

REFERENCES

Allen RJ, Kirk K (2010) *Plasmodium falciparum* culture: the benefits of shaking. *Mol Biochem Parasitol* **169**(1): 63-5

Asawamasakda W, Yuthavong Y (1993) The methionine synthesis cycle and salvage of methyltetrahydrofolate from host red cells in the malaria parasite (*Plasmodium falciparum*). *Parasitology* **107** (Pt 1): 1-10

Auliff AM, Adams JH, O'Neil MT, Cheng Q (2010) Defining the role of mutations in *Plasmodium vivax* dihydrofolate reductase-thymidylate synthase gene using an episomal *Plasmodium falciparum* transfection system. *Antimicrob Agents Chemother* **54**(9): 3927-32

Baird JK (2004) Chloroquine resistance in *Plasmodium vivax*. *Antimicrob Agents Chemother* **48**(11): 4075-83

Basset GJ, Quinlivan EP, Ravanel S, Rebeille F, Nichols BP, Shinozaki K, Seki M, Adams-Phillips LC, Giovannoni JJ, Gregory JF, 3rd, Hanson AD (2004) Folate synthesis in plants: the p-aminobenzoate branch is initiated by a bifunctional PabA-PabB protein that is targeted to plastids. *Proc Natl Acad Sci U S A* **101**(6): 1496-501

Beg MA, Khan R, Baig SM, Gulzar Z, Hussain R, Smego RA, Jr. (2002) Cerebral involvement in benign tertian malaria. *Am J Trop Med Hyg* **67**(3): 230-2

Beverley SM, Ellenberger TE, Cordingley JS (1986) Primary structure of the gene encoding the bifunctional dihydrofolate reductase-thymidylate synthase of *Leishmania major*. *Proc Natl Acad Sci U S A* **83**(8): 2584-8

Braks JA, Franke-Fayard B, Kroeze H, Janse CJ, Waters AP (2006) Development and application of a positive-negative selectable marker system for use in reverse genetics in *Plasmodium*. *Nucleic Acids Res* **34**(5): e39

Branquinho MS, Lagos CB, Rocha RM, Natal D, Barata JM, Cochrane AH, Nardin E, Nussenzweig RS, Kloetzel JK (1993) Anophelines in the state of Acre, Brazil, infected with *Plasmodium falciparum*, *P. vivax*, the variant *P. vivax* VK247 and *P. malariae*. *Trans R Soc Trop Med Hyg* **87**(4): 391-4

Brockelman CR, Tan-Ariya P, Laovanitch R (1985) Observation on complete schizogony of *Plasmodium vivax in vitro*. *J Protozool* **32**(1): 76-80

Brockelman CR, Tan-ariya P, Menabandhu C (1987) The influence of magnesium ion and ascorbic acid on the erythrocytic schizogony of *Plasmodium vivax*. *Parasitol Res* **73**(2): 107-12

Brooks DR, Wang P, Read M, Watkins WM, Sims PF, Hyde JE (1994) Sequence variation of the hydroxymethyldihydropterin pyrophosphokinase: dihydropteroate synthase gene in lines of the human malaria parasite, *Plasmodium falciparum*, with differing resistance to sulfadoxine. *Eur J Biochem* **224**(2): 397-405

Bunyarataphan S, Leartsakulpanich U, Taweechai S, Tarnchompoo B, Kamchonwongpaisan S, Yuthavong Y (2006) Evaluation of the activities of pyrimethamine analogs against *Plasmodium vivax* and *Plasmodium falciparum* dihydrofolate reductase-thymidylate synthase using *in vitro* enzyme inhibition and bacterial complementation assays. *Antimicrob Agents Chemother* **50**(11): 3631-7

Bzik DJ, Li WB, Horii T, Inselburg J (1987) Molecular cloning and sequence analysis of the *Plasmodium falciparum* dihydrofolate reductase-thymidylate synthase gene. *Proc Natl Acad Sci U S A* **84**(23): 8360-4

Cambie G, Caillard V, Beaute-Lafitte A, Ginsburg H, Chabaud A, Landau I (1991) Chronotherapy of malaria: identification of drug-sensitive stage of parasite and timing of drug delivery for improved therapy. *Ann Parasitol Hum Comp* **66**(1): 14-21

Chaijaroenkul W, Bangchang KN, Mungthin M, Ward SA (2005) *In vitro* antimalarial drug susceptibility in Thai border areas from 1998-2003. *Malar J* **4**: 37

Chanama M, Chanama S, Shaw PJ, Chitnumsub P, Leartsakulpanich U, Yuthavong Y (2011) Formation of catalytically active cross-species heterodimers of thymidylate synthase from *Plasmodium falciparum* and *Plasmodium vivax*. *Mol Biol Rep* **38**(2): 1029-37

Chen N, Auliff A, Rieckmann K, Gatton M, Cheng Q (2007) Relapses of *Plasmodium vivax* infection result from clonal hypnozoites activated at predetermined intervals. *J Infect Dis* **195**(7): 934-41

Chotivanich K, Silamut K, Udomsangpetch R, Stepniewska KA, Pukrittayakamee S, Looareesuwan S, White NJ (2001) *Ex-vivo* short-term culture and developmental assessment of *Plasmodium vivax*. *Trans R Soc Trop Med Hyg* **95**(6): 677-80

Crabb BS, Rug M, Gilberger TW, Thompson JK, Triglia T, Maier AG, Cowman AF (2004) Transfection of the human malaria parasite *Plasmodium falciparum*. *Methods Mol Biol* **270**: 263-76

de Koning-Ward TF, Fidock DA, Thathy V, Menard R, van Spaendonk RM, Waters AP, Janse CJ (2000) The selectable marker human dihydrofolate reductase enables sequential genetic manipulation of the *Plasmodium berghei* genome. *Mol Biochem Parasitol* **106**(2): 199-212

Deharo E, Coquelin F, Chabaud AG, Landau I (1996) The erythrocytic schizogony of two synchronized strains of *Plasmodium berghei*, NK65 and ANKA, in normocytes and reticulocytes. *Parasitol Res* **82**(2): 178-82

Deitsch K, Driskill C, Wellems T (2001) Transformation of malaria parasites by the spontaneous uptake and expression of DNA from human erythrocytes. *Nucleic Acids Res* **29**(3): 850-3

Dittrich S, Mitchell SL, Blagborough AM, Wang Q, Wang P, Sims PF, Hyde JE (2008) An atypical orthologue of 6-pyruvoyltetrahydropterin synthase can provide the missing link in the folate biosynthesis pathway of malaria parasites. *Mol Microbiol* **67**(3): 609-18

Djapa LY, Basco LK, Zelikson R, Rosowsky A, Djaman JA, Yonkeu JN, Bolotin-Fukuhara M, Mazabraud A (2007) Antifolate screening using yeast expressing *Plasmodium vivax* dihydrofolate reductase and *in vitro* drug susceptibility assay for *Plasmodium falciparum*. *Mol Biochem Parasitol* **156**(1): 89-92

Doolan DL, Hedstrom RC, Gardner MJ, Sedegah M, Wang H, Gramzinski RA, Margalith M, Hobart P, Hoffman SL (1998) DNA vaccination as an approach to malaria control: current status and strategies. *Curr Top Microbiol Immunol* **226**: 37-56

Duraisingh MT, Triglia T, Cowman AF (2002) Negative selection of *Plasmodium falciparum* reveals targeted gene deletion by double crossover recombination. *Int J Parasitol* **32**(1): 81-9

Eldin de Pecoulas P, Basco LK, Tahar R, Ouatas T, Mazabraud A (1998) Analysis of the *Plasmodium vivax* dihydrofolate reductase-thymidylate synthase gene sequence. *Gene* **211**(1): 177-85

Epp C, Raskolnikov D, Deitsch KW (2008) A regulatable transgene expression system for cultured *Plasmodium falciparum* parasites. *Malar J* **7**: 86

Ferone R (1977) Folate metabolism in malaria. *Bull World Health Organ* **55**(2-3): 291-8

Frances SP, Klein TA, Wirtz RA, Eamsila C, Pilakasiri C, Linthicum KJ (1996) *Plasmodium falciparum* and *P. vivax* circumsporozoite proteins in *Anophelines* (Diptera: Culicidae) collected in eastern Thailand. *J Med Entomol* **33**(6): 990-1

Franke-Fayard B, Djokovic D, Dooren MW, Ramesar J, Waters AP, Falade MO, Kranendonk M, Martinelli A, Cravo P, Janse CJ (2008) Simple and sensitive antimalarial drug screening *in vitro* and *in vivo* using transgenic luciferase expressing *Plasmodium berghei* parasites. *Int J Parasitol* **38**(14): 1651-62

Franke-Fayard B, Trueman H, Ramesar J, Mendoza J, van der Keur M, van der Linden R, Sinden RE, Waters AP, Janse CJ (2004) A *Plasmodium berghei* reference line that constitutively expresses GFP at a high level throughout the complete life cycle. *Mol Biochem Parasitol* **137**(1): 23-33

Frevert U, Sinnis P, Cerami C, Shreffler W, Takacs B, Nussenzweig V (1993) Malaria circumsporozoite protein binds to heparan sulfate proteoglycans associated with the surface membrane of hepatocytes. *J Exp Med* **177**(5): 1287-98

Garrett CE, Coderre JA, Meek TD, Garvey EP, Claman DM, Beverley SM, Santi DV (1984) A bifunctional thymidylate synthetase-dihydrofolate reductase in protozoa. *Mol Biochem Parasitol* **11**: 257-65

Golenda CF, Li J, Rosenberg R (1997) Continuous *in vitro* propagation of the malaria parasite *Plasmodium vivax*. *Proc Natl Acad Sci U S A* **94**(13): 6786-91

Goonewardene R, Daily J, Kaslow D, Sullivan TJ, Duffy P, Carter R, Mendis K, Wirth D (1993) Transfection of the malaria parasite and expression of firefly luciferase. *Proc Natl Acad Sci U S A* **90**(11): 5234-6

Gregson A, Plowe CV (2005) Mechanisms of resistance of malaria parasites to antifolates. *Pharmacol Rev* **57**(1): 117-45

Gresch O, Engel FB, Nestic D, Tran TT, England HM, Hickman ES, Korner I, Gan L, Chen S, Castro-Obregon S, Hammermann R, Wolf J, Muller-Hartmann H, Nix M, Siebenkotten G, Kraus G, Lun K (2004) New non-viral method for gene transfer into primary cells. *Methods* **33**(2): 151-63

Grumont R, Washtien WL, Caput D, Santi DV (1986) Bifunctional thymidylate synthase-dihydrofolate reductase from *Leishmania tropica*: sequence homology with the corresponding monofunctional proteins. *Proc Natl Acad Sci U S A* **83**(15): 5387-91

Gutteridge CE, Nichols DA, Curtis SM, Thota DS, Vo JV, Gerena L, Montip G, Asher CO, Diaz DS, Ditusa CA, Smith KS, Bhattacharjee AK (2006) *In vitro* and *in vivo* efficacy and *in vitro* metabolism of 1-phenyl-3-aryl-2-propen-1-ones against *Plasmodium falciparum*. *Bioorg Med Chem Lett* **16**(21): 5682-6

Hastings MD, Sibley CH (2002) Pyrimethamine and WR99210 exert opposing selection on dihydrofolate reductase from *Plasmodium vivax*. *Proc Natl Acad Sci U S A* **99**(20): 13137-41

Hawkins V, Joshi H, Rungsahirunrat K, Na-Bangchang K, Sibley C (2007a) Antifolates can have a role in the treatment of *Plasmodium vivax*. *Trends Parasitol* **23**(5): 213-222

Hawkins VN, Joshi H, Rungsihirunrat K, Na-Bangchang K, Sibley CH (2007b) Antifolates can have a role in the treatment of *Plasmodium vivax*. *Trends Parasitol* **23**(5): 213-22

Hyde JE (2005a) Drug-resistant malaria. *Trends Parasitol* **21**(11): 494-8

Hyde JE (2005b) Exploring the folate pathway in *Plasmodium falciparum*. *Acta Trop* **94**(3): 191-206

Hyde JE, Dittrich S, Wang P, Sims PF, de Crecy-Lagard V, Hanson AD (2008) *Plasmodium falciparum*: a paradigm for alternative folate biosynthesis in diverse microorganisms? *Trends Parasitol* **24**(11): 502-8

Imwong M, Pukrittakayamee S, Looareesuwan S, Pasvol G, Poirreiz J, White NJ, Snounou G (2001) Association of genetic mutations in *Plasmodium vivax dhfr* with resistance to sulfadoxine-pyrimethamine: geographical and clinical correlates. *Antimicrob Agents Chemother* **45**(11): 3122-7

Imwong M, Snounou G, Pukrittayakamee S, Tanomsing N, Kim JR, Nandy A, Guthmann JP, Nosten F, Carlton J, Looareesuwan S, Nair S, Sudimack D, Day NP, Anderson TJ, White NJ (2007) Relapses of *Plasmodium vivax* infection usually result from activation of heterologous hypnozoites. *J Infect Dis* **195**(7): 927-33

Ivanetich KM, Santi DV (1990a) Bifunctional thymidylate synthase-dihydrofolate reductase in protozoa. *FASEB J* **4**(6): 1591-7

Ivanetich KM, Santi DV (1990b) Thymidylate synthase-dihydrofolate reductase in protozoa. *Exp Parasitol* **70**(3): 367-71

Janse CJ, Franke-Fayard B, Mair GR, Ramesar J, Thiel C, Engelmann S, Matuschewski K, van Gemert GJ, Sauerwein RW, Waters AP (2006a) High efficiency transfection of *Plasmodium berghei* facilitates novel selection procedures. *Mol Biochem Parasitol* **145**(1): 60-70

Janse CJ, Franke-Fayard B, Waters AP (2006b) Selection by flow-sorting of genetically transformed, GFP-expressing blood stages of the rodent malaria parasite, *Plasmodium berghei*. *Nat Protoc* **1**(2): 614-23

Janse CJ, Ramesar J, Waters AP (2006c) High-efficiency transfection and drug selection of genetically transformed blood stages of the rodent malaria parasite *Plasmodium berghei*. *Nat Protoc* **1**(1): 346-56

Janse CJ, Waters AP (1995) *Plasmodium berghei*: the application of cultivation and purification techniques to molecular studies of malaria parasites. *Parasitol Today* **11**(4): 138-43

Kadekoppala M, Cheres P, Catron D, Ji DD, Deitsch K, Wellems TE, Seifert HS, Haldar K (2001) Rapid recombination among transfected plasmids, chimeric episome formation and trans gene expression in *Plasmodium falciparum*. *Mol Biochem Parasitol* **112**(2): 211-8

Kappe S, Vaughan A, Boddey J, Cowman A (2010) That was then but this is now: malaria research in the time of an eradication agenda. *Science* **328**(5980): 862-866

Karunaweera ND, Wijesekera SK, Wanasekera D, Mendis KN, Carter R (2003) The paroxysm of *Plasmodium vivax* malaria. *Trends Parasitol* **19**(4): 188-93

Kocken CH, Ozwara H, van der Wel A, Beetsma AL, Mwenda JM, Thomas AW (2002) *Plasmodium knowlesi* provides a rapid *in vitro* and *in vivo* transfection system that enables double-crossover gene knockout studies. *Infect Immun* **70**(2): 655-60

Kocken CH, Remarque EJ, Dubbeld MA, Wein S, van der Wel A, Verburgh RJ, Vial HJ, Thomas AW (2009) Statistical model to evaluate *in vivo* activities of antimalarial drugs in a *Plasmodium cynomolgi*-macaque model for *Plasmodium vivax* malaria. *Antimicrob Agents Chemother* **53**(2): 421-7

Kocken CH, van der Wel A, Thomas AW (1999) *Plasmodium cynomolgi*: transfection of blood-stage parasites using heterologous DNA constructs. *Exp Parasitol* **93**(1): 58-60

Kongsaree P, Khongsuk P, Leartsakulpanich U, Chitnumsub P, Tarnchompoo B, Walkinshaw MD, Yuthavong Y (2005) Crystal structure of dihydrofolate reductase from *Plasmodium vivax*: pyrimethamine displacement linked with mutation-induced resistance. *Proc Natl Acad Sci U S A* **102**(37): 13046-51

Krungskrai J, Krungskrai SR, Bhumiratana A (1993) *Plasmodium berghei*: partial purification and characterization of the mitochondrial cytochrome c oxidase. *Exp Parasitol* **77**(2): 136-46

Krungskrai J, Webster HK, Yuthavong Y (1989) De novo and salvage biosynthesis of pteroylpentaglutamates in the human malaria parasite, *Plasmodium falciparum*. *Mol Biochem Parasitol* **32**(1): 25-37

Lanners HN (1992) Prolonged *in vitro* cultivation of *Plasmodium vivax* using Trager's continuous-flow method. *Parasitol Res* **78**(8): 699-701

Leartsakulpanich U, Imwong M, Pukrittayakamee S, White NJ, Snounou G, Sirawaraporn W, Yuthavong Y (2002) Molecular characterization of dihydrofolate reductase in relation to antifolate resistance in *Plasmodium vivax*. *Mol Biochem Parasitol* **119**(1): 63-73

Leclere PG, Panjwani A, Docherty R, Berry M, Pizzey J, Tonge DA (2005) Effective gene delivery to adult neurons by a modified form of electroporation. *J Neurosci Methods* **142**(1): 137-43

LJ-Chwatt B (1980) Essential malariology 1st ed. *Southampton: The Camelot Press Ltd*

LUMC (2008) *Plasmodium berghei*- model of malaria.

Luxemburger C, Ricci F, Nosten F, Raimond D, Bathet S, White NJ (1997) The epidemiology of severe malaria in an area of low transmission in Thailand. *Trans R Soc Trop Med Hyg* **91**(3): 256-62

Maasho K, Marusina A, Reynolds NM, Coligan JE, Borrego F (2004) Efficient gene transfer into the human natural killer cell line, NKL, using the Amaxa nucleofection system. *J Immunol Methods* **284**(1-2): 133-40

Maier AG, Braks JA, Waters AP, Cowman AF (2006) Negative selection using yeast cytosine deaminase/uracil phosphoribosyl transferase in *Plasmodium falciparum* for targeted gene deletion by double crossover recombination. *Mol Biochem Parasitol* **150**(1): 118-21

Mamoun CB, Truong R, Gluzman I, Akopyants NS, Oksman A, Goldberg DE (1999) Transfer of genes into *Plasmodium falciparum* by polyamidoamine dendrimers. *Mol Biochem Parasitol* **103**(1): 117-21

Menard R, Janse C (1997) Gene targeting in malaria parasites. *Methods* **13**(2): 148-57

Menard R, Sultan AA, Cortes C, Altszuler R, van Dijk MR, Janse CJ, Waters AP, Nussenzweig RS, Nussenzweig V (1997) Circumsporozoite protein is required for development of malaria sporozoites in mosquitoes. *Nature* **385**(6614): 336-40

Mendis K, Sina BJ, Marchesini P, Carter R (2001) The neglected burden of *Plasmodium vivax* malaria. *Am J Trop Med Hyg* **64**(1-2 Suppl): 97-106

Mota MM, Pradel G, Vanderberg JP, Hafalla JC, Frevert U, Nussenzweig RS, Nussenzweig V, Rodriguez A (2001a) Migration of *Plasmodium* sporozoites through cells before infection. *Science* **291**(5501): 141-4

Mota MM, Thathy V, Nussenzweig RS, Nussenzweig V (2001b) Gene targeting in the rodent malaria parasite *Plasmodium yoelii*. *Mol Biochem Parasitol* **113**(2): 271-8

Munderloh UG, Kurti TJ (1987) The infectivity and purification of cultured *Plasmodium berghei* ookinetes. *J Parasitol* **73**(5): 919-23

Murphy JR, Clyde DF, Herrington DA, Baqar S, Davis JR, Palmer K, Cortese J (1990) Continuation of chloroquine-susceptible *Plasmodium falciparum* parasitemia in volunteers receiving chloroquine therapy. *Antimicrob Agents Chemother* **34**(4): 676-9

Nilni EA, Londner MV, Spira DT (1981) A simple method for separation of uninfected erythrocytes from those infected with *Plasmodium berghei* and for isolation of artificially released parasites. *Z Parasitenkd* **64**(3): 279-84

Nosten F, McGready R, Simpson JA, Thwai KL, Balkan S, Cho T, Hkirijaroen L, Looareesuwan S, White NJ (1999) Effects of *Plasmodium vivax* malaria in pregnancy. *Lancet* **354**(9178): 546-9

O'Donnell RA, Freitas-Junior LH, Preiser PR, Williamson DH, Duraisingh M, McElwain TF, Scherf A, Cowman AF, Crabb BS (2002) A genetic screen for improved plasmid segregation reveals a role for Rep20 in the interaction of *Plasmodium falciparum* chromosomes. *EMBO J* **21**(5): 1231-9

O'Donnell RA, Preiser PR, Williamson DH, Moore PW, Cowman AF, Crabb BS (2001) An alteration in concatameric structure is associated with efficient segregation of plasmids in transfected *Plasmodium falciparum* parasites. *Nucleic Acids Res* **29**(3): 716-24

O'Neil MT, Korsinczky ML, Gresty KJ, Auliff A, Cheng Q (2007) A novel *Plasmodium falciparum* expression system for assessing antifolate resistance caused by mutant *P. vivax* dihydrofolate reductase-thymidylate synthase. *J Infect Dis* **196**(3): 467-74

Olliaro P (2001) Mode of action and mechanisms of resistance for antimalarial drugs.

Pharmacol Ther **89**(2): 207-19

Olliaro PL, Yuthavong Y (1999) An overview of chemotherapeutic targets for antimalarial drug discovery. *Pharmacol Ther* **81**(2): 91-110

Ouellette M, Drummelsmith J, El-Fadili A, Kundig C, Richard D, Roy G (2002) Pterin transport and metabolism in *Leishmania* and related Trypanosomatid parasites.

Int J Parasitol **32**(4): 385-98

Panichakul T, Sattabongkot J, Chotivanich K, Sirichaisinthop J, Cui L, Udomsangpet R (2007) Production of erythropoietic cells *in vitro* for continuous culture of *Plasmodium vivax*. *Int J Parasitol* **37**(14): 1551-7

Peters W, Portus JH, Robinson BL (1975) The chemotherapy of rodent malaria, XXII.

The value of drug-resistant strains of *P. berghei* in screening for blood schizontocidal activity. *Ann Trop Med Parasitol* **67**(2): 155-71

Pfahler JM, Galinski MR, Barnwell JW, Lanzer M (2006) Transient transfection of *Plasmodium vivax* blood stage parasites. *Mol Biochem Parasitol* **149**(1): 99-101

Plowe CV, Kublin JG, Doumbo OK (1998) *P. falciparum* dihydrofolate reductase and dihydropteroate synthase mutations: epidemiology and role in clinical resistance to antifolates. *Drug Resist Updat* **1**(6): 389-96

Prakash A, Bhattacharyya DR, Mohapatra PK, Mahanta J (2001) Estimation of vectorial capacity of *Anopheles dirus* (Diptera: Culicidae) in a forest-fringed village of Assam (India). *Vector Borne Zoonotic Dis* **1**(3): 231-7

Pribat A, Jeanguenin L, Lara-Nunez A, Ziemak MJ, Hyde JE, de Crecy-Lagard V, Hanson AD (2009) 6-pyruvoyltetrahydropterin synthase paralogs replace the folate synthesis enzyme dihydroneopterin aldolase in diverse bacteria. *J Bacteriol* **191**(13): 4158-65

Rosario VE (1976) Genetics of chloroquine resistance in malaria parasites. *Nature* **261**(5561): 585-6

Ruebush TK, 2nd, Zegarra J, Cairo J, Andersen EM, Green M, Pillai DR, Marquino W, Huilca M, Arevalo E, Garcia C, Solary L, Kain KC (2003) Chloroquine-resistant *Plasmodium vivax* malaria in Peru. *Am J Trop Med Hyg* **69**(5): 548-52

Russell BM, Udomsangpetch R, Rieckmann KH, Kotecka BM, Coleman RE, Sattabongkot J (2003) Simple *in vitro* assay for determining the sensitivity of *Plasmodium vivax* isolates from fresh human blood to antimalarials in areas where *P. vivax* is endemic. *Antimicrob Agents Chemother* **47**(1): 170-3

Russmann L, Jung A, Heidrich HG (1982) The use of percoll gradients, elutriator rotor elution, and mithramycin staining for the isolation and identification of intraerythrocytic stages of *Plasmodium berghei*. *Z Parasitenkd* **66**(3): 273-80

Safeukui I, Mangou F, Malvy D, Vincendeau P, Mossalayi D, Haumont G, Vatan R, Olliaro P, Millet P (2004) *Plasmodium berghei*: dehydroepiandrosterone sulfate reverses chloroquino-resistance in experimental malaria infection; correlation with glucose 6-phosphate dehydrogenase and glutathione synthesis pathway. *Biochem Pharmacol* **68**(10): 1903-10

Sano G, Morimatsu K, Horii T (1994) Purification and characterization of dihydrofolate reductase of *Plasmodium falciparum* expressed by a synthetic gene in *Escherichia coli*. *Mol Biochem Parasitol* **63**(2): 265-73

Sharma A, Khanduri U (2009) How benign is benign tertian malaria? *J Vector Borne Dis* **46**(2): 141-4

Sibley CH, Hyde JE, Sims PF, Plowe CV, Kublin JG, Mberu EK, Cowman AF, Winstanley PA, Watkins WM, Nzila AM (2001) Pyrimethamine-sulfadoxine resistance in *Plasmodium falciparum*: what next? *Trends Parasitol* **17**(12): 582-8

Sina B (2002) Focus on *Plasmodium vivax*. *Trends Parasitol* **18**(7): 287-9

Snyder C, Chollet J, Santo-Tomas J, Scheurer C, Wittlin S (2007) *In vitro* and *in vivo* interaction of synthetic peroxide RBx11160 (OZ277) with piperazine in *Plasmodium* models. *Exp Parasitol* **115**(3): 296-300

Somsak V, Srichairatanakool S, Kamchonwongpaisan S, Yuthavong Y, Uthaipibull C (2011) Small-scale *in vitro* culture and purification of *Plasmodium berghei* for transfection experiment. *Mol Biochem Parasitol* **177**(2): 156-9

Steele JC, Warhurst DC, Kirby GC, Simmonds MS (1999) *In vitro* and *in vivo* evaluation of betulinic acid as an antimalarial. *Phytother Res* **13**(2): 115-9

Sultan AA, Thathy V, Frevert U, Robson KJ, Crisanti A, Nussenzweig V, Nussenzweig RS, Menard R (1997) TRAP is necessary for gliding motility and infectivity of *Plasmodium* sporozoites. *Cell* **90**(3): 511-22

Tahar R, de Pecoulas PE, Basco LK, Chiadmi M, Mazabraud A (2001) Kinetic properties of dihydrofolate reductase from wild-type and mutant *Plasmodium vivax* expressed in *Escherichia coli*. *Mol Biochem Parasitol* **113**(2): 241-9

Thathy V, Menard R (2002) Gene targeting in *Plasmodium berghei*. *Methods Mol Med* **72**: 317-31

Trager W, Jensen JB (1976) Human malaria parasites in continuous culture. *Science* **193**(4254): 673-5

Trang DT, Huy NT, Kariu T, Tajima K, Kamei K (2004) One-step concentration of malarial parasite-infected red blood cells and removal of contaminating white blood cells. *Malar J* **3**: 7

Triglia T, Cowman AF (1994) Primary structure and expression of the dihydropteroate synthetase gene of *Plasmodium falciparum*. *Proc Natl Acad Sci U S A* **91**(15): 7149-53

Udomsangpetch R, Somsri S, Panichakul T, Chotivanich K, Sirichaisinthop J, Yang Z, Cui L, Sattabongkot J (2007) Short-term *in vitro* culture of field isolates of *Plasmodium vivax* using umbilical cord blood. *Parasitol Int* **56**(1): 65-9

van der Wel AM, Tomas AM, Kocken CH, Malhotra P, Janse CJ, Waters AP, Thomas AW (1997) Transfection of the primate malaria parasite *Plasmodium knowlesi* using entirely heterologous constructs. *J Exp Med* **185**(8): 1499-503

van Dijk MR, Janse CJ, Waters AP (1996) Expression of a *Plasmodium* gene introduced into subtelomeric regions of *Plasmodium berghei* chromosomes. *Science* **271**(5249): 662-5

van Dijk MR, Vinkenoog R, Ramesar J, Vervenne RA, Waters AP, Janse CJ (1997) Replication, expression and segregation of plasmid-borne DNA in genetically transformed malaria parasites. *Mol Biochem Parasitol* **86**(2): 155-62

van Dijk MR, Waters AP, Janse CJ (1995) Stable transfection of malaria parasite blood stages. *Science* **268**(5215): 1358-62

Waterkeyn JG, Crabb BS, Cowman AF (1999) Transfection of the human malaria parasite *Plasmodium falciparum*. *Int J Parasitol* **29**(6): 945-55

Waters AP, Thomas AW, van Dijk MR, Janse CJ (1997) Transfection of malaria parasites. *Methods* **13**(2): 134-47

WHO (2009) World Health Organization, World Malaria Report. http://www.who.int/malaria/world_malaria_report_2009/en/index.html

WHO (2010) World Health Organization, World Malaria Report. <http://www.rbm.who.int/worldmaliaday/background.html>

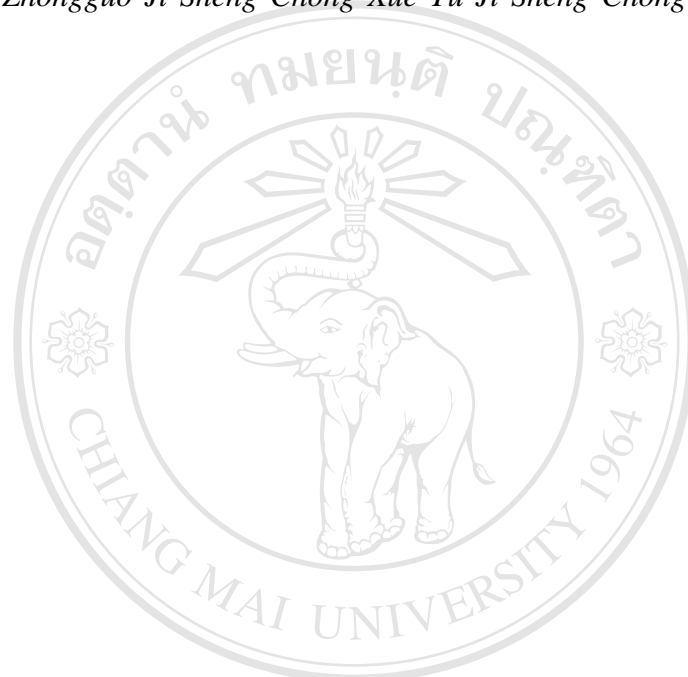
Wu Y, Kirkman LA, Wellems TE (1996) Transformation of *Plasmodium falciparum* malaria parasites by homologous integration of plasmids that confer resistance to pyrimethamine. *Proc Natl Acad Sci U S A* **93**(3): 1130-4

Wu Y, Sifri CD, Lei HH, Su XZ, Wellems TE (1995) Transfection of *Plasmodium falciparum* within human red blood cells. *Proc Natl Acad Sci U S A* **92**(4): 973-7

Yuvaniyama J, Chitnumsub P, Kamchonwongpaisan S, Vanichtanankul J, Sirawaraporn W, Taylor P, Walkinshaw MD, Yuthavong Y (2003) Insights into antifolate resistance from malarial DHFR-TS structures. *Nat Struct Biol* **10**(5): 357-65

Zhang K, Rathod PK (2002) Divergent regulation of dihydrofolate reductase between malaria parasite and human host. *Science* **296**(5567): 545-7

Zhang KY, Zhou JX, Huang JK, Lin BH, Wu ZH, Yuan CW, Huang QL (1993) Purification and isolation of different stages of *Plasmodium vivax*, *P. falciparum* and *P. berghei*. *Zhongguo Ji Sheng Chong Xue Yu Ji Sheng Chong Bing Za Zhi* **11**(4): 262-6



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