesalpinia bonducella* on Carbon Tetrachloride-

Induced Liver in Rats. *International Reasearch Journal of Plant Science*.1(3), 62-68

Lim, S., Doherty, J.D., Salem, N,Jr. 2005. Lead exposure and (n-3) fatty acid deficiency during rat neonatal development alter liver, plasma, and brain polyunsaturated fatty acid composition. *J. Nutr.* 135:1027-1033

Liu CM, Ma JQ, Sun YZ .2012.Puerarin protects the rat liver against oxidative stress-mediated DNA damage and apoptosis induced by lead. *Exp Toxicol Pathol* 64: 575-582.

Liu CM, Ma JQ, Sun YZ 2010a. Quercetin protects rat liver against lead-induced oxidative stress and apoptosis. *Environmental Toxicology and Pharmacology*. 29 .158–166

Liu CM, Ma JQ, Sun YZ 2010b.Quercetin protects the rat kidney against oxidative stress-mediated DNA damage and apoptosis induced by lead. *Environmental Toxicology and Pharmacology*.30. 264–271

Lu. F. C 2006. Toksikologi Dasar . Jakarta: Universitas Indonesia Press

Mandia, Sayati. 2015. Sitotoksisitas Ekatrak Lumut Hati (*Marchantia polymorpha* L.) Terhadap Sel HeLa. Tesis Universitas Gadjah Mada.

Markham, K.R dan Porter, I.J. 1974. Flavonoids of the liverwort *Marchantia polymorpha*. *Phytochemistry*. 13 (9): 1937–1942.

Martino, R.B., Coelho, A.M.M., Kubrusly, M.S., Leitão, R., Sampietre, S.N., Machado, M.C.C., Bacchella, T., dan D’Albuquerque, L.A.C. 2012. Pentoxifylline Improves Liver Regeneration Through Down-Regulation Of TNF-Asynthesis And TGF-B1 Gene Expression. *World Journal Gastrointestinal Surgery*. 4 (6): 146-151.

Mc Kee, T., Mc Kee, J.R. 2003. Aerobic metabolism II: electron transport and oxidative phosphorylation In: Biochemistry the molecular basis of life. 3rd ed. McGraw-Hill, NY 10020. 319-326.

Meyer, S.A. and Kulkarni, A.P. 2001.Hepatotoxicity. In: Hodgson, E. and Smart, R.C., Eds., *Introduction to Biochemical Toxicology*, 3rd Edition, John Wiley and Sons, New York, 487.

Mescher. 2002. *Histologi Dasar Junquera Teks dan Atlas*. Penerbit Buku Kedokteran: Jakarta

- Mewari N, Kumar P. Antimicrobial activity of extracts of *Marchantia polymorpha*. *Pharm Biol* 46: 819-822, 2008.
- Mudipalli. 2007. Lead Hepatotoxicity and Potential Health Effects. *Indian J Med Res* 126.
- O'Neill, S. Timothy G.I., Stephen J.W., Ewen M. H., Christopher O.B. 2013. Differential expression of heat shock proteins in healthy and diseased human renal allografts. *Ann Transplant*. 18. 550-557
- Omotoso, B.R., Adeleke A. A., Omamuyovwi M. I., Stephen O. A., 2015. Lead-Induced Damage on Hepatocytes and Hepatic Reticular Fibres in Rats; Protective Role of Aqueous Extract of *Moringa oleifera* Leaves (Lam). *Journal of Biosciences and Medicines*, **3**, 27-35.
- Othman A., Ismail, A., Ghani A.N., Adenan, I. 2007. Antioxidant capacity and phenolic content of cocoa beans. *Food Chem* 100: 1523–1530.
- Pagliara, P., Carla, C.E., Caforio, S., Chionna, A., Massa, S., Abbro, L., Dini, L. 2003. Kupffer cells promote lead nitrate-induced hepatocyte apoptosis via oxidative stress. *Comparative Hepatology*. 2 (8): 1-13.
- Patočka, J. 2008. Organic Lead Toxicology. *Acta Medica, Czech Republik*, vol. 51, No. 4, p: 209-213
- Patra R, Swarup D, Dwivedi S (2001) Antioxidant effects of α -tocopherol, ascorbic acid and L-methionine on lead induced oxidative stress to the liver, kidney and brain in rats. *Toxicology*. **162**:81–88
- Patrick, L., 2006. Lead toxicity part II: the role of free radical damage and the use of antioxidants in the pathology and treatment of lead toxicity. *Alternative Medicine Review*. **11**. 114–127.
- Pereira, R., Pereira, M.L., Ribeiro, R., Goncalves, F. (2001). Wildlife animals as sentinels to human health due to environmental exposure to heavy metals. In: Abstract Book. In: Proceeding of the 11th Annual meeting, SETAC Europe, 6-10 May, Soc. Environ. *Toxicol. Chem.* Madrid.
- Preuß, J., Dettmeyer, R., Poster, S., Lignitz, E., Madea, B. 2008. The expression of heat shock protein 70 in kidneys in cases of death due to hypothermia. *Forensic Science International*. 176. 248–252

- Price, A. Sylvia. 1994. *Patofisiologi Konsep Klinis Proses-proses Penyakit*. Penerbit EGC. Jakarta.
- Qu JB, Xie C-F, Ji M et al. Water soluble constituents from the liverwort *Marchantia polymorpha*. *Helv Chim Acta* 90: 2109-2115, 2007.
- Rebecca, T. 2003. *Textbook of Gastroenterology: Hepatic Regeneration*. Edisi keempat. Michigan:Lippincrt Williams and Wilkins Publisher
- Remmele, W dan Stegner, H.1987.Recommendation for uniform definition of an immunoreactive score (IRS) for immunohistochemical estrogen receptor detection (ER-ICA) in breast cancer tissue, *Pathology*. **8**.138–140.
- Saputra, H. M. 2015. Pengaruh Ekstrak Lumut Hati (*Marchantia polymorpha* L.) Terhadap Kerusakan Oksidatif Hati Tikus Putih (*Rattus norvegicus* Berkenhout, 1769) Akibat Induksi Timbal. Tesis Fakultas Biologi Universitas Gadjah Mada.
- Saroya AS. Herbalism, Phytochemistry, and Ethnopharmacology. Science Publishers. Punjab; 2011: pp. 286-293.
- Schwartner, C., Bors, W., Michel, C., Franck, U., MullerJakic, B., Nenninger, A., Sipos P, Szentmihaly K, Feher E & AbazaM. 2003. Some Effect of Lead Contamination on Liver and Gallblader Bile. *Acta Biologica Szegebdensis*. 47(1-4) : 139-142.
- Sharma, V dan Pandey, D. Protective Role of *Tinospra cordifolia* Againts Lead-Induced Hepatotoxicity. *Toxicol Int*. 17 (1): 12-17.
- Sharma, V., Sharma, S., Pracheta, dan Sharma, S. 2011. Lead Induced Hepatotoxicity In Male Swiss Albino Mice: The Protective Potential of Hydromethanol Ekstrak of *Withania somnifera*. *International Journal of Pharmaceutical Science Review and Research*. 7, 021.
- Sipos, P., Szentmihalyi, K., Feher, E., Abaza, M., Szilagyi, M., Blazovics, A. 2003. Some effects of lead contamination on liver and gallbladder bile. *Acta Biologica Szegediensis*. 47(1-4): 139-142
- Sivaprasad, R., Nagaraj, M. and Varalakshmi, P.2004.Combined Efficacies of Lipoic Acid and 2,3-Dimercaptosuccinic Acid against Lead-Induced Lipid Peroxidation in Rat Liver. *Journal of Nutritional Biochemistry*.**15**.18-23.

- Skerfving, S. and Bergdahl, I.A. 2007. Chapter 31: Lead. In: Nordberg, G.F., Fowler, B.A., Norberg, M. and Friberg, L.T., Eds., *Handbook on the Toxicology of Metals*, 3rd Edition, Academic Press, Amesterdam, 599-643.
- Snoeck, L. H. E. H., R. N. Cornelussen., Van Nieuwenhoven, R. S. Reneman., and Van der Vusse. 2001. Heat Shock Protein and Cardiovascular Pathophysiology. *Physiological Rev* ; 81(4): 1461-85.
- Stotler, *et al.* 2009. Phylogeny and Classification of The Marchantiophyta. *Eidendurg Jornal of Botany*. 66 (1) : 155-198
- Suckow MA, Weisbrtoth SH, Franklin CL, editor. 2006. The Laboratory Rat 2nd Edition. USA: *Elsevier Inc.*
- Steel RGD, Torrie JT. 1991, *Prinsip dan Prosedur Statistik*. Jakarta. PT Gramedia.
- Steel, T.J.P. Doherty, K. Buzzard, N. Clemons, C.J. Hawkins, R.L. Anderson. 2004. Hsp72 inhibits apoptosis upstream of the mitochondria and not through interactions with Apaf-1, *J. Biol. Chem.* 279: 51490–51499
- Valko, M., Morris, H. and Cronin, M.T.2005.Metals, Toxicity and Oxidative Stress. *Current Medical Chemistry*. **12**, 1161-1208.
- Vander, A., J. Sherman, and D. Luciana. 2001. *Human Physiology: The Mechanism of Body Function Eight Edition*. New York: McGraw Hill Companies, Inc.
- Wang, K. 2014.Molecular mechanisms of liver injury: Apoptosis or necrosis *Experimental and Toxicologic Pathology*. 66 (8) : 351–356
- Xia D, Yu X, Liao S et al .2010. Protective effect of Smilax glabra extract against lead-induced oxidative stress in rats. *J Ethnopharmacol* .**130** : 414–420
- Xiao JB, Ren FL, Xu M. Flavones from *Marchantia convoluta*:isolation of apigenin-7-O- β -D-glucuronide and 5-hydroxyl-7- methoxyl-2-methylchromone. *J Pharm Allied Sci* 3: 310-313,2006.
- Yamashima, S.O. 2009.The role of lysosomal rupture in neuronal death, *Prog. Neurobiol.* 89 : 343–358.