

DAFTAR PUSTAKA (LIST OF REFFERENCE)

- Anonymous. 2000a. *Basic Immunology for Diagnosis of Infection and non Infectious (Cancer)*. A three day of Theoretical Course. A Week of Practical Course. April 2000.
- Anonymous. 2000b. *The Gastroinstinal Immune System*.<http://arbl.cvmb.colostate.edu/books/pathpys/basic/gi-immune.html>. 2 April 2010.
- Anonymous. 2003c. Keputusan Menteri Kelautan dan Perikanan No 20 Tahun 2003 Tentang Klasifikasi Obat Ikan. Kementerian Kelautan dan Perikanan. Jakarta.
- Anonymous. 2003d. *Crown of thorns starfish in the Great Barrier Reefs: Curent State of Knowledge*. Cooperative Reasearh Centers (CRC) Reef Research Center Townsville, Australia.p.35 - 45.
- Anonymous. 2006e. Lecture 6 Antibody structure and Fungtion. <http://web.rheum.bham.ac.uk/teaching/immunology/16.html>.
- Anonymous. 2007f. *Dictionary of Marine Natural Product*. Edited by . Blunt, J.W and Munro Murray H. G. p. 1 - 60.
- Anonymous. 2009g. *Taxonomy Acanthaster planci*. Biosearch. (21 Juli 2010 4:44 WITA) (wikipedia) <http://www.scuba-equipment.com>.
- Anonymous. 2011h. *Isolasi dan Karekterisasi*. [httpfile:///E:/Karakteriasasi senyawa/3325377.htm](http://file:///E:/Karakteriasasi%20senyawa/3325377.htm) . 2 April 2010.
- Anonymous. 2011i. *Tujuh Penyakit Paling Berbahaya di Dunia*. Kementerian Kesehatan RI, 2012. <file:///E:/Karakteriasasi%20senyawa/7-penyakit-paling-berbahaya-di-dunia.html>. 09 April 2012.
- Anonymous. 2013j. Nilai produksi perikanan budidaya kolam menurut jenis ikan dan provinsi. (<http://statistik.kkp.go.id/index.php/statistik/c/12/0/0/0/statistik>). Perikanan - Budidaya Kolam Kolam/?pulau_id=&subentitas_id=62&view_data=1&tahun_start=2008&tahun=2011&tahun=2013&filter=Lihat+Data+%C2%BB. Diakses tanggal 31 Juli 2013.
- Aniya, Y., Terukina, R., Minamitake, Y., Shiohira, S. 1998. Effect of the spine venom from the crown-of-thorns starfish, *Acanthaster planci*, on drug-metabolizing enzyme in rat liver. *Journal Toxicol Society*.23 :419 - 23.
- Abbas, A.K., Lichtman A.H., Pober, J.S. 2000. *Celuler and Molekuler Immunology*. W.B. Saunders Company, New York.p. 76 - 98.

- Alfthan, K. 2001. *Structure Stability and Binding Properties of Soluble and Membrane-anchored Recombinant Antibodies*. Dept. of Bioscience. University of Helsingky.p.151 - 158.
- Allen, R.G., and Steene, R. 2002. *Indo-Pacific, Coral Reef Field Guided*. Calendar Print Ltd. Singapura. p. 215 - 219.
- Aminin, D.L., Pinegin, B.V., Pichugina, L.V., Zaporozhets, T.S., Fonova, Ag. Boguslavski, I.G., Silchenko, V.M., A.S., Avilov, S.A., and Stonik. 2006. Immunomodulatory properties of Cumaside. *International Journal Immunopharmacol*. 6:701 - 802.
- Aminin, D.L., Silchenko, A.S., Avilov, S.A., Stepanov, V.G., and Kalinin, V.I. 2010. Immunomodulatory Action of Monosulfated Triterpene Glycosides from Sea Cucumber Cucumaria Ochtensia Stimulation of Activity Peritoneal Macrophages. *Journal NPC*. 5 : 1877 - 1880.
- Aminin, D.L., Tatyana, Y., Gorpenchenko, Viktor, P., Bulgakov, Polina, V., Andryashchenko, Sergey, A., Avilov and Vladimir, I., Kalinin. 2011. Triterpene Glycoside Cucumarioside A2-2 from Sea Cucumber Stimulates Mouse Immune Cell Adhesion, Spreading, and Motility. *Journal Of Medicinal*, 14 : 594 - 600.
- Anwei, C., Fachun, W., Jiaqi, W., Zhengyu, J., and Xueming. 2008. Macrophage Immunomodulatory Activity of Polysaccharides Isolated from Glycyrrhizauralensis fish. *Journal International Immunopharmacology* 8:43 - 50.
- Austin, B., and Austin, A. 2007. *Bacterial Fish Pathogens.Diseases of Farmed and Wild Fish*. Sprenger science. New York. p.552.
- Anderson, D.P. 1992. Immunostimulant, Adjuvant and Vaccine Carrier in Fish: Applications to Aquaculture. *Annual Review of Journal Fish Diseases*, 21: 281 - 307.
- Anderson, D.P., and Siwicki, A. K. 1994. *Syimplified Assays For Measuring Non-Specific Defence Mechanism In Fish*. *Fish Health Section/American Fisheries Meeting*. Seatle Washington.p. 231 - 235.
- Albores, F.V., Lopez, J.H., Galvan, T.G., Perez, K.M., Vegas F.J., and Placencia, G.Y. 1998. Activation of Shrimp Cellular Defencefunction by Microbial Products, In Flagel, T.W. (ed.), *Advances in Shrimps Biotechnology*. *National Center for Genetic Engineering and Biotechnology*. Bangkok. p.16 - 166.
- Batsfor, S., Kluthe R., Vogt., A. 1980. Planta Medicine. *Journal Natural Product*. 29: 45 - 57.
- Bryan, J.P, Rittschof, and McClintock. 1996. Bioactivity of Echinoderm Ethanolic Body-Wall Extracts an Assesment of Marine Bacterial Attachment and Macroinvertebrate. *Journal of Experimental Biology and Ecology*. 196: 79 - 96.

- Brown, K.M.T. 2000. *Applied Fish Pharmacology*. Kluwer Academic Publisher. Netherland.p.309.
- Bellanti. J., and Kadlec, J.V. 1993. *Prinsip-prinsip Immunologi*. Ed. Bellanti J. Immunologi Ed. III.UGM Press.p. 646.
- Birkeland, C., and Lucas, J.S. 1990. *Acanthaster planci: Major Management Problem of Coral Reefs*. CRC Press. Boca Raton, Fl. p. 257.
- Budianto, A. 2002. *Sang Bintang Laut Pemburu Karang*. Warta oceanografi vol. XVI.
- Baratawidjaja. 2000. *Imunologi*. Ed. Ke 4. Univ. Inidonesia.Jakarta.pp. 315
- Bhakuni D.S., and Rawat D.S. 2005, *Bioaktif Marine Natural Products*. Springer, Anamaya Publisher, New Delhi India. p. 48 - 51.
- Bagni, M. L., Archetti. M., Amadori and Marino, G. 2000. Effect of long-term oral administration of an immunostimulant Diet on Innate Immunity in Sea Bass (*Dicentrarchuslabrax*). *Journal Veterinary Medecine*. 47:745 - 751.
- Bechère, E. 2000. Introduction Shrimp Immunity and Disease Control. *Journal Aquaculture*, 191: 3 - 11.
- Boyd, C.E. 2003. Guildenes for Aquaculture Effluent Management at the Farm-level. *Journal Aquaculture*.226:101 - 112.
- Bricknell, I., and Dalmo, R.A. 2005. The Use of Immunostimulants in Fish Larval Aquaculture. *Journal Fish and Shellfish Immunology*. 19: 457 - 472.
- Clajk, W. R. 1983. The *Experimental Foundation of Modern Immunologi* 2nd edition. Canada. John Wiley. p. 24 - 54.
- Cros, L.G., Ben-Sassan, R., Seder, F., Frinkelman, D., and Paul, W.E. 1990. Generation of Interleukin 4 (IL-4) Producing cells In- vivo and In vitro: IL-2 and IL-4 are Required for In-vitro Generation of IL-4-Producing Cell. *The Journal of Experimental Medicine*. 172: 921 - 929.
- Cannel, J.P. 1998. *Natural Products Isolation*. Humana Press. Totowa, New Jersey. p. 15 - 83.
- Clark, M. 1997. *Chemical Immunology, Antibody Engineering, IgGE Fector Mecnisms, Immunology Devision*, Dept. Of Pathology, Cambridge University, Tennis Court Road, Cambridge UK CB2 IQP. p. 156 - 198
- Cannel, J.P. 1998. *Natural Products Isolation*. Humana Press. Totowa, New Jersey. p. 15 - 83.
- Corwin, E.J. (2009). *Buku Saku patofisiologi* (Penerjemah; Egi Komara, Esty Wahyuningsih, Dewi Yulianti dan Pamilih Eko Karyuni) Jakarta EGC. p. 34 - 67.

- Chopra, A.K., Xu, X.J., Ribardo, D., Gonzales, M., Kuhl, K., Peterson, J.W., and Houston, C.W. 2002. The Cytotoxic Enterotoxin of *Aeromonas Hydrophila* Induces Proinflammatory Cytokine Production and Activates Arachidonic acid Metabolism in Macrophages. *Journal Infection and Immunity*. 68:2808 - 2818.
- Chiu, S.T., Tsai, R., J. Hsu, Liu, C., and Cheng, W. 2008. Dietary Sodium Alginate Administration to Enhance the Non-Specific Immune Responses, and Disease Resistance of the Juvenile Grouper *Epinephelus fuscoguttatus*. *Journal Aquaculture*. 277:66 - 72.
- Cheng, W and J. Yu. 2013. Effects of the Dietary Administration of Sodium Alginate on the Immune Responses and Disease Resistance of Taiwan Abalone, *Haliotis Diversicolor Supertexta*. *Journal Fish & Shellfish Immunology*. 34: 902 - 908.
- Daniel, P. 2002. Anti-predatory chemical defenses of ascidians: secondary metabolites or inorganic acids? *Journal of Experimental Marine Biology and Ecology*. 270 : 203 - 214.
- Dey, P.M., Harbone, J.B. 1991. *Method in Plant Biochemistry Assay For Bioactivity*. Academic Press, Sydney. p. 196 - 198.
- Dewick, P.M. 2001. Medicinal Natural Product. A Biosynthetic Approach. Second Edition. John Wiley and Sons, England. P. 40 - 283
- Flaming, W.J., Salathe, R., Wyllie S.G., Howden, M.E.H. 1976. Isolation and partial characterization of steroid glycosides from the starfish *Acanthaster pliancy*. *Journal Comparative Biochemistry and Physiology Part B: Comparative Biochemistry*. 53: 267 - 272.
- Feghali, C.A., and Wright, T.M. 1997. *Cytokine in acute and Chronic Inflammation. Division of Rheumatology and Clinical Immunology*. Dept. of Medicine, University of Pittsburg. *Frontiers in Bioscience*. p. 45 - 78.
- Friberg, D. J., Bryant, W., Shannon, and Whiteside, T.L. 1994. In Vitro Cytokine Production by Normal Human Peripheral Blood mononuclear Cells as a Measure of Immunocompetence or the State of Activation. *Journal Clinical and Diagnostic Laboratory Immunology*. 1:261 - 268.
- Fraser, N., Crawford, B., and Kusen, J. 2000. *Best Practices Guide For Crown of Thorns Clean-Ups*. University of Rhode Island, Narragansett, Rhode Island, USA. p. 5 - 38.
- Faulkner, D.J. 2000. Marine Natural Products. *Journal Natural Products*. 17: 17 - 55.
- Fischer, U., K. Utke, T. Somamoto, B. Köller, M. Ototake, T. Nakanishi. 2006. Cytotoxic activities of fish leucocytes. *Journal Fish & Shellfish Immunology*. 20: 209 - 226.

- Fudenberg, H. H., Pizza, G., Raise F., Gritti F., Chiodo F., DeVinci, Viza, D.2010. Neuro Immuno Therapeutics Research Found. *Journal Immuno.* 29: 13 - 30.
- Gorshkov, B.A, Kapustina II, Kicha AA, Aminin DL, Gorshkova IA. 1998. Stimulatory effects of starfish sapogenins (*Asterias amurensis* and *Lethasterias nanimensis chelifera*) on molluscan heart (*Spisula sachalinensis*). *Journal Comp Biochem Physiol Pharmacol Toxicol Endocrinol.* 120 :235 - 239.
- Gang, X., Igor, A., Schepetkin. and Mark, T. 2007.Quinn Immunomodulatory Activity of Acidic Polysaccharides Isolated from *Tanacetumvulgare* L. *Journal International Immuno Pharmacology.* 7: 1639 - 1650.
- Gibbons. 1993. *Phytochemical Studies on the Flatcourtiaceae and Simaroubacea.* Ph.D. Thesis, University of Stratheclyde.
- Galeotti, M. 1998. Some Aspects of the Application of Immunostimulants and a Critical Review of Methods for their Evaluation. *Journal Application Ichthyology.*14:189 - 199.
- Gallindo-Villegas, J and Hosokawa H., 2004. Immunostimulan: Toward Temporary Prevention of Disease in Marine Fish. *Memorias del VII Simposium Internacional de Nutrición Acuícola.* Hermosillo. Sonora. México.
- Higuchi, R., Inukai, K., Jhou, J.X., Honda, M., Komori, T., Tsuji, S., and Nagai, Y. 1993. Biologically Active Glycosides from Asteroidea, XXXI. Glycosphingolipids from the Starfish *Asterias amurensis versicolor* sladen, 2. Structure and Biological Activity of Ganglioside Molecular Species. *Asian Journal of organic Chemistry* 4: 359 - 366.
- Harborne, J.B. 2006. *Metode Fitokimia. Penentun Cara Modern MenganalisaTumbuhan.* ITB Bandung. p. 10 - 67.
- Hanly, C.W., Artwohl, J. E., and Bennet, B.T. 1995. Review of Polyclonal Antibody Production Procedures in Mammals and Poultry. *Journal Ilar.* 3 - 37.
- Hrubec, T.C., and Smith, S. A. 2000. *Hematology of Fish Disease.*In: *Feldman, B. F., J. G., Jinkel, N. C., Jain (eds). Haematology Veterinary. 5th edition.* Lippincot William and Wipkins.p. 1120 - 1125.
- Hostettmann, K., and Wolfender, J.L. 2000. *Applications of Liquid Chromatography/UV/MS and Liquid Chromatography/ NMR for the On-line Identification of Plant Metabolites.* Bioactive Compounds from Natural Sources Isolation, characterization and biological properties. Edited by CorradoTringali Università di Catania, Italy.p. 1 - 68.
- Huys, G. P., Kämpfer, M.J., Albert, I., Kühn, R. Denys, and Swings. J. 2002. *Aeromonas hydrophila.* nov, isolated from Children with Diarrhoea in

- Bangladesh, and Extended Description of *Aeromonas hydrophila* sp. *hydrophila* (Chester 1901) Stanier 1943 (Approved Lists 1980). *International Journal of Systematic and Evolutionary Microbiology*.52:705 - 712.
- Houk, P. Bograd, S. and woesik, 2007. The Transition Zone Chlorophyll Front can Trigger *Acanthaster planci* Outbreaks in the Pacific Ocean: Historical Confirmation. *International Journal of Oceanography*. 63:149 - 154.
- Harikrishnan, R., M. Kim, J. Kim, Y. Han, I. Jang., and Balasundaram, C. 2011. Immunomodulatory Effect of Sodium Alginate Enriched Diet in Kelp Grouper *Epinephelus brneus* against *Streptococcus iniae*. *Fish & Shellfish Immunology* 30: 543 - 549.
- Itakura, Y., and Komori, T. 1983. Biologically Active Glycosides from Asteroidea, X. Steroid Oligoglycosides from the Starfish *Acanthaster planci* L., 3. Structures of Four New Oligoglycoside Sulfates. *European Journal of Organic Chemistry*. 3:499 - 508.
- Jiye, L., Xiuqin, S., Fengrong, Z., and Linhua, H. 2009. Screen and Efect Analysis of Immunostimulants for Sea Cucumber, *Apostichopus japonicus*. *Chinesse Journal of Oceanografy and Limnology*. 27:80 - 84.
- Jensch-Junior, B.E., Pressinotti, L.N., Borges, Shimada, and Silva, J.R. 2006, Characterization of Macrophage Phagocytosis of the Tropical Fish *Prochilodus scrofa* (Steindachner, 1881). *Journal Aquaculture*. 251: 509 - 515.
- Johnson, L.E., and Stevenson. 1991. *Basic Liquid Chromatography*. Blackburg, Virginia. p. 199 - 201.
- Jager, D.W., Velthuis, H., Prakken, B.J., Kuis, W., and Rijkers, G.T. 2003. Simultaneous Detection of 15 Human Cytokine in a Single Sample of Stimulated Peripheral Blood Mononuclear Cells. *Journal Clinical and Diagnostic Laboratory Immunology*.10:133 - 139.
- Komori, T., Matsuo, J., Itakura, Y., Sakamoto, K., Yoshiko, I., Taguchi, S and Kawasaki, T.1983. Biologically active glycosides from asteroidea, II. Steroid oligoglycosides from the starfish *Acanthaster planci* L., 1. Isolation and structure of the oligoglycoside sulfates. *European Journal of Organic Chemistry*.13: 24 - 36.
- Komori, T, Nanri, H., Itakura Y, Kenji, S., Taguchi, S., Higuchi, R. 1983. Biologically active glycosides from Asteroidea. III. Steroid oligoglycosides from the starfish *Acanthaster planci* L. 2. Structure of two newly characterized genuine sapogenins and an oligosaccharide sulfate. *European Journal of Organic Chemistry*. 1:37 - 55.

- Kawano, Y., Ryuichi, H., Ryuichi, I and Tetsuya, K. 1988. Biologically active glycosides from asteroidea, XVII. Glycosphingolipids from the starfish *Acanthaster planci*, 3. Isolation and structure of two new ceramide lactosides. *Journal Organik Chmestry* 12: 1181 - 1183.
- Kawano, Y., Ryuichi, H., Ryuichi, I and Tetsuya, K. 1988. Biologically active glycosides from asteroidea, XIII. Glycosphingolipids from the starfish *Acanthaster planci*, 2. Isolation and structure of six new cerebrosides. *Journal Organik Chmestry* 19: 24 - 25
- Karasudani, I., Koyama, T., Nakandakari, S., and Aniya, Y., 1996. Purification of anticoagulant factor from the spine venom of the crown-of-thorns starfish, *Acanthaster planci*. *Journal Toxicon*. 34:871 - 879.
- Kitson, F.G., Larsen B.S., and McEwen.1996. *Gass Chromatography and Mass Spectrometry a Practical Guide*. Akademik Press, San Diego. p. 65-90.
- Koyama, Tomoyuki, Katsuhiko, N., Yoko, A., and Matao, S. 1999. Analysis for Sites of Anticoagulant Action of Plancinin, a New Anticoagulant Peptide Isolated from the Starfish *Acanthaster planci*, in the Blood Coagulation Cascade (Review Article). *Journal of Pharmacology*. 45: 903 - 0215.
- Kresno, S.B. 2000. *Imunolgy Diagnosis dan Prosedur Laboratorium*. Edisi III Cetakan 2. Balai Penerbit Fakultas Kedokteran Universitas Indonesia, Jakarta.p. 98 - 154.
- Kopf, M., Abel, B., Gallimore, A., Caroll, M., and Bachman, M.F. 2002. *Complement Component C3 Promote T-cell priming and lung migration to Control Acute Influenze Virus*. p. 435.
- Kamel, H.N., and Slattery, M. 2005. Terpenoids of Sinularia: Chemistry and Biomedical Aplicatations. *Journal Pharmaceutical Biologi*. 43:253 - 562.
- Kelly, M. S. 2005. Echinoderms: *Their Culture and Bioactive Compounds*. In Matranga, V., Muller (Editors). *Echinoderms: Marine Molecular Biotechnology*. Berlin Heidelberg, Germany: Springer. p. 139 - 153.
- Kailah, M., Berghe, W.V., Boone, E., Essawi, T., and Haegeman, G. 2007. Sceening of indigenou Palestinian Medicinal plants for potential anti-inflammatory and cytotoxic activity. *Journal of Ethnopharmacol*. 113: 510 - 516
- Lee, C.C., Sheng, W.T., Hsieh, H.J., and . 2013. Hemolytic activity of venom from crown-of-thorns starfish *Acanthaster planci* spines. *Journal Venom Anim Toxins Incl Trop Dis*. 19 : 1678 - 9199.
- Lowlor. G.J. Fischer, T. J. 1981. *Manual Allergy and Immunology*. Boston. Little Brown Co. p. 231 - 235.

- Leijh P.C., Van, F., and Van, Z. 1986. *In-vitro Determination of Phagocytosis and Intracellular by Polymorphonuclear and Mononuclear Phagocyt*, in. Handbook of Experimental Immunology (Eds M.D Weir L.A. Herzenberg and C. Blockwell) 4 th edition. Weley Blackwell Scientific Publication, Oxford. USA.p.1 - 21.
- Lewis, C.E., and McGee, J.O.D. 1992. *The Mocrophage*. Oxford University. Press. New York. p.1 - 17.
- Luo, P., Chao-qun, H.U., Jian-jun Xia, Chun-Hua, R., and Xiao, Jiang. 2011. Chemical Constituent Analysis of the Crown-of-Thorns Starfish *Acanthaster planci* and Potential Utilization Value of the starfish as feed ingredient for Animal. *African Journal of Biotechnology*.10:13610 - 13616.
- Manderson, A.P., Pickering, M.C., M. Botto, M.J., Walport, and Parish, C. R., 2001. Contiunual Low Level Activation of the Classical Complement Pathway. *Journal of Experimental Medicine*. 194: 747 - 756.
- Mayer, G. 2005. *Immunoglobulins-structure and fuction*.<http://www.med.sc.edu:85/mayer/lqstruct2000.htm>
- Mendonca, Al-Jabri., Al Ajmi., Al Muharrami., Al Areimi, and Al Aghbari. 2010. Persisten and Expanding Population Outbreaks of the Corallivorius Starfish *A. planci* in the Northwestern Indian Ocean: Are They Really a Consquence of Unsustainable Starfish, or a Response to a Changing Environment? *Journal Zoological*. 49:108 - 123.
- Miyamoto, T., Yamamoto, A., Wakabayashi, M., Nagaregawa ,Y., Masanori, I., Higuchi, R., Iha M., and Teruya, K. 2000. Two New Gangliosides, *Acanthagangliosides I and J* from the Starfish. *Journal of Organic Chemistry*. 12: 2295 - 2301.
- Mcnair, H.M., and Miller, J.M. 1998. *Basic Gas-Chromotography*, John Willey & Sons. Inc. USA.p. 56 - 76.
- Meydani, S, N., and Ha, W.K. 2000. Immunology Effects of Yogurt. (Review) *American Journal of Clinical Nutrition*. 71:861 - 872.
- Moran, P.J. 1986.*The Acanthaster Phenomenom*. *Journal Oceanography Marine. Biology*. 117: 227 - 233.
- Mosmann, T. 1983. Rapid Olimetric Assay for Celluler Growth and Survaival: Aplication to Proliferation and Cytotoxicity assay. *Journal Immunology Metode*. 65:55 - 63.
- Muroga, K. 2001. Viral and Bacterial Disease of Marine Fish and Sheellfish in Japanese Hatcheries. *Journal Aquaculture*. 202:23 - 24.
- Magnadottir, B. 2005. Innate Imunity of Fish (Overview). *Journal of fish and Shellfish Imunoogy*. 20:137 - 151.

- Mitchell, T., Costisella, B. 2007. *NMR From Spectra to Structures, an Experimental Approach. 2nd edition*. Springer-Verlag Berlin Heidelberg Germany. p. 231 - 235.
- McAlpine, J.B., and Morris, P. 2005. *Separation by High-Speed Countercurrent Chromatography*. Methods in Biotechnology, Vol. 20, Natural Products Isolation, 2nd ed. Edited by: Sarker, S. D., Latif, Z, and Gray, A. I. Humana Press Inc, Totowa, NJ.p.1 - 25.
- Mangoni, A. 2012. *Strategies for Structural Assignment of Marine Natural Product Through Advanced NMR-based Techniques*. Fattorusso, E., Gerwick, W.H., and Scafati, O. T. (Editors) Handbook of Marine Natural Products Vol 1. Springer. New York. p.519 - 545
- Naewbanij, P.A., Burroughs, L.S., Seitz and Chung, D.S. 1984. Determination of Ergosterol Thin Layer Chromatography and Ultraviolet Spectroscopy. *Journal American Assosiation of Cereal Chemists*. 61: 385 - 388.
- Nugues M. M., and Bak, R.P.M. 2009. Brown-band Syndrome on Feeding Scars of the Crown-of-thorn Starfish *Acanthaster planci*. *Journal Coral Reefs* 28:507 - 510.
- Pablo, M. A., and Álvarez, G. D. 2000. Modulatory Effects of Dietary Lipids on Immune System Functions. *Journal of Immunology and Cell Biology*.78:31 - 39.
- Pietra, F. 2002. *Biodeversity and Natural Product Diversity*. Tetrahedron Organic Chemistry Series 21. Universita di Trento Itali.p. 342 - 387.
- Petrunov, B., Nenkov, P., and Shekerdjiiiky, R. 2007. *The Role of Immunostimulants in Immunotherapy and Immunoprphylaxis*. Bulagaria National Center of Infection and Parasitic Disease, BulBio-NCIPD, Natsin Ltd. p 24 - 70.
- Pavia, D.L., Lampman, G.M., Kriz, G.S., and Vyvyan, J.R. 2009. *Introduction to Spectroscopy*. Sauders College. Philadelphia.p. 123 - 125.
- Robinovitch, M. 1995. Profesional and Non Profesional Phagocytes. *Journal Introduction Trends In All Biology*. 5: 85 - 87.
- Redpath, S., Michaelsen T., Sandlie, I., and Clark, M.R. 1998. Activation of Complement by Human IgG1 and human IgG3 Antibodies against The Human Leucocyte antigen CD52. *Journal mmmunology*. 93:595 - 600.
- Roitt, I., Brostoff, J., and Male., D. 1993. *Immunology*. Mosby-year Book Europe Ltd. London. p. 45 - 50.
- Simon, J.W., Buccini, Badripersaud, S. 1973. Marine Organic Chemistry. I. Isolation of 3,6-Dihydroxy-5-pregn-9(11)-en-20-one from the Saponins of the Starfish *Asterias forbesi*. A Rapid Method for

Extracting Starfish Saponins. *Canadian Journal of Chemistry*. 1: 850 - 855.

- Shiomi K¹, Yamamoto S, Yamanaka H, Kikuchi T, Konno K. 1990. Liver damage by the crown-of-thorns starfish (*Acanthaster planci*) lethal factor. *Journal Toxicon*. 28:469 - 75.
- Shiomi, K.A., Kazama, A., Shimakura, K., Nagashima, Y. 1998. Purification and properties of phospholipases A2 from the crown-of-thorns starfish (*Acanthaster planci*) venom. *Journal Toxicon*. 36:589 - 99.
- Spector, W.G. 1993. *An Introduction to General Pathology. Third Edition*. Churchill livingstone, London, p.392.
- Salituro, G.M., and Dufresne. 1998. *Isolation by Low-Pressure Column Chromatography. Metode in Biotechnology*. Vol.4: Natural Product Isolation. Human Press. Totowa, New Jersey. p.111 - 140.
- Sato, S., Ikekawa, N., Kanazawa, A., and Ando, T. 1980. Identification of 23-Demethyl Acanthasterol in an Asteroid, *Acanthaster planci* and its Synthesis. *Journal Steroid*. 36:65 - 71.
- Secombes, C. J., and Flecher, T.C. 1992. The Role of Phagocytes in the Protective Mechanisms of fish. *Annual Review of Fish Diseases*. 2:53 - 71.
- Savitri, Ibrahim, Sahlan, and Wijanarko. 2011. Rapid and Efficient Purification Method of Phospholipase A2 from *Acanthaster planci*. *Journal of Pharma and Bio Science*. 2:0975 - 6299.
- Svehla, G. 1985. *Buku Teks Analisis Anorganik Kualitatif Mikro dan Semi mikro*. PT. Kalman Media Pustaka. Jakarta. p. 32 - 40.
- Shiomi, K. K., Itoh, Yamanaka., and Kikuchi, T. 1985. Biological Activity of Crude Venom from the Crown of Thorns Starfish *Acanthaster planci*. *Journal Japang Society Science Fish*. 51:1151 - 1154.
- Shiomi, K, Yamanaka, Kikuchi, T., and Konno, K. 1990. Liver Damage by the Crown of thorns Starfish (*Acanthaster Planci*) Lethal Factor. *Journal Toxicon*. 28:469 - 475.
- Sima, P., and Vetvicka, V. 2011. Bioactive Substances with Anti-Neoplastic Efficacy from Marine Invertebrates: Bryozoa, Mollusca, Echinodermata and Urochordata. *World Journal of Clinical Oncology*. 11:362 - 366.
- Silverstein, R.M., Bassler, G.C., and Morrill, T.C. 2002. *Spectrometric Identification of Organic Compounds*. Seventh Edition. Jhon Wiley and Sons Inc. USA. p.123 - 324.

- Soedjoko, R.B.1988. *Evaluasi Sistem Phagositosis Organisme dalam Pemberian Substans imunostimulan*. Seminar Nasional Immunology. 9 - 12 Feberuari 1988. PAU Bioteknologi UGM.Yogyakarta.
- Stahl, E., 1985. *Analisis Obat Secara Kromatograf idan Mikroskopi*. Diterjemah kan oleh Kosasih Padma winata dan Iwan Sudiro. Penerbit ITB Bandung. p. 1 - 18.
- Sarker, S.D, Latief, Z., and Gray A.I. 2006. *Natural Product Isolation, Second Edition*. Humana Press Totowa, New Jersey.p. 7 - 8.
- Schott, C. K., and Huang, D. T. 2012. -3 Fatty acids, -linolenic acid, and Antioxidants: Immunomodulators or Inert Dietary Supplements. *Journal Club Critique*.16:325 - 345.
- Sheikh, Y.S., Djerassi, and Bernard. 1971. Acantasterol: A Cyclopane-Containing Marine Sterol from Acanthaster planci. *Journal Chemical Communication*. 7 - 37.
- Sohne, K.S., Kim, J.D., and Han, I.K. 2000. The role of Immu-Nostimulants in Monogastric Animal and Fish - Review. *Journal Animal Science*. 13:1178 - 1187.
- Simoos, F.S., Moreira, Bisinoti, Gimenez, Yabe. 2007. Water Quality Indeks as a Simple Indicator of Aquaculture Effects on Aquatic Bodies. *Journal Ecological Indicators*.14:217 - 219.
- Sun, J., and Tan, H. 2013. Review Alginate-Based Biomaterials for Regenerative Medicine Applications. *Journal Materials* 6:1285 - 1309.
- Tizard, I. 1988. *Pengantar Immunologi Veteriner*. Airlangga University Press, Surabaya. p. 13 - 23.
- Tringali, C. 2001. *Biactive Compounds from Natural Sources. Isolation, Charterisation and Biological Properties*. University di Catania, Itali. p. 255 - 276.
- Teruya, T., Kiyotake, S., Tomoyuki, K., Yoshikatsu, N., and Daisuke, U. 2001. Arachidonic acid and a-linolenic acid, Feeding Attractants for the Crown-of-thorns Sea star Acanthaster planci, from the sea urchin Toxopneustespileolus. *Journal of Experimental Marine Biology and Ecology*. 266:123 -134.
- Tokeshi, M. and Daud J. R. P. 2011. Assessing Feeding Electivity in *Acanthaster planci*: a Null Model Analysis. *Journal Coral Reefs* 30:227 - 235.
- Uribe, C., H., Folch, R., Enriquez, and Morgan G. 2011. Innate and Adaptive Immunity in Teleost Fish: a review. *Journal Veterinary Medicine* 10: 486 - 503.

- Widianto, M. B. 1987. *Imunomodulator*. Cermin Dunia Kedokteran. Jurusan Farmasi ITB Bandung. (Review). p.44.
- Wright, A.E. 1998. *Isolation of Marine Natural Product, in: Natural Product Isolation*, Edited by Richard JP. Cannel Humana Press New Jersey.p.45 - 68.
- Wagner, H. 1999. *Immunomodulatory Agents from Plants*. Birkhauser Verlag Basel. Switzerland. p.57.
- Yamaguchi, M. 1986. Pliancy infestation of reefs and coral assemblages in Japan: a retrospective analysis of control efforts. *Journal Coral Reef*. 5:23 - 30.
- Yokota. 2004. Bioresource from Echinoderms. *Journal Marine Molekuler Bioteknologi*. 251 - 266.
- Xia, W., Li, J., Geng, M., Xin, X., Ding, J. 2005. Potentiation of T cell Function by a Marine Algae-Derived Sulfated Polymannuroguluronate: In vitro Analysis of Novel Mechanisms. *Journal Pharmacology Science*. 97: 107 - 115.
- Westendorf, J. 1999. *Natural Compounds*. Departement of Toxicology, University Medical Hamburg, Germany.p.57 - 98.
- Warintek. 2008. *Teknologi Tepat Guna: Budidaya Ikan Nila*. Direktorat Jendral Kelautan dan Perikanan. p. 2 - 10.
- Watanabe, A., Nagai, H., Nagashima, Y., Shiomi K. 2009. Structural Characterization of Plancitoxin I, a Deoxyribonuclease II-like Lethal Factor from the Crown-of-thorns Starfish *Acanthaster planci*, by Expression in Chinese Hamster Ovary cells. *Journal Fish Science*. 75:225 - 231.
- Ota E, Nagai H, Nagashima Y, Shiomi K. 2005. Phospholipases A2 from the crown-of-thorns Starfish *Acanthaster planci* Venom. *Journal Physiol Biochem Mol Biol*. 143:54 - 60.
- Prokofeva, N.G., Chaikina, E.L., Kicha, A.A., and Ivanchina, NV. 2003. Biological activities of steroid glycosides from starfish. *Journal Comparative Biochemistry and Physiology Part B: Biochemistry and Molecular Biology* 134 : 695 - 701.
- Yara, A., Noguchi, K., Nakasone, J., Kinjo, N., Hirayama, K., Sakanashi, M. 1992. Cardiovascular effects of *Acanthaster planci* venom in the rat: possible involvement of PAF in its hypotensive effect. *Journal Toxicol*. 30 :1281 -1289.
- Voogt, P.A and Rheenen, W.A.1982. Carbohydrate content and composition of asterosaponins from different organs of the sea star *Asterias rubens*:

Relation to their haemolytic activity and implications for their biosynthesis. *Journal Comparative Biochemistry and Physiology Part B: Comparative Biochemistry*. 72: 683 - 688.