UNIVERSITAS
GADJAH MADA
ISOLASI SENYAWA ANTIPLASMODIUM DARI FUNGI ENDOFIT TANAMAN Artemisia annua L.
INDAH PURWANTINI, Prof. Dr. Wahyono, S.U., Apt.; Prof. Dr. Mustofa, M. Kes., Apt; Prof. Dr. Ratna Asmah Susidar
Universitas Gadjah Mada, 2016 | Diunduh dari http://etd.repository.ugm.ac.id/

DAFTAR PUSTAKA

Abdin, M.Z., Israr, M., Rehmin, R.U., Jain, S.K. 2003, Artemisinin, a Novel Antimalarial Drug: Biochemical and Molecular Approaches for Enhanced Production, *Planta Medica,* **69**(4):289-299

Allison, D., dan Gilbert, P. 2004, Bacteria, dalam Denyer, S.P., Hodges, N.A., Gorman, S.P., (Eds.) 1977, *Hugo and Russell's Pharmaceutical Microbiology,* 23-27**,** Blackwell Science, Ltd., Oxford

Alves, T.M., Nagem, T.J., de Carvalho, L.H., Krettli, A.U., Zani, C.L. 1997, Antiplasmodial triterpene from *Vernonia brasiliana*. *Planta Medica,* 63:554–5.

Arnida, 2015, Isolasi dan Uji Aktivitas Antiplasmodium in vitro Senyawa Aktif dari Umbi Hati Tanah (*Angiopteris evecta*), *Disertasi*, Universitas Gadjah Mada, Yogyakarta

Ascenzi, J.M. 1996. *Handbook of Disinfectants and Antiseptics*, Marcel Dekker, New York

Awad, H.M., Kamal, Y., El-Shahed, Aziz, R., Sarmidi, M.R., Hesham, dkk. 2012, Antibiotics as Microbial Secondary Metabolites and Application, *Jurnal Teknologi*, **59**: 101-111

Baelsman, R., Deharo, E., Munoz, V., Sauvin, M., Ginsburg, H. 2000, Experimental Conditions for Testing The Inhibitory Activity of Chloroquin on The Formation of β-hematin, *Journal of Experimental Parasitolology*, **96**(4):243–248

Basilico, N., Pagani, E., Monti, D., Olliaro, P., Taramelli, D. 1998, A Microtitrebased Method for Measuring the Haem Polymerization Inhibitory Activity (HPIA) of Antimalarial Drugs, *Journal of Antimicrobial and Chemotherapy*, **42**:55-60

Bertea, C.M., Freije, J. R., van der Woude, H., Verstappen, F.W.A., Perk, L., Marquez,V., dkk. 2005, Identification of Intermediates and Enzymes Involved in Early Steps of Artemisinin Biosynthesis in *Artemisia annua*. *Planta Medica,* **71**:40-47.

Bhakuni, R.S., Jain, D.C., Sharma, R.P., Kumar, S. 2001, Secondary Metabolites of *Artemisia annua* and Their Biological Acivity, *Current Science,* **80**(1):35-48

UNIVERSITAS
GADJAH MADA
ISOLASI SENYAWA ANTIPLASMODIUM DARI FUNGI ENDOFIT TANAMAN Artemisia annua L.
INDAH PURWANTINI, Prof. Dr. Wahyono, S.U., Apt.; Prof. Dr. Mustofa, M. Kes., Apt; Prof. Dr. Ratna Asmah Susidar
Universitas Gadjah Mada, 2016 | Diunduh dari http://etd.repository.ugm.ac.id/

Bickii, J., Tchouya, G.R.F., Tchouankeu, J.C., Tsamo, E. 2007, Antimalarial Activity in Crude Extracts of Some Cameroonian Medicinal Plants, *African Journal of Traditional, Complementary and Alternative Medicine*, **4**(1):107-111

Bloland, P.B. 2001, *Drug Resistance in Malaria*, WHO

Boucher, Y., dan Doolittle, W.F. 2000, The Role of Lateral Gene Transfer in the Evolution of Isoprenoid Biosynthesis Pathways, *Molecular Microbiology*, **37**:703–716

Brown, G.D. 2010, The Biosynthesis of Artemisinin (Qinghaosu) and The Phytochemistry of *Artemisia annua* L. (Qinghao), *Molecules*, **15**(11):7603-7698

Brown, G.D. dan Sy, L.K. 2004[a], Synthesis of Labelled Dihydroartemisinic Acid, *Tetrahedron*, **60**:1125-1138

Brown, G.D. dan Sy, L.K. 2004[b], *In vivo* transformations of Dihydroartemisinic Acid in *Artemisia annua* Plants, *Tetrahedron*, **60**:1139-1159

Brown, G.D. dan Sy, L.K. 2007, *In vivo* Transformations of Dihydro-*epi*-deoxyarteannuin B in *Artemisia annua* Plants, *Tetrahedron*, **63**:9548-9566

Buller, R., Peterson, M.L., Almarsson, Ö., Leiserowitz, L. 2002, Quinoline Binding Site on Malaria Pigment Crystal: A Rational Pathway for Antimalaria Drug Design, *Crystal Growth & Design*, **2**(6): 553–562

Calcul, L., Waterman, C., Ma, W.S., Lebar, M.D., Harter, C., Mutka, T., dkk. 2013, Screening Mangrove Endophytic Fungi for Antimalarial Natural Products, *Marine Drugs*, **11**:5036-5050

Campanale, N., Nickel, C., Daubenberger, C.A., Wehlan, D.A., Gorman, J.J.,Klonis, N., dkk. 2003, Identification and Characterization of Heme-interacting Proteins in The Malaria Parasite *Plasmodium falciparum*, *The Journal of Biology Chemistry*, **278**(30):27354-27361

Cann, A. 1996, Introduction : History of *Plasmodium* Parasites, diakses April 2009, http://www-micro.msb.le.ac.uk/Bradley/Bradley.html.

Castillo, U.F., Strobel, G.A., Ford, J., Hess, W.M., Porter, H., Jensen, J.B., dkk. 2002, Munumbicins, Wide Spectrum Antibiotics Produced by *Streptomyces* NRRL 30562, Endophytic on *Kennedia nigricans*, *Microbiology*, **148**:2675-2685

Chisti, Y. dan Moo-Young, M. 1993, Clean-in-place Systems Bioreactor: Design, Validation and Operation, *ASME Bioengineering*, **27**:5–12

UNIVERSITAS
GADJAH MADA
ISOLASI SENYAWA ANTIPLASMODIUM DARI FUNGI ENDOFIT TANAMAN Artemisia annua L.
INDAH PURWANTINI, Prof. Dr. Wahyono, S.U., Apt.; Prof. Dr. Mustofa, M. Kes., Apt; Prof. Dr. Ratna Asmah Susidar
Universitas Gadjah Mada, 2016 | Diunduh dari http://etd.repository.ugm.ac.id/

Chong, C.R. dan Sullivan, Jr.D.J. 2003, Inhibition of Heme Crystal Growth by Antimalarials and Other Compounds: Implication for Drug Discovery, *Biochemical Pharmacology*, **60**(11):2201-2212

Coll, J.C. dan Bowden, B.F. 1986, The Application of Vacuum Liquid Chromatography to the Separation of Terpene Mixtures, *Journal of Natural Product*, **49**(5):934–936

Cox-Singh, J., David, T.M., Lee, K.S., Shamsul, S.S., Matusop, A., Ratnam, S., dkk. 2008, *Plasmodium knowlesi* Malarian in Humans in Widely Distributed and Potentially Life Threatening, *Clinical Infectious Disease*, **46**:165-171

Croteau, R., Kutchan, T.M., Lewis, N.G. 2000, *Natural products Secondary Metabolites*, dalam Buchanan, B., Gruissem, W., Jones, R. (eds.), Biochemistry and Molecular Biology of Plants, American Society of Plant Biologists, Rockville, MD, 1250-1268

Daneshvar, C., Davis, T.M., Cox-Singh, J., Rafa'ee, M.Z., Zakaria, S.K., Divis, P.C., dkk. 2009, Clinical and Laboratory Features of Human *Plasmodium knowlesi* Infection, *Clinical Infectious Disease*, **49**:852-860

Dreyfuss, M.M., dan Chapela, I.H. 1994, *In The Discovery of Natural Products with Therapeutic Potential*, Gullo, V.P., Ed.49-79, Butterworth-Heinemann, Boston

Egan, T.J. 2001, Structure-Function Relationship in Chloroquine and Related 4-Aminoquinoline Antimalarials, *Mini Reviews in Medical Chemistry*, **1**(1):113-123

Egan, T.J. 2002, Physico-chemical Aspects of Hemozoin (malaria pigment) Structure and Formation, *Journal of Inorganic Biochemistry*, **91**(1):19-26

Egan, T.J. 2004, Hemozoin Formation as a Target for The Rational Design of New Antimalarials, *Drug Design Reviews*, **1**(1):93-110

Elfita, Muharni, Munawar, Legasar, L., Darwati. 2010, Antimalarial Compounds from Endophytic Fungi of Brotowali (*Tinaspora crispa* L.), *Majalah Farmasi Indonesia*, **11**(1)53-58

El-naggar, E. B., Azazi, M., Svajdlenka, E, Zemlicka, M. 2013, Artemisinin from Minor to Major Ingredient in *Artemisia annua* Cultivated in Egypt, *Journal of Applied Pharmaceutical Science*, **3**(08):116-123

Ellis, D., Davis, S., Alexiou, H., Handke, R., Bartley, R. 2007, *Description of Medical Fungi*, Nexus Print Solution, Adelaide

UNIVERSITAS
GADJAH MADA
ISOLASI SENYAWA ANTIPLASMODIUM DARI FUNGI ENDOFIT TANAMAN Artemisia annua L.
INDAH PURWANTINI, Prof. Dr. Wahyono, S.U., Apt.; Prof. Dr. Mustofa, M. Kes., Apt; Prof. Dr. Ratna Asmah Susidar
Universitas Gadjah Mada, 2016 | Diunduh dari http://etd.repository.ugm.ac.id/

Estrela, C., Estrela, C.R., Barbin, E.L., Spanó, J.C., Marchesan, M.A., Pécora, J.D. 2002, Mechanism of Action of Sodium Hypochlorite, *Brazilian Dental Journal*, **13**(2):113-7

Ezra, D., Castillo, U.F., Strobel, G.A., Hess, W.M., Porter, H., Jensen, J.B., dkk. 2004, Coronamycins, Peptide Antibiotics Produced by a Verticillate *Streptomyces sp. (MSU-2110)* Endophytic on *Monstera sp*., *Microbiology*, **150**:785–793

Ferreira, J.F.S. dan Janick, J. 1995, Production and Detection of artemisinin from *Artemisia annua, Acta Horticultura*, **390**: 41-50

Fidock, D.A., Rosenthal, P.J., Croft, S.L., Brun, R., Nwaka, S. 2004, Antimalarial Drug Discovery: Efficacy Modes for Compound Screening, *Nature Reviews*, **3**:509-520

Figtree, M., Lee, R., Bain, L., Kennedy, T., Mackertin, S., Urban, M., dkk. 2010, *Plasmodium knowlesi* in Human, Indonesian Borneo, *Emerging Infectious Diseases*, **16**(4):672-674

Fitch, C.D., Chen, Y.F., Cai, G.Z. 2003, Chloroquine-induced Masking of a Lipid that Promotes Ferriprotoporphyrin IX Dimerization in Malaria**,** *Journal of Biological Chemistry*, **278**(25):22596-22599

Foth, B.J., Ralph, S.A., Tonkin, C.J., Struck, N.S., Fraunholz, M., Roos D.S., dkk. 2003, Dissecting Apicoplast Targeting in The Malaria Parasite *Plasmodium falciparum*, *Science*, **299**:705-708

Frisvad, J.C., Smedsgaard, J., Larsen, T.O., Samson, R. A. 2004, Mycotoxins, Drugs and Other Extrolites Produced by Species in *Penicillium* subgenus *Penicillium*, *Studies in Mycology*, **49**:201-241

Fujioka, H., dan Aikawa, M. 2002, Structure and Life Cycle, *Chemical Immunology*, **80**: 1-26

Gandjar, I.G. dan Rohman, A. 2007, *Kimia Farmasi Analisis*, 355-356; 368, Pustaka Pelajar, Yogyakarta

Ganiswara, 1995, Farmakologi dan Terapan, Edisi IV, Bagian Farmakologi. Fakultas Kedokteran Universitas Indonesia, Jakarta

Ge, H.M., Shen, Y., Zhu, C.H., Tan, S.H., Ding, H., Song, Y.C., dkk. 2008, Penicidones A—C, Three Cytotoxic Alkaloidal Metabolites of an Endophytic Penicillium sp., *Natural Product*, **69**(2)571-576

Gelb, M.H. 2007, Drug Discovery for Malaria: A very Challenging and Timely Endeavour, *Current Opinion in Chemical Biology*, **11**(4):440-445

UNIVERSITAS
GADJAH MADA
ISOLASI SENYAWA ANTIPLASMODIUM DARI FUNGI ENDOFIT TANAMAN Artemisia annua L.
INDAH PURWANTINI, Prof. Dr. Wahyono, S.U., Apt.; Prof. Dr. Mustofa, M. Kes., Apt; Prof. Dr. Ratna Asmah Susidar
Universitas Gadjah Mada, 2016 | Diunduh dari http://etd.repository.ugm.ac.id/

Gessler, M.C., Nkunya, M.H.H., Mwasumbi, L.B., Heinrich, M., Tanner, M. 1994, Screening Tanzanian Medicinal Plants for Antimalarial Activity, *Acta Tropica*, **56**:65-77

Goldsmith, R.S. 1994, Obat-obat Antiprotozoa, Dalam: *Farmakologi Dasar dan Klinik*, ed VI. Bertram G, Katzung, Penerbit Buku Kedokteran EGC, Jakarta

Gluzman, I.Y., Francis, S.E., Oksman, A., Smith, C.E., Duffin, K.L., Goldberg, D.E. 1994, Order and Specificity of the *Plasmodium falciparum* Hemoglobin Degradation pathway, *Journal of Clinical Investigation,* **93**:602-608

Gritter, R.J., Bobbit, J.M., Schwarting, A.E. 1991., *Pengantar Kromatografi*, diterjemahkan oleh Kosasih, P., edisi kedua, 107-126; 160-165, ITB, Bandung

Gu, W., Ge, H.M., Song, Y.C., Ding, H., Zhu, H.L., Zhao, X.A., dkk. 2007, Cytotoxic Benzo[j]fluoranthene Metabolites from *Hypoxylon truncatum IFB-18*, an Endophyte of *Artemisia annua*, *Journal of Natural Product*, **70**: 114-117

Gunawan, D., dan Mulyani, S. 2004, *Ilmu Obat Alam (Farmakognosi) Jilid I*, Cetakan Pertama, Penebar Swadaya, Jakarta

Guo L., Hyde K., Liew, E. 1998, A Method to Promote Sporulation in Palm Endophytic Fungi, *Fungal Diversity*, **1**:109–13

Guo, B.,Y. Wang, X., Sun, K., Tan, K. 2008, Bioactive Natural Products from Endophytes: A Review, *Applied Biochemistry and Microbiology*, **44**(2):*136–142*

Harper, J.K., Ford, E. J., Strobel, G. A., Arif, A., Grant, D. M., Porco, J., dkk. 2003, Pestacin: a 1,3-dihydro isobenzofuran from *Pestalotiopsis microspora* Possessing Antioxidant and Antimycotic Activities, *Tetrahedron,* **59**:2471-2476

Harvey, L.M., McNeil, B. 2009, The Design and Preparation of Media for Bioprocesses, dalam Mc Neil, B., Harvey, L., (Eds.), *Practical Fermentation Technology*, John Wiley and Son Ltd., New Jersey

Harwaldt, P., Rahlfs, S., Becker, K. 2002, Glutathione S-transferase of The Malarial Parasite *Plasmodium falciparum*: Characterization of a Potential Drug Target, *Biological Chemistry*, **383**(5):821-830

Hawley, S.R., Bray, P.G., Mungthin, M., Atkinson, J.D., O'Neill, P.M, Ward, S.A. 1998, Relationship between Antimalarial Drug Activity, Accumulation, and Inhibitionof Heme Polymerization in *Plasmodium falciparum* in vitro, *Antimcrobial Agents and Chemotherapy*, **42**(3):682-686

UNIVERSITAS
GADJAH MADA
ISOLASI SENYAWA ANTIPLASMODIUM DARI FUNGI ENDOFIT TANAMAN Artemisia annua L.
INDAH PURWANTINI, Prof. Dr. Wahyono, S.U., Apt.; Prof. Dr. Mustofa, M. Kes., Apt; Prof. Dr. Ratna Asmah Susidar
Universitas Gadjah Mada, 2016 | Diunduh dari http://etd.repository.ugm.ac.id/

Hempelmann, E., dan Egan, T.J. 2002, Pigment Biocrystallization in *Plasmodium falciparum*, *Trends in Parasitology*, 1**8**(1):11

Hogg, S. 2005, *Essential Microbiology*, John Wiley & Sons Ltd., England.

Huang, W.Y., Cai, Y.Z. Suryeswaran, S., Hyde, K. D., Corke, H., Sun, M., 2009, Molecular Phylogenetic Identification of Endophytic Fungi Isolated from three *Artemisia* Species, *Fungal Diversity*, **36**: 69-88

Hundley, N.J. 2005, Structure Elucidation Of Bioactive Compounds Isolated from Endophytes of *Alstonia scholaris* and *Acmena graveolens*, *Thesis*, Brigham Young University

Hyde, J.E. 2007, Drug-Resistant Malaria-an Insight, *FEBS Journal*, **274**(18):4688-4698

Hyde, K.D. dan Soytong, K. 2008, The Fungal Endophyte Dilemma, *Fungal Diversity*, **33**:163-173

Jenett-Siems, K., Mockenhaupt, F. P., Bienzle, U., Gupta, M. P., Eich, E. 1999, *In Vitro* Antiplasmodial Activity of Central American Medicinal Plants, *Tropical Medicine & International Health*, **4**(9):611-615

Jian-wen, W., Zhong-hao, X., Ren-xiang, T. 2002, Elicitation on Artemisinin Biosynthesis in *Artemisia annua* Hairy Roots by the Oligosccharide Extract from Endophytic *Colletotrichum sp* B501, *Acta Botanica Sinica*, **44**(10):1233-1238

Jongwutiwes, S., Putaporntip, C., Takuya, I., Tetsuko, S., Hiroji, K. 2004, Naturally Acquired *Plasmodium knowlesi* Malaria in Human, Thailand, *Emerging Infectious Disease*, **10**:2211-2213

Judoamidjojo, M., Darwis, A.A., & Sa'id, E.G. 1992, *Teknologi Fermentasi*, 118, 79-82, 95-97, Rajawali Pers, Jakarta

Kakkilaya, B.S. 2011, Malaria Site : Life Cycle, diakses November 2011, http://www.malariasite.com.

Kayembe, J.S., Taba, K.M., Ntumba, K., Kazadi, T.K. 2012, In vitro Antimalarial Activity of 11 Terpenes Isolated from *Ocimum gratissimum* and *Cassia alata* Leaves, Screening of Their Binding Affinity with Haemin, *Journal of Plant Studies*, **1**(2):168-172

Kementrian Kesehatan, 2013, Permenkes RI No 5 tahun 2013 tentang Pedoman Tata Laksana Malaria

UNIVERSITAS
GADJAH MADA
ISOLASI SENYAWA ANTIPLASMODIUM DARI FUNGI ENDOFIT TANAMAN Artemisia annua L.
INDAH PURWANTINI, Prof. Dr. Wahyono, S.U., Apt.; Prof. Dr. Mustofa, M. Kes., Apt; Prof. Dr. Ratna Asmah Susidar
Universitas Gadjah Mada, 2016 | Diunduh dari http://etd.repository.ugm.ac.id/

Kindermans, J.M., Olliaro, J.P., Gomes, M. 2007, Ensuring Sustained ACT Production and Reliable Artemisinin Supply, *Malaria Journal*, **6**:125, diakses April 2009, http://www.malariajournal.com/content/6/125.

Kohler S., Delwiche, C.F., Denny, P.W., Tilney, L.G., Webster, P., Wilson, J.M., dkk. 1997, A Plastid of Probable Green Algal Origin in Apicocomplexan Parasites, *Science*, **275**:1485-1489

Kongsaeree, P. Prabpai, S., Sriubolmas, N., Vongvein, C., Wiyakrutta, S. 2003, Antimalarial Dihydroxycoumarins Produced by *Geotrichum sp*., an Endophytic Fungus of *Crassosephalum crepidioides*, *Journal of Natural Product*, **66**(5);709-11

Krishna, S., Uhlemanna, A.C., Haynes, R.K. 2004, Artemisinins: Mechanisms of Action and Potential for Resistance, *Drug Resistance*, 233-244

Kumaran, R.S., Kim, H.J., Hur, B.K. 2010, Taxol-producing fungal endophyte, Pestalotiopsis species isolated from *Taxus cuspidata*, *Journal of Bioscience and Bioengineering*,**110**(5):541-6

Kumar, S., Gupta, S. K., Singh, P., Bajpai, P., Gupta, M. M., Singh, D., dkk. 2004, High Yields of Artemisinin by Multi-harvest of *Artemisia annua* Crops, *Industrial Crops and Products*, **19**:77-90

Kurosawa, Y., Dorn, A., Kitsuji-Shirane, M., Shimada, H., Satoh, T., Matile, M., dkk. 2003, Hematin Polymerization Assay as a High-throughput Screening for Identification of New Antimalarial Pharmacophores, *Antimicrobial Agents and Chemotherapy*, **44**(10):2638-2644

Lacap, D.C., Hyde, K., Liew, E.C.Y. 2003, An Evaluation of the Fungal "morphotype" Concepts Based on Ribosomal DNA Sequence, *Fungal Diversity*, **12**: 53–66

Lambros, C., dan Vanderberg, J.P. 1979, Sinchronisation of *Plasmodium falciparum* Erythrocytic Stages in Culture, *Journal of Parasitology*, **65**(3):418-420

Li, J., Li, P., Liu, F. 2007, Production of Theanine by *Xerocomus badius* (Mushroom) Using Submerged Fermentation, *LWT-Food Science Technology*, 41:883-889

Liu, C.H., Zou, W.X., Lu, H., Tan, R.X. 2001, Antifungal Activity of *Artemisia annua* Endophyte Cultures Against Phytopathogenic Fungi, *Journal of Biotechnology*, **88**(3):277-282

UNIVERSITAS
GADJAH MADA
ISOLASI SENYAWA ANTIPLASMODIUM DARI FUNGI ENDOFIT TANAMAN Artemisia annua L.
INDAH PURWANTINI, Prof. Dr. Wahyono, S.U., Apt.; Prof. Dr. Mustofa, M. Kes., Apt; Prof. Dr. Ratna Asmah Susidar
Universitas Gadjah Mada, 2016 | Diunduh dari http://etd.repository.ugm.ac.id/

Liu, J.Y., Liu, C.H., Zou, W.X., Tan, R.X. 2003, Leptosphaeric Acid, a Metabolite with a Novel Carbon Skeleton from *Leptosphaeria sp. IV403*, an Endophytic Fungus in *Artemisia annua*, *Helvetica Chimica Acta*, **86**:657-660

Llorens A, Matco R, Hinojo MJ, Logrieco A, Jimenez M. 2004, Influence of The Interactions Among Ecological Variables in the Characterization of Zearalenone Producing Isolates of Fusarium spp., *Systematic and Applied Microbiology*, **27**:253–260

Lu, H., Zou, W. X., Meng, J. C., Hu, J., Tan, R. X. 2000, New Bioactive Metabolites Produced by *Colletotrichum sp.* an Endophytic Fungus in *Artemisia annua*, *Plant Science*, **151**:67-73

Luchaves, J., Espino, F., Curameng, P., Espina, R., Bell, D., Chiodini, P., dkk. 2008, Human infections with *Plasmodiun knowlesi*, the Phillipines, *Emerging Infectious Disease*, **14**:811-813

Maheshwari, R. 2006, What is an Endophytic Fungus?, *Current Science*, **90**(10):1309

Margono, T., Suryati, D., Hartinah, S. 2000, *Buku Panduan Teknologi Pangan* , *Pusat Informasi Wanita dalam Pembangunan*, PDII-LIPI

Massiha, A., Pahlaviani, M. J. K., Issazadeh, K., Bidarigh, S., Zarrabi, S. 2013, Antibacterial Activity of Essential Oils and Plant Extracts of *Artemisia annua* L. in vitro, *Zahedan Journal of Research in Medical Sciences*, **15**(6): 14-18

Metwaly, A.M., Kadry, H.A., El-Hela, A.A., Mohammad, A.I., Cutler, S.J., Ross, S.A. 2013, Antimalarial Screening for Different Endophytic Fungi Isolated from Two Egyptian Plants, *Planta Medica*, **79**:53

Miao, Y.L., Wang, D.P., Wang, X-C., Chen, J., Miao, C. 2006, An Arabidopsis Glutathione Peroxidase Functions as Both a Redox Transducer and a Scavenger in Abscisic Acid and Drought Stress Responses, *Plant Cell*, **18**:2749–66

Moldenhauer, J.R. 2008, Preservation of Cultures for Fermentation Processes dalam Mc Neil, B., Harvey, L., (Eds.), *Practical Fermentation Technology*, John Wiley and Son Ltd., New Jersey

Moran, L. 2007, *Plasmodium falciparum* Causes Malaria, diakses April 2009, http://www.sandwalk.com

Munghtin, M., Bray, P.G., Ridley, R.G.,Ward, S.A. 1998, Central Role of Hemoglobin Degradation in Mechanism of Action of 4-aminoquinolines, Quinoline Methanols, and Phenantene Methanols, *Antimicrobial Agent Chemotherapy*, **42**(11):2973-2977

UNIVERSITAS
GADJAH MADA
ISOLASI SENYAWA ANTIPLASMODIUM DARI FUNGI ENDOFIT TANAMAN Artemisia annua L.
INDAH PURWANTINI, Prof. Dr. Wahyono, S.U., Apt.; Prof. Dr. Mustofa, M. Kes., Apt; Prof. Dr. Ratna Asmah Susidar
Universitas Gadjah Mada, 2016 | Diunduh dari http://etd.repository.ugm.ac.id/

Mustofa, Sholikhah, E.N., Wahyuono, S. 2007, *In vitro* and *in vivo* Antiplasmodial Activity and Cytotoxicity of Extracts of *Phyllanthus niruri* L., Herbs Traditionally Used to Threat Malaria in Indonesia, *South East Asian Journal of Tropical Medicine Public Health*, **38**(4):609-615

Ncokazi, K.K., dan Egan**,** T.J. 2005, A Colorimetric High-throughput beta-Hematin Inhibition Screening Assay for Use in the Search for Antimalarial Compounds, *Analytical Biochemistry*, **338:**306-319

Ng, O.T., Ooi, E.E., Lee, C.C., Lee, P.J., Ng, L.C., Wong, P.S., dkk. 2008, Naturally Acquired Human *Plasmodium knowlesi* Infection, Singapore, *Emerging Infectious Disease,* 1**4**:814-816

Ningsih, R., Mukarlina, Linda, R. 2012, Isolasi Dan Identifikasi Jamur Dari Organ Bergejala Sakit Pada Tanaman Jeruk Siam (*Citrus nobilis* var. *microcarpa*), *Protobiont,* **1**(1):1 – 7

Nogueira, F., dan do Rosario, V.E. 2010, Methods for assessment of antimalarial activity in the different phases of the Plasmodium life cycle, *Revista Pan-Amazonica de Saude*, **1**(3):109-124

O'Brien, H.E., Parrent, J.L., Jackson, J.A., Moncalvo, J.M., Vilgalys, R. 2005, Fungal Community Analysis by Large-scale Sequencing of Environmental Samples, *Applied Environmental Microbiology*, **71**:5544–5550

O'Neill, P.M., 2004, A Worthy Adversary for Malaria, *Nature*, **430**:838-839

Otovina, D.M. dan Said, E.G. 2004, Isolasi dan Identifikasi Artemisinin dari Hasil Kultivasi Mikroba Endofit dari Tanaman *Artemisia annua* : Studi Mikroba Endofitik Tanaman *Artemisia spp*., *Majalah Farmasi Indonesia*, **15**(2):68-74

Pagola, S., Stephens, P.W., Bohle, D.S., Kosar, A.D., Madsen, S.K. 2000, The Structure of Malaria Pigment beta-Haematin¸ *Nature*, **404**(6775):307-310

Paitayatat, S., Tarnchompoo, B., Thebtaranonth, Y., Yuthavong, Y. 1997, Correlation of Antimalarial Activity of Artemisinin Derivatives with Binding Affinity with Ferroprotoporphyrin IX. *Journal of Medicinal Chemistry*, **40**(5):633-638

Patrick, S.M. dan Finn, B. 2009, Modes of Fermenter Operation, dalam McNeil,. B., Harvey, L.M., (Eds), *Practical Fermentation Technology*, 70-85, 103, John Wiley & Son, Ltd., England.

Palaniswamy, M., Pradeep, B.V., Sathya, R., Amgayarkanni, J. 2010, *In vitro* Anti-Plasmodial Activity of *Trigonella foenum-graecum* L., *Evidence-Based Complementary and Alternative Medicine,* **7**(4): 441-445

UNIVERSITAS
GADJAH MADA
ISOLASI SENYAWA ANTIPLASMODIUM DARI FUNGI ENDOFIT TANAMAN Artemisia annua L.
INDAH PURWANTINI, Prof. Dr. Wahyono, S.U., Apt.; Prof. Dr. Mustofa, M. Kes., Apt; Prof. Dr. Ratna Asmah Susidar
Universitas Gadjah Mada, 2016 | Diunduh dari http://etd.repository.ugm.ac.id/

Phillips, R.S. 2001. Current Status of Malaria and Potential for Control, *Clinical Microbiology Review,* **14**(1):208-226

Phongpaichit, S., Nikom, J., Rungjindamai, N., Sakayaroj, J., Hutadilok-towatana, N., Rukachaisirikul, V., Kirtikara, K. 2007, Biological Activities of Extracts from Endophytic Fungi Isolated from *Garcinia* Plants, *FEMS Immunology and Microbiology*, **51**:517-525

Pina, C., António, J., Hogg, T. 2005, Inferring Ethanol Tolerance of *Saccharomyces* and Non-*Saccharomyces* Yeasts by Progressive Inactivation, *Biotechnology Letters*, **26**(19):1521-1527

Pitt, 1979, *The Genus Penicillium and Its Teleomorphic States Eupenicillium and Talaromyces,* Academic Press Inc. London

Pittayakhajonwut, P., Dramae, A., Intaraudom, C., Boonyuen, N., Nithithanasilp, S., Rachtawee, P., dkk. 2011, Two New Drimane Sesquiterpenes, Fudecadiones A and B, from the Soil Fungus *Penicillium sp*. BCC 17468, *Planta Medica*, **77**(1):74-6

Pongcharoen, W., Rukachaisirikul, V., Phongpaichit, S., Kühn, T., Pelzing, M., Sakayaroj, J., dkk. 2008, Metabolites from Endophytic Fungus *Xylaria sp*. PSU-D14, *Phytochemistry*, **69**:1900-1902

Posner, G.H., Parker, M.H., Northrop, J., Elias, J. S., Ploypradith, P., Xie, S., dkk. 1999, Orally Active, Hydrolytically Stable, Semisynthetic, Antimalarial Trioxanes in the Artemisinin Family, *Journal of Medicinal Chemistry,* **42**(2): 300–304

Potawale, S.E., Waseem, Md., Sadiq, Md., Mehta, U.K., Dhalawat, H. J., Luniya, K. P., dkk. 2008, Research and Medicinal Potential of *Artemisia annua*: Review, *Pharmacologyonline,* **2**: 220-235

Priti, V., Ramesha, B.T., Singh, S., Ravikanthi, G., Ganeshaiah, K.N., Suryanarayanan, T.S., dkk. 2009, How Promising are Endophytic Fungi as Alternative Sources of Plant Secondary Metabolites?, *Current Science* **97**(4):477-478

Radji, M. 2005, Peranan Bioteknologi dan Mikroba Endofit dalam Pengembangan Obat Herbal, *Majalah Ilmu Kefarmasian,* **11**(3):113 – 126

Ralph, S.A., D'Ombrain, M.C., Mc Fadden, G.I. 2001, The Apicoplast as an Antimalarial Drug Target, *Drug Resistance Update,* **4**:145-151

Ramakrishn, A., dan Ravishankar, G.A. 2011, Influence of Abiotic Stress Signals on Secondary Metabolites in Plants, *Plant Signal Behaviour,* **6**(11):1720-31

UNIVERSITAS
GADJAH MADA
ISOLASI SENYAWA ANTIPLASMODIUM DARI FUNGI ENDOFIT TANAMAN Artemisia annua L.
INDAH PURWANTINI, Prof. Dr. Wahyono, S.U., Apt.; Prof. Dr. Mustofa, M. Kes., Apt; Prof. Dr. Ratna Asmah Susidar
Universitas Gadjah Mada, 2016 | Diunduh dari http://etd.repository.ugm.ac.id/

Redell, P. dan Gordon,V. 2000, Biodiversity: New Leads for Pharmaceutical and Agrochemical Industries, 205-212, Wrigley, S.K., Hayes, M.A., Thomas,R., Chryal, E.J.T. dan Nicholson, N., Eds.; The Royal Society of Chemistry: Cambridge, UK, *cit* Strobel, G.A., Daisy, B., Castillo, U.J., dan Harper, J., 2004, Natural Products from Endophytic Microorganisms, *Journal of Natural Product*, **67**, 257-268

Reynolds, J. 2011, Bacterial Colony Morphology, diakses 3 Maret 2012, http://delrio.dcccd.edu/jreynolds/microbiology/2421/lab_manual/colony_morph.pdf

Ro, D., Paradise, E.M., Ouellet, M., Fisher, K.J., Newman, K.L., Ndungu, J.M. 2006, Production of The Antimalarial Drug Precursor Artemisinic Acid in Engineered Yeast, *Nature,* **440**:940-943

Robert, A., Benoit-Vical, F., Dechy-Cabaret, O., Meunier, B. 2001, From Classical Antimalarial Drugs to New Compounds Based on The Mechanism of Action of Artemisinin, *Pure and Applied Chemistry*, **73**(7):1173-1188

Romero, C.J., Barr'ia, E.O., Arnold, A.E., Cubilla-Rios, L. 2008, Activity Against *Plasmodium falciparum* of Lactones Isolated from the Endophytic Fungus *Xylaria sp*., *Pharmaceutical Biology*, **46**(10-11):1-4

Roos, D.S., Crawford, M.J., Donald, R.G.K., Fraunholz, M., Harb, O.S., He, C.Y., dkk. 2002, Mining The Plasmodium Genome Database to Define Organellar Function: What does The Apicoplast Do?, *Philosophical Transaction of The Royal Society of London B. Biological Science*, **357**:35-46

Rosenthal, P.J. 1998, Proteases of Malaria Parasites: New Targets for Chemotherapy, *Emerging Infectious Disease*, **4**(1):49-57

Rosenthal, P.J. 2003, Review Antimalarial Drug Discovery : Old and New Approaches, *The Journal of Experimental Biology*, **206**:3735-3744

Row, L., Sankara, R., Ramaiah, T. 1966, Chemical examination of Diospyros species. IV. Triterpenes of the leaves of *D. sylvatica* and D- melanoxylon. *Current Science*, 35:485.

Rush, M.A., Baniecki, M.L., Mazitschek, R., Cortese, J.F., Wiegand, R.,Clardy, J., Wirth, D.F. 2009, Colorimetric High-throughput Screen for Detection of Heme Crystallization Inhibitors, *Antimalarial Agents and Chemotherapy*, **53**(6):2564-2568

Saikkonen, K., Wäli, P., Helander, M., Faeth, S.H. 2004, Evolution of endophyte–plant symbioses, *Trends in Plant Science***, 9**(6):275-280

UNIVERSITAS
GADJAH MADA
ISOLASI SENYAWA ANTIPLASMODIUM DARI FUNGI ENDOFIT TANAMAN Artemisia annua L.
INDAH PURWANTINI, Prof. Dr. Wahyono, S.U., Apt.; Prof. Dr. Mustofa, M. Kes., Apt; Prof. Dr. Ratna Asmah Susidar
Universitas Gadjah Mada, 2016 | Diunduh dari http://etd.repository.ugm.ac.id/

Samson, R.A., Houbraken, J., Thrane, U. 2010, *Food and Indoor Fungi*, CBS KNAW Biodiversity Center, Utrecht

Sangwan, N.S., Sangwan, R. S., Kumar, S. 1998, Isolation of Genomic DNA from the Antimalarial Plant *Artemisia annua*, *Plant Molecular Biology Report*, **16**(4):365-365

Schmidt, G. dan Holfheinz, W. 1983, Total Synthesis of Qinghaosu, *Journal of American Chemical Society*, **105**(3):624-625

Schramek, N., Wang, H., Romisch-Margl, W., Keil, B., Radykewicz, T., Winzenhorlein, B., Beerhues, L., dkk. 2010, Artemisinin biosynthesis in growing plants of *Artemisia annua*. A $^{13}CO_2$ study, *Phytochemical*,**71**:179–187

Schugerl, K. 1995, Foam Formation, Foam Suppression and The Effect of Foam on Growth, dalam Stanbury, P. F., Whitaker, A., Hall, S. J. (Eds.), *Principles of Fermentation Technology*, 2nd edition, 109**,** Butterworth-Heinemann,Oxford

Shao, C., Wang, C., Gu, Y., Wei, M., Pan, J., Deng, D., dkk. 2010, Penicinoline, a New Pyrrolyl 4-quinolinone Alkaloid with an Unprecedented Ring System from an Endophytic Fungus *Penicillium* sp., *Bioorganic & Medicinal Chemistry Letters*, **20(11**):3284–3286

Sherma, J. 2003, *Handbook of Thin Layer Chromatography*, Marcel Dekker Inc., New York

Sherma, J. dan Fried, B. 1996, *Handbook of Thin-layer Chromatography*, Marcel Dekker Inc., New York

Silvie, O., Mota, M.M., Matuschewski, K., Prudêncio, M. 2008, Interactions of the Malaria Parasite and Its Mammalian Host, *Current Opinion in Microbiology*, **11**:352–359

Sinaga, R.S.A. dan Affandi, B. 2009, Efektivitas *Insecticide Treated Nets* (ITNs) dan *Intermitten Preventive Treatment* (IPT) Pada Pencegahan Malaria dalam Kehamilan, *Majalah Obsteri Ginekologi Indonesia*, **33**(1):28-34

Slater, A. F. dan Cerami, A. 1992, Inhibition by Chloroquine of a Novel Haem Polymerase Enzym Activity in Malaria Trophozoites, *Nature*, **355**(6356):167-169

Snow, R.W., Guerra, C.A., Noor, A.M., Myinth, H.Y., Hay, S.I. 2005, Global Distribution of Clinical Episodes of *Plasmodium falciparum* Malaria, *Nature* **434**:214-217

UNIVERSITAS
GADJAH MADA
ISOLASI SENYAWA ANTIPLASMODIUM DARI FUNGI ENDOFIT TANAMAN Artemisia annua L.
INDAH PURWANTINI, Prof. Dr. Wahyono, S.U., Apt.; Prof. Dr. Mustofa, M. Kes., Apt; Prof. Dr. Ratna Asmah Susidar
Universitas Gadjah Mada, 2016 | Diunduh dari http://etd.repository.ugm.ac.id/

Stanbury, P.F., Whitaker, A., Hall, S.J. 1995, *Principles of Fermentation Technology*, 2nd edition, 1, 13, 93, 97-116, Butterworth-Heinemann, Oxford.

Steele, J.C.P., Phelps, R.J., Simmonds, M.S.J., Warhurst, D.C., Meyer, D.J. 2002, Two Novel Assay for the Detection of Haemin-binding Properties of Antimalarial Evaluated with Compounds Isolated from Medicinal Plants, *Journal of Antimicrobial and Chemotherapy*, **50**:25-31

Strobel, G.A., dan Daisy, B., 2004, Bioprospecting for Microbial Endophytes and Their Natural Products, *Microbiology and Molecular Biology Reviews*, **67**(4):491-502

Strobel, G.A., Daisy, B., Castillo, U.J., Harper, J. 2004, Natural Products from Endophytic Microorganisms, *Journal of Natural Product*, **67**:257-268

Strobel, G.A., Li, J.Y., Sugawara, F., Koshino, H., Harper, J., Hess, W.M. 1999, Oocydin A, a Chlorinated Macrocyclic Lactone with Potent Anti-oomycete Activity from *Serratia marcescens*, *Microbiology*, **145**:3557–3564

Sullivan, Jr., D.J., Gluzman, I.Y., Goldberg, D.E. 1996, Plasmodium Hemozoin Formation Mediated by Histidine-rich Proteins, *Science*, **271**(5246):219-222

Sy, L.K. dan Brown, G.D. 2002, The mechanism of The Spontaneous Autoxidation of Dihydroartemisinic Acid, *Tetrahedron*, **58**:897-908

Tan, R.X. dan Zou, W.X. 2001, Endophytes: a Rich Source of Functional Metabolites, *Natural Product Report*, **18**:448-459

Targett, N.M., Kilcoyne, J.P., Green, B. 1979, *Vacuum Liquid Chromatography*: an Alternative to Common Chromatographic Methods, *Journal of Organic Chemistry*, **44**(26): 4962-4964

Taylor, J.E., Hyde, K.D., Jones, E.G. 1999, Endophytic Fungi Associated with The Temperate Palm, *Trachycarpus fortunei*, within and Outside its Natural Geographic Range, *New Phytologist*, **142**(2):335-346

Tejesvi, M.V., Kajula, M., Mattila, S., Pirttilä, A.M. 2011, Bioactivity and Genetic Diversity of Endophytic Fungi in *Rhododendron tomentosum* Harmaja, *Fungal Diversity*, **47**(1):97-107

Tekwani, B.L. dan Walker, L.A. 2005, Targeting the Hemozoin Synthesis Pathway for New Antimalarial Drug Discovery: Technologies for in vitro beta-Haematin Formation Assay, *Combinatorial Chemistry & High Troughput Screening*, **8**(1):63-79

Tjitra, E. 1993, Obat-obat Antimalaria Baru, *Cermin Dunia Kedokteran*¸83:58-61

UNIVERSITAS
GADJAH MADA
ISOLASI SENYAWA ANTIPLASMODIUM DARI FUNGI ENDOFIT TANAMAN Artemisia annua L.
INDAH PURWANTINI, Prof. Dr. Wahyono, S.U., Apt.; Prof. Dr. Mustofa, M. Kes., Apt; Prof. Dr. Ratna Asmah Susidar
Universitas Gadjah Mada, 2016 | Diunduh dari http://etd.repository.ugm.ac.id/

Tong, W.Y., Darah, I., Latiffah, Z. 2011, Antimicrobial Activities of Endophytic Fungal Isolates From Medicinal Herb *Orthosiphon stamineus* Benth, *Journal of Medicinal Plants Research,* **5**(5**)**:831-836

Towler, M. J. dan Weathers, P. J. 2007, Evidence of Artemisinin Production from IPP Stemming from Both the Mevalonate and the Nonmevalonate Pathways, *Plant Cell Reports,* **26**(12): 2129-2136

Trager, W. dan Jensen, J. 1976, Human Malaria Parasites in Continuous Culture, *Science,* **193**: 673-675

Verdian-Rizi, M.R., Sadat-Ebrahimi, E., Hadjiakhoondi, A., Fazeli, M.R., Pirali, Hamedani, M. 2008, Chemical composition and antimicrobial activity of *Artemisia annua* L. essential oil from Iran, *Journal of Medicinal Plants*, **7**(4):58–62

Visagie, C.M., Houbraken, J., Frisvard, J.C., Hong, S. B., Klaassen, C.H.W., Perrone, G., dkk. 2014, Identification and Nomenclature of The Genus Penicillium, *Studies in Mycology* 78:343-371

Waites, M.J., Morgan, N.L., Rockey, J.S., Higton, G. 2001, *Industrial Microbiology: An Introduction*, T. J. International Ltd, Padstow

Wallaart, E.T., van Uden, W., Lubberink, H.G.M., Woerdenbag, H.J., Prass, N., Quax, W.J. 1999, Isolation and Identification of Dihydroartemisinic Acid from *Artemisia annua* and Its Possible Role in The Biosynthesis of Artemisinin, *Journal of Natural Product,* **62**:430-433.

Wang, F.W., Hou, H.M., Wang, C.R. 2008, Bioactive Metabolites from *Penicillium sp*., an Endophytic Fungus Residing in *Hopea hainanensis*, *World Journal of Microbiology and Biotechnology*, **24**:2143–2147

Wang, M., Park, C., Wu, Q., Simon, J.E. 2005, Analysis of Artemisinin in *Artemisia annua* L. by LC-MS with Selected Ion Monitoring, *Journal of Agricultural and Food Chemistry,* **53**: 7010–7013

Wang, Z. dan Liu, X. 2008, Medium Optimization for Antifungal Active Substances Production from a Newly Isolated *Paenibacillus sp*. using Response Surface Methodology, *Bioresource Technology*, **99**(17):8245–8251

Weathers, P. J., Elkholy, S., Wobbe, K.K. 2006, Invited review: Artemisinin: The Biosynthetic Pathway and Its regulation in *Artemisia annua*, a Terpenoid-rich Species, *In Vitro Cellular and Developmental Biology-Plant*, **42**:309–317

WHO. 2006, WHO Monograph on GACP for *Artemisia annua* L., Swiss

UNIVERSITAS
GADJAH MADA
ISOLASI SENYAWA ANTIPLASMODIUM DARI FUNGI ENDOFIT TANAMAN Artemisia annua L.
INDAH PURWANTINI, Prof. Dr. Wahyono, S.U., Apt.; Prof. Dr. Mustofa, M. Kes., Apt; Prof. Dr. Ratna Asmah Susidar
Universitas Gadjah Mada, 2016 | Diunduh dari http://etd.repository.ugm.ac.id/

WHO. 2010, *World Malaria Report* 2010, WHO, Geneva

WHO. 2014, *World Malaria Report* 2015, WHO, Geneva

WHO. 2015, *World Malaria Report* 2015, WHO, Geneva

Wiser, M.F. 2002, Biochemistry of Plasmodium-Summary of Lecture, diakses 5 Agustus 2010, http://www.tulane.edu/~wiser/malaria/fv.html

Wiser, M.F. 2003, Mechanism of Drug Action and Resistance (Focus on antimalarials), diakses 7 Agustus 2010, http://www.tulane.edu/~wiser/ protozoology/notes/ drugs/html

Wiser, M.F. 2009, Cellular and Molecular Biology of Plasmodium, diakses 7 Agustus 2010, http://www.tulane.edu/~wiser/malaria/cmb.html

Wiyakrutta, S., Sriubolmas, N., Panphut, W., Thongon, N., Danwiset-kanjana, K., Ruangrungsi, N., Meevootisom, V. 2003, Endophytic Fungi with Antimicrobial, Anti-cancer, and Antimalarial Activities isolated from Thai Medicinal Plants, *World Journal of Microbioloy and Biotechnology*, **20**:265-272

Woerdenbag, H.J., Bos, R., Salomons, M.C., Hendriks, H., Pras, N., Malingre, T.M. 1993, Volatile Constituents of *Artemisia annua* (asteraceae), *Journal of Flavour Fragrance*, **8**:131-137

Wongsrichanalai, C., Pickard, A.L., Wernsdorfer, W.H., Meshnick, S.R. 2002, Epidemiology of Drug-resistant Malaria, *Lancet Infectious Disease*, **2**:209-218.

Wubshet, S.G., Nyberg, N.T., Tejesvi, M. V., Pirttila, A.M., Kajula, M., Mattila, S., dkk. 2013, Targetting High-Performance Liquid Chromatography-High-Resolution Mass Spectrometry-Solid-Phase Extraction-Nuclear Magnetic resonance Analysis with High-Resolution Radical Scavenging Profiles-Bioactive Secondary Metabolites from The Endophytic Fungus *Penicillium namyslowskii*, *Journal of Chromatography A*, **1302**:34-39

Wunderlich, J., Rohrbach, P., Dalton, J.P. 2012, The Malaria Digestive Vacuola, *Frontiers in Bioscience S4*, 1424-1448

Zhang, Y. dan Sun, H. 2009, Immunosuppressive Effect of Ethanol Extract of *Artemisia annua* on Specific Antibody and Cellular Responses of Mice against Ovalbumin, *Immunopharmacology and Immunotoxicology*, **31**:4, 625-630

UNIVERSITAS
GADJAH MADA

ISOLASI SENYAWA ANTIPLASMODIUM DARI FUNGI ENDOFIT TANAMAN Artemisia annua L.
INDAH PURWANTINI, Prof. Dr. Wahyono, S.U., Apt.; Prof. Dr. Mustofa, M. Kes., Apt; Prof. Dr. Ratna Asmah Susidar
Universitas Gadjah Mada, 2016 | Diunduh dari http://etd.repository.ugm.ac.id/

Zhu, H.M., Li, J., Zheng, H. 2006, Human Natural Infection of *Plasmodium knowlesi* (in Chinesse), *Zhongguo Ji Sheng Chong Xue Ji Sheng Chong Bing Za Zhi*, **24**:70-71