

REFERENCES

- 1 Boyd, M. (1949) Historical review. In *Malariaiology* (Boyd, M., ed.). pp. 3-25, The W.B. Saunders Co., Philadelphia
- 2 Miller, R., Ikram, S., Armelagos, G., Walker, R., Harer, W., Shiff, C., Baggett, D., Carrigan, M. and Maret, S. (1994) Diagnosis of *Plasmodium falciparum* infections in mummies using the rapid manual ParaSight-F test. *Trans. R. Soc. Trop. Med. Hyg.* **88**, 31-32
- 3 Bruce-Chwatt, L. (1988) History of malaria from prehistory to eradication. In *Malaria. Principles and practice of malariology* (Wernsdorfer, W. and McGregor, I., eds.). pp. 1-59, Churchill Livingstone, Edinburgh
- 4 Kean, B., Mott, K. and Russell, A. (1978) Tropical medicine and parasitology, vol. 1. Classic investigations. (Kean, B., Mott, K. and Russell, A., eds.). pp. 23-44, Cornell University Press, New York
- 5 Sherman, I. (1998) A brief history of malaria and discovery of the parasite's life cycle. In *Malaria. Parasite biology, pathogenesis and protection* (Sherman, I., ed.). pp. 3-10, ASM Press, Washington D.C.
- 6 Ross, R. (1923) Memoirs - with a full account of the great malaria problem and its solution. Murray, London
- 7 Harrison, G. (1978) Mosquitoes, malaria and man: a history of the hostilities since 1880. Dutton, New York
- 8 Harrison, G. (1978) Mosquitoes, malaria and man: a history of the hostilities since 1980. Dutton, New York
- 9 Garnham, P. (1966) *Malaria parasites and other haemosporidia*. Blackwell Scientific, Oxford
- 10 Greenwood, B. and Mutabingwa, T. (2002) Malaria in 2002. *Nature*. **415**, 670-672
- 11 Organisation, W. H. (1973) Chemotherapy of malaria and resistance to antimalarials: report of a WHO Scientific Group. In *W.H.O. Tech. Rep. Ser. ed.)^eds.*). pp. 30-35
- 12 Noedl, H., Wongsrichanalai, C. and Wernsdorfer, W. (2003) Malaria drug-sensitivity testing: new assays, new perspectives. *Trends Parasitol.* **19**, 175-181
- 13 Greenwood, B., Bojang, K., Whitty, C. and Targett, G. (2005) Malaria. *Lancet*. **365**, 1487-1498
- 14 Snow, R., Guerra, C., Noor, A., Myint, H. and Hay, S. (2005) The global distribution of clinical episodes of *Plasmodium falciparum* malaria. *Nature*. **434**, 214-217
- 15 Bremen, J. (2001) The ears of the hippopotamus: manifestations, determinants, and estimates of the malaria burden. *Am. J. Trop. Med. Hyg.* **64**, 1-11
- 16 Hay, S., Cox, J., Rogers, D., Randolph, S., Stern, D., Shanks, G., Myers, M. and Snow, R. (2002) Climate change and the resurgence of malaria in the East African highlands. *Nature*. **415**, 905-909
- 17 Kuhn, K., Campbell-Lendrum, D., Armstrong, B. and Davies, C. (2003) Malaria in Britain: Past, present, and future. *Proc. Natl. Acad. Sci. USA*. **100**, 9997-10001
- 18 Hemmer, C., Frimmel, S., Kinzelbach, R., Görtler, L. and Reisinger, E. (2008) Global warming: trailblazer for tropical infections in Germany? *Dtsch. Med. Wochenschr.* **132**, 2583-2589
- 19 McCarthy, J., Canziani, O., Leary, N., Dokken, D. and White, K. (2001) Impacts, Adaptation and Vulnerability - Contribution of Working Group II to the Third Assessment Report of the Intergovernmental Panel on Climate Change. Cambridge Univ. Press, Cambridge
- 20 Sachs, J. and Malaney, P. (2002) The economic and social burden of malaria. *Nature*. **415**, 680-685
- 21 Mathers, C., Ezzati, M. and Lopez, A. (2007) Measuring the burden of neglected tropical diseases: The global burden of disease framework. *PLoS Negl. Trop. Dis.* **1**, e114
- 22 Williams, T. (2006) Red blood cell defects and malaria. *Mol. Biochem. Parasitol.* **149**, 121-127
- 23 Schuster, F. (2002) Cultivation of *Plasmodium* spp. *Clin. Microbiol. Rev.* **15**, 355-364
- 24 Tracy, J. and Webster, L. (2001) Drugs used in the chemotherapy of protozoal infections: Malaria. In *Goodman and Gilman's The Pharmacological Basis of Therapeutics* (Hardman, J. and Limbird, L., eds.). pp. 1069-1095, The McGraw-Hill Companies, New York

- 25 Lagerberg, R. (2008) Malaria in pregnancy: a literature review. *J. Midwifery Women's Health.* **53**, 209-215
- 26 Liu, J., Istvan, E., Gluzman, I., Gross, J. and Goldberg, D. (2006) *Plasmodium falciparum* ensures its amino acid supply with multiple acquisition pathways and redundant proteolytic enzyme systems. *PNAS.* **103**, 8840-8845
- 27 Krugliak, M., Zhang, J. and Ginsburg, H. (2002) Intraerythrocytic *Plasmodium falciparum* utilizes only a fraction of the amino acids derived from the digestion of host cell cytosol for the biosynthesis of its proteins. *Mol. Biochem. Parasitol.* **119**, 249-256
- 28 Egan, T. (2008) Recent advances in understanding the mechanism of hemozoin (malaria pigment) formation. *J. Inorg. Biochem.* **102**, 1288-1299
- 29 Bozdech, Z., Llinás, M., Pulliam, B., Wong, E., Zhu, J. and DeRisi, J. (2003) The transcriptome of the intraerythrocytic developmental cycle of *Plasmodium falciparum*. *PLoS Biology.* **1**, E5
- 30 Hall, N. and Carlton, J. (2005) Comparative genomics of malaria parasites. *Curr. Opin. Genet. Develop.* **15**, 609-613
- 31 Golenda, C., Li, J. and Rosenberg, R. (1997) Continuous in vitro propagation of the malaria parasite *Plasmodium vivax*. *Proc. Natl. Acad. Sci. USA.* **94**, 6786-6791
- 32 Heddini, A. (2002) Malaria pathogenesis: a jigsaw with an increasing number of pieces. *Int. J. Parasitol.* **32**, 1587-1598
- 33 Miller, L., Good, M. and Milon, G. (1994) Malaria pathogenesis. *Science.* **264**, 1878-1883
- 34 Dzikowski, R., Templeton, T. and Deitsch, K. (2006) Variant antigen gene expression in malaria. *Cell. Microbiol.* **8**
- 35 Mackintosh, C., Beeson, J. and Marsh, K. (2004) Clinical features and pathogenesis of severe malaria. *Trends Parasitol.* **20**, 597-603
- 36 Singh, B., Sung, L., Matusop, A., Radhakrishnan, A., Shamsul, S., Cox-Singh, J., Thomas, A. and Conway, D. (2004) A large focus of naturally acquired *Plasmodium knowlesi* infections in human beings. *Lancet.* **363**, 1017-1024
- 37 Chin, W., Contacos, P., Coatney, G. and Kimball, H. (1965) A naturally acquired quotidian-type malaria in man transferable to monkeys. *Science.* **149**, 865
- 38 Cox-Singh, J. and Singh, B. (2008) Knowlesi malaria: newly emergent and of public health importance? *Trends Parasitol.* **24**, 406-410
- 39 Clark, I. and Cowden, W. (2003) The pathophysiology of falciparum malaria. *Pharmacol. Ther.* **99**, 221-260
- 40 Gramaglia, I., Sobolewski, P., Meays, D., Contreras, R., Nolan, J., Frangos, J., Intaglietta, M. and Van der Heyde, H. (2006) Low nitric oxide bioavailability contributes to the genesis of experimental cerebral malaria. *Nat. Med.* **12**, 1417-1422
- 41 Pamplona, A., Ferreira, A., Balla, J., Jeney, V., Balla, G., Epiphanio, S., Chora, A., Rodrigues, C., Gregoire, I., Cunha-Rodrigues, M., Portugal, S., Soares, M. and Mota, M. (2007) Heme oxygenase-1 and carbon monoxide suppress the pathogenesis of experimental cerebral malaria. *Nat. Med.* **13**, 703-710
- 42 Rasti, N., Wahlgren, M. and Chen, Q. (2004) Molecular aspect of malaria pathogenesis. *FEMS Immunol. Med. Microbiol.* **41**, 9-26
- 43 Spycher, C., Rug, M., Klonis, N., Ferguson, D., Cowman, A., Beck, H.-P. and Tilley, L. (2006) Genesis and trafficking to the Maurer's clefts of *Plasmodium falciparum*-infected erythrocytes. *Mol. Cell. Biol.* **26**, 4074-4085
- 44 Richie, T. and Saul, A. (2002) Progress and challenges for malaria vaccines. *Nature.* **415**, 694-701
- 45 Van de Perre, P. and Dedet, J.-P. (2004) Vaccine efficacy: winning a battle (not war) against malaria. *Lancet.* **364**, 1380-1383
- 46 Bojang, K., Milligan, P., Pinder, M., Vigneron, L., Alloueche, A., Kester, K., Ballou, W., Conway, D., Reece, W., Gothard, P., Yamuah, L., Delchambre, M., Voss, G., Greenwood, B., Hill, A., McAdam, K., Tornieporth, N., Cohen, J. and Doherty, T. (2001) Efficacy of RTS,S/AS02 malaria vaccine against *P. falciparum* infection in semi-immune adult men in The Gambia: a randomised trial. *Lancet.* **358**, 1927-1934

- 47 Sacarial, J., Aponte, J., Aide, P., Mandomando, I., Bassat, Q., Guinovart, C., Leach, A., Milman, J., Macete, E., Espasa, M., Ofori-Anyinam, O., Thonnard, J., Corachan, S., Dubois, M., Lievens, M., Dubovsky, F., Ballou, W., Cohen, J. and Alonso, P. (2008) Safety of the RTS,S/AS02A malaria vaccine in Mozambican children during a Phase IIb trial. *Vaccine*. **26**, 174-184
- 48 Kester, K., Cummings, J., Ockenhouse, C., Nielsen, R., Hall, B., Gordon, D., Schwenk, R., Krzych, U., Holland, C., Richmond, G., Dowler, M., Williams, J., Wirtz, R., Tornieporth, N., Vigneron, L., Delchambre, M., Demoitie, M.-A., Ballou, W., Cohen, J. and Heppner, D. J. (2008) Phase 2A trial of 0, 1, and 3 month and 0, 7, and 28 day immunization schedules of malaria vaccine RTS, S/AS02 in malaria-naïve adults at the Walter Reed Army Institute of Research. *Vaccine*. **26**, 2191-2202
- 49 White, N. (2002) The assessment of antimalarial drug efficacy. *Trends Parasitol.* **18**, 458-464
- 50 Trouiller, P. and Olliaro, P. (1998) Drug development output from 1975 to 1996: what proportion for tropical diseases? *J. Infect. Dis.* **3**, 61-63
- 51 Ridley, R. (2002) Medical need, scientific opportunity and the drive for antimalarial drugs. *Nature*. **415**, 686-693
- 52 Wongsrichanalai, C. and Meshnick, S. (2008) Declining artesunate-mefloquine efficacy against falciparum malaria on the Cambodia-Thailand border. *EID*. **14**, 716-719
- 53 Egan, T. (2002) Does oxidative stress have a role in the antimalarial activity of chloroquine. *Trends Parasitol.* **18**, 437-438
- 54 Yeh, I. and Altman, R. (2006) Drug targets for *Plasmodium falciparum*: a post-genomic review/survey. *Mini Rev. Med. Chem.* **6**, 177-202
- 55 Wongsrichanalai, C., Pickard, A., Wernsdorfer, W. and Meshnick, S. (2002) Epidemiology of drug-resistant malaria. *Lancet Infect. Dis.* **2**, 209-218
- 56 Martin, R., Lehane, A., Marchetti, R., Hayward, R., Saliba, K., Howitt, S., Bröer, S. and Kirk, K. (2008) The role of PfCRT in chloroquine resistance. *Int. J. Parasitol.* **38**, S17
- 57 Srivastava, I., Morrisey, J., Darrouzet, E., Daldal, F. and Vaidya, A. (1999) Resistance mutations reveal the atovaquone-binding domain of cytochrome b in malaria parasites. *Mol. Microbiol.* **33**, 704-711
- 58 Jambou, R., Legrand, E., Niang, M., Khim, N., Lim, P., Volney, B., Ekala, M., Bouchier, C., Esterre, P., Fandeur, T. and Mercereau-Puijalon, O. (2005) Resistance of *Plasmodium falciparum* field isolates to *in-vitro* artemether and point mutations of the SERCA-type PfATPase6. *Lancet*. **366**, 1960-1963
- 59 Chotivanich, K., Udomsanpatch, R., Dondorp, A., Williams, T., Angus, B., Simpson, J., Pukrittayakamee, S., Looareesuwan, S., Newbold, C. and White, N. (2000) The mechanisms of parasite clearance after antimalarial treatment. *J. Infect. Dis.* **182**, 629-633
- 60 Sibley, C., Hyde, J., Sims, P., Plowe, C., Kublin, J., Mberu, E., Cowman, A., Winstanley, P., Watkins, W. and Nzila, A. (2001) Pyrimethamine-sulfadoxine resistance in *Plasmodium falciparum*: what next? *Trends Parasitol.* **17**, 582-588
- 61 Birkholtz, L.-M., van Brummelen, A., Clark, K., Niemand, J., Maréchal, E., Llinás, M. and Louw, A. (2008) Exploring functional genomics for targets and therapeutics discovery in *Plasmodia*. *Acta Trop.* **105**, 113-123
- 62 Dahl, E., Shock, J., Shenai, B., Gut, J., Derisi, J. and Rosenthal, P. (2006) Tetracyclines specifically target the apicoplast of the malaria parasite *Plasmodium falciparum*. *Antimicrob. Agents Chemother.* **50**, 3124-3131
- 63 Wallace, H., Fraser, A. and Huges, A. (2003) A perspective of polyamine metabolism. *Biochem. J.* **376**, 1-14
- 64 Igarashi, K. and Kashiwagi, K. (2000) Polyamines: mysterious modulators of cellular functions. *Biochem. Biophys. Res. Commun.* **271**, 559-564
- 65 Tadolini, B. (1988) Polyamine inhibition of lipid peroxidation. *Biochem. J.* **249**, 33-36
- 66 Muscari, C., Guarneri, C., Giaccari, A. and Calderara, C. (1995) Protective effect of spermine on DNA exposed to oxidative stress. *Mol. Cell Biochem.* **144**, 125-129
- 67 Seiler, N. and Raul, F. (2005) Polyamines and apoptosis. *J. Cell. Mol. Med.* **9**, 623-642
- 68 Thomas, T. and Thomas, T. (2001) Polyamines in cell growth and cell death: molecular mechanisms and therapeutic applications. *Cell. Mol. Life Sci.* **58**, 244-258
- 69 Kamio, Y. (1987) Structural specificity of diamines covalently linked to peptidoglycan for cell growth of *Veillonella alcalescens* and *Selenomonas ruminantium*. *J. Bacteriol.* **169**, 4837-4840

- 70 Pösö, H., McCann, P., Tanskanen, R., Bey, P. and Sjoerdsma, A. (1984) Inhibition of growth of *Mycoplasma dispar* by DL-a-difluoromethyllysine, a selective and irreversible inhibitor of lysine decarboxylase, and reversal by cadaverine (1,5-diaminopentane). *J. Biol. Chem.* **267**, 150-158
- 71 Tabor, H., Hafner, E. and Tabor, C. (1980) Construction of an *Escherichia coli* strain unable to synthesize putrescine, spermidine, or cadaverine: characterization of two genes controlling lysine decarboxylase. *J. Bacteriol.* **144**, 952-956
- 72 Cacciapuoti, G., Porcelli, M., Moretti, M., Sorrentino, F., Concilio, L., Zappia, V., Liu, Z.-J., Tempel, W., Schubot, F., Rose, J., Wang, B.-C., Brereton, P., Jenney, F. and Adams, M. (2007) The first agmatine/cadaverine aminopropyl transferase: biochemical and structural characterization of an enzyme involved in polyamine biosynthesis in the hyperthermophilic archaeon *Pyrococcus furiosus*. *J. Bacteriol.* **189**, 6057-6067
- 73 Takatsuka, Y., Yamaguchi, Y., M., O. and Kamio, Y. (2000) Gene cloning and molecular characterization of lysine decarboxylase from *Selenomonas ruminantium* delineate its evolutionary relationship to ornithine decarboxylases from eukaryotes. *J. Bacteriol.* **182**, 6732-6741
- 74 Ickeson, I., Bakhanashvili, M. and Apelbaum, A. (1986) Inhibition by ethylene of polyamine biosynthetic enzymes enhanced lysine decarboxylase activity and cadaverine accumulation in pea seedlings. *Plant Physiol.* **82**, 607-609
- 75 Gamarnik, A. and Frydman, R. (1991) Cadaverine, an essential diamine for the normal root development of germinating soybean (*Glycine max*) seeds. *Plant Physiol.* **97**, 778-785
- 76 Kim, J.-S., Choi, S. and Lee, J. (2006) Lysine decarboxylase expression by *Vibrio vulnificus* is induced by SoxR in response to superoxide stress. *J. Bacteriol.* **188**, 8586-8592
- 77 Jiang, Y., Roberts, S., Jardim, A., Carter, N., Shih, S., Ariyanayagam, M., Fairlamb, A. and Ullman, B. (1999) Ornithine decarboxylase gene deletion mutants of *Leishmania donovani*. *J. Biol. Chem.* **274**, 3781-3788
- 78 Shapiro, T. and Goldberg, D. (2006) Chemotherapy of protozoal infections: Amebiasis, Giardiasis, Trichomoniasis, etc. In Goodman and Gilman's The Pharmacological Basis of Therapeutics (Brunton, L., Lazo, J. and Parker, K., eds.). pp. 1053-1055, McGraw-Hill Companies, New York
- 79 Müller, I., Das Gupta, R., Lüersen, K., Wrenger, C. and Walter, R. (2008) Assessing the polyamine metabolism of *Plasmodium falciparum* as chemotherapeutic target. *Mol. Biochem. Parasitol.* **160**, 1-7
- 80 Pegg, A. (1986) Recent advances in biochemistry of polyamines in eukaryotes. *Biochem. J.* **234**, 249-262
- 81 Müller, S., Coombs, G. and Walter, R. (2001) Targeting polyamines of parasitic protozoa in chemotherapy. *Trends Parasitol.* **17**, 242-249
- 82 Müller, S., Da'dara, A., Lüersen, K., Wrenger, C., Gupta, R. D., Madhubala, R. and Walter, R. (2000) In the human malaria parasite *Plasmodium falciparum*, polyamines are synthesized by a bifunctional ornithine decarboxylase, S-adenosylmethionine decarboxylase. *J. Biol. Chem.* **275**, 8097-8102
- 83 Krause, T., Lüersen, K., Wrenger, C., Gilberger, T.-W., Müller, S. and Walter, R. (2000) The ornithine decarboxylase domain of the bifunctional ornithine decarboxylase/S-adenosylmethionine decarboxylase of *Plasmodium falciparum*: recombinant expression and catalytic properties of two different constructs. *Biochem. J.* **352**, 287-292
- 84 Birkholtz, L.-M., Wrenger, C., Joubert, F., Wells, G., Walter, R. and Louw, A. (2004) Parasite-specific inserts in the bifunctional S-adenosylmethionine decarboxylase/ornithine decarboxylase of *Plasmodium falciparum* modulate catalytic activities and domain interactions. *Biochem. J.* **377**, 439-448
- 85 Haider, N., Eschbach, M.-L., De Souza Dias, S., Gilberger, T.-W., Walter, R. and Lüersen, K. (2005) The spermidine synthase of the malaria parasite *Plasmodium falciparum*: Molecular and biochemical characterisation of the polyamine synthesis enzyme. *Mol. Biochem. Parasitol.* **142**, 224-236
- 86 Willert, E. and Phillips, M. (2008) Regulated expression of an essential allosteric activator of polyamine biosynthesis in African trypanosomes. *PLoS Pathogens.* **4**, e1000183
- 87 Wrenger, C., Lüersen, K., Krause, T., Müller, S. and Walter, R. (2001) The *Plasmodium falciparum* bifunctional ornithine decarboxylase, S-adenosyl-L-methionine decarboxylase, enables a well balanced polyamine synthesis without domain-domain interaction. *J. Biol. Chem.* **276**, 29651-29656

- 88 Assaraf, Y., Golenser, J., Spira, D. and Bachrach, U. (1984) Polyamine levels and the activity of their biosynthetic enzymes in human erythrocytes infected with the malarial parasite, *Plasmodium falciparum*. *Biochem. J.* **222**, 815-819
- 89 Geary, T., Divo, A. and Jensen, J. (1983) An *in vitro* assay system for the identification of potential antimalarial drugs. *J. Parasitol.* **69**, 577-583
- 90 Das Gupta, R., Krause-Ihle, T., Bergmann, B., Müller, I., Khomutov, A., Müller, S., Walter, R. and Lüersen, K. (2005) 3-Aminooxy-1-aminopropane and derivatives have an antiproliferative effect on cultured *Plasmodium falciparum* by decreasing intracellular polyamine concentrations. *Antimicrob. Agents Chemother.* **49**, 2857-2864
- 91 Llinás, M., Bozdech, Z., Wong, E., Adai, A. and DeRisi, J. (2006) Comparative whole genome transcriptome analysis of three *Plasmodium falciparum* strains. *Nucleic Acids Res.* **34**, 1166-1173
- 92 Bzik, D., Li, W., Horii, T. and 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**, 8360-8364
- 93 Ivanetich, K. and Santi, D. (1990) Bifunctional thymidylate synthase-dihydrofolate reductase in protozoa. *FASEB J.* **4**, 1591-1597
- 94 Triglia, T. and Cowman, F. (1994) Primary structure and expression of the dihydropteroate synthase gene of *Plasmodium falciparum*. *Proc. Natl. Acad. Sci. U.S.A.* **91**, 7149-7153
- 95 Williams, M. (2008) Delination of functional roles of parasite-specific inserts in the malarial S-adenosylmethionine decarboxylase/ornithine decarboxylase. In Department of Biochemistry ed.)^eds.). p. 139, University of Pretoria, Pretoria
- 96 Gardner, M., Hall, N., Fung, E., White, O., Berriman, M., Hyman, R., Carlton, J., Pain, A., Nelson, K., Bowman, S., Paulsen, I., James, K., Eisen, J., Rutherford, K., Salzberg, S., Craig, A., Kyes, S., Chan, M.-S., Nene, V., Shallom, S., Suh, B., Peterson, J., Angiuoli, S., Pertea, M., Allen, J., Selengut, J., Haft, D., Mather, M., Vaidya, A., Martin, D., Fairlamb, A., Fraunholz, M., Roos, D., Ralph, S., McFadden, G., Cummings, L., Subramanian, G., Mungall, C., Venter, J., Carucci, D., Hoffman, S., Newbold, C., Davis, R., Fraser, C. and Barrell, B. (2002) Genome sequence of the human malaria parasite *Plasmodium falciparum*. *Nature.* **419**, 498-511
- 97 Carlton, J., Angiuoli, S., Suh, B., Kooij, T., Pertea, M., Silva, J., Ermolaeva, M., Allen, J., Selengut, J., Koo, H., Peterson, J., Pop, M., Kosack, D., Shumway, M., Bidwell, S., Shallom, S., Van Aken, S., Riedmuller, S., Fieldblyum, T., Cho, J., Quackenbush, J., Sedegah, M., Shoaibi, A., Cummings, L., Florens, L., Yates III, J., Raine, J., Sinden, R., Harris, M., Cunningham, D., Preiser, P., Bergman, L., Vaidya, A., Van Lin, L., Janse, C., Waters, A., Smith, H., White, O., Salzberg, S., Venter, J., Fraser, C., Hoffman, S., Gardner, M. and Carucci, D. (2002) Genome sequence and comparative analysis of the model rodent malaria parasite *Plasmodium yoelii yoelii*. *Nature.* **419**
- 98 Hall, N., Karras, M., Raine, J., Carlton, J., Kooij, T., Berriman, M., Florens, L., Janssen, C., Pain, A., Christophides, G., James, K., Rutherford, K., Harris, B., Harris, D., Churcher, C., Quail, M., Ormond, D., Doggett, J., Trueman, H., Mendoza, J., Bidwell, S., Rajandream, M.-A., Carucci, D., Yates III, J., Kafatos, F., Janse, C., Barrell, B., Turner, C., Waters, A. and Sinden, R. (2005) A comprehensive survey of the *Plasmodium* life cycle by genomic transcriptomic and proteomics analyses. *Science.* **307**, 82-86
- 99 Pain, A., Böhme, U., Berry, A., Mungall, K., Finn, R., Jackson, A., Mourier, T., Misty, J., Pasini, E., Aslett, M., Balasubramanian, S., Borgwardt, K., Brooks, K., Carret, C., Carver, T., Cherevach, I., Keane, T., Larke, N., Lapp, S., Marti, M., Moule, S., Meyer, I., Ormond, D., Peters, N., Sanders, M., Sanders, S., Sargeant, T., Simmonds, M., Smith, F., Squares, R., Thurston, S., Tivey, A., Walker, D., White, B., Zuiderwijk, E., Churcher, C., Quail, M., Cowman, A., Turner, C., Rajandram, M., Kocken, C., Thomas, A., Newbold, C., Barrell, B. and Berriman, M. (2008) The genome of the simian and human malaria parasite *Plasmodium knowlesi*. *Nature.* **456**, 799-804
- 100 Carlton, J., Adams, J., Silva, J., Bidwell, S., Lorenzi, H., Caler, E., Crabtree, J., Angiuoli, S., Merino, E., Amedeo, P., Cheng, Q., Roulson, R., Crabb, B., Del Portillo, H., Essien, K., Fieldblyum, T., Fernandez-Becerra, C., Gilson, P., Gueye, A., Guo, X., Kang'a, S., Kooij, T., Korsinczky, M., Meyer, E.-S., Nene, V., Paulsen, I., White, O., Ralph, S., Ren, Q., Sargeant, T., Salzberg, S., Stoeckert, C., Sullivan, S., Yamamoto, M., Hoffman, S., Wortman, J., Gardner, M., Galinski, M., Barnwell, J. and Fraser-Liggett, C.

- (2008) Comparative genomics of neglected human malaria parasite *Plasmodium vivax*. *Nature*. **455**, 757-763
- 101 Carlton, J. (2008) *Plasmodium vivax*: genetics and genomics of a 'neglected' human malaria parasite. *Int. J. Parasitol.* **38** Supplement 1, S27
- 102 Painter, H., Morrisey, J., Mather, M. and Vaidya, A. (2007) Specific role of mitochondrial electron transport in blood-stage *Plasmodium falciparum*. *Nature*. **446**, 88-91
- 103 Strachan, T. and Read, A. (1998) Human molecular genetics. BIOS Scientific Publishers Limited, Oxford
- 104 Vaidya, A., Akella, R. and Suplick, K. (1989) Sequences similar to genes for two mitochondrial proteins and portions of ribosomal RNA in tandemly arrayed 6-kilobase-pair DNA of a malaria parasite. *Mol. Biochem. Parasitol.* **1989**, 97-107
- 105 Anderson, S., Bankier, A., Barrell, B., Bruijn, M. D., Coulson, A., Drouin, J., Eperon, I., Nierlich, D., Roe, B., Sanger, F., Shreier, P., Smith, A., Staden, R. and Young, I. (1981) Sequence and organization of the human mitochondrial genome. *Nature*. **290**, 457-465
- 106 Wilson, R., Denny, P., Preiser, P., Rangachari, K., Roberts, K., Roy, A., Whyte, A., Strath, M., Moore, P. and Williamson, D. (1996) Complete gene map of the plastid-like DNA of the malaria parasite *Plasmodium falciparum*. *J. Mol. Biol.* **261**, 155-172
- 107 Waters, A. (1994) The ribosomal RNA genes of *Plasmodium*. *Adv. Parasitol.* **34**, 33-79
- 108 Le Roch, K., Zhou, Y., Blair, P., Grainger, M., Moch, J., Haynes, J., De La Vega, P., Holder, A., Batalov, S., Carucci, D. and Winzeler, E. (2003) Discovery of gene function by expression profiling of the malaria parasite life cycle. *Science*. **301**, 1503-1508
- 109 Tarun, A., Peng, X., Dumpit, R., Ogata, Y., Silva-Rivera, H., Camargo, N., Daly, T., Bergman, L. and Kappe, S. (2008) A combined transcriptome and proteome survey of malaria parasite liver stages. *Proc. Natl. Acad. Sci. USA*. **105**, 305-310
- 110 Bozdech, Z., Mok, S., Guangan, H., Imwong, M., Jaidee, A., Russel, B., Ginsburg, H., Nosten, F., Day, P., White, N., Carlton, J. and Preiser, P. (2008) The transcriptome of *Plasmodium vivax* reveals divergence and diversity of transcriptional regulation in malaria parasites. *PNAS*. **105**, 16290-16295
- 111 Gleeson, M. (2000) The plastid in Apicomplexa: what use is it? *Int. J. Parasitol.* **30**, 1053-1070
- 112 Florens, L., Washburn, M., Dale-Raine, J., Anthony, R., Grainger, M., Haynes, J., Moch, J., Muster, N., Sacci, J., Tabb, D., Witney, A., Wolters, D., Wu, Y., Gardner, M., Holder, A., Sinden, R., Yates, J. and Carucci, D. (2002) A proteomic view of the *Plasmodium falciparum* life cycle. *Nature*. **419**, 520-526
- 113 Date, S. and Stoeckert, C. (2006) Computational modeling of the *Plasmodium falciparum* interactome reveals protein function on a genome-wide scale. *Genome Res.* **16**, 542-549
- 114 Wuchty, S. (2007) Rich-club phenomenon in the interactome of *P. falciparum* - artifact or signature of a parasitic life style. *PLoS One*. **3**, e335
- 115 Wuchty, S. and Ipsaro, J. (2007) A draft of protein interactions in the malaria parasite *P. falciparum*. *J. Proteome Res.* **6**, 1461-1470
- 116 Teng, R., Junankar, P., Bubb, W., Rae, C., Mercier, P. and Kirk, K. (2008) Metabolite profiling of the intraerythrocytic malaria parasite *Plasmodium falciparum* by ¹H NMR spectroscopy. *NMR Biomed.*, In Press
- 117 Ginsburg, H. (2006) Progress in *in silico* functional genomics: the Malaria Metabolic Pathways database. *Trends Parasitol.* **22**, 238-240
- 118 Coleman, B. and Duraisingham, M. (2008) Transcriptional control and gene silencing in *Plasmodium falciparum*. *Cell. Microbiol.* **10**, 1935-1946
- 119 Coulson, M., Hall, N. and Ouzounis, C. (2004) Comparative genomics of transcriptional control in the human malaria parasite *Plasmodium falciparum*. *Genome Res.* **14**, 1548-1554
- 120 Callebaut, I., Prat, K., Meurice, E., Mornon, J. and Tornavo, S. (2005) Prediction of the general transcription factors associated with RNA polymerase II in *Plasmodium falciparum*: conserved features and differences relative to other eukaryotes. *BMC Genomics*. **6**, 100
- 121 Polson, H. and Blackman, M. (2005) A role for poly(dA)poly(dT) tracts in directing activity of the *Plasmodium falciparum* calmodulin gene promoter. *Mol. Biochem. Parasitol.* **141**, 179-189

- 122 Balaji, S., Babu, M., Iyer, L. and Aravind, L. (2005) Discovery of the principal specific transcription factors of Apicomplexa and their implication for the evolution of the AP2-integrase DNA binding domains. *Nucl. Acids Res.* **33**, 3994-4006
- 123 De Silva, E., Gehrke, A., Olszewski, K., León, I., Chahal, J., Bulyk, M. and Llinás, M. (2008) Specific DNA-binding by Apicomplexan AP2 transcription factors. *Proc. Natl. Acad. Sci. USA.* **105**, 8393-8398
- 124 Choi, S., Keyes, M. and Horrocks, P. (2006) LC/ESI-MS demonstrates the absence of 5-methyl-2'-deoxycytosine in *Plasmodium falciparum* genomic DNA. *Mol. Biochem. Parasitol.* **150**, 350-352
- 125 Miao, J., Fan, Q., Cui, L., Li, J., Li, J. and Cui, L. (2006) The malaria parasite *Plasmodium falciparum* histones: Organization, expression, and acetylation. *Gene.* **369**, 53-65
- 126 Pollack, Y., Kogan, N. and Golenser, J. (1991) *Plasmodium falciparum*: Evidence for a DNA methylation pattern. *Exp. Parasitol.* **72**, 339-344
- 127 Neafsey, D., Hartl, D. and Berriman, M. (2005) Evolution of non-coding and silent coding sites in the *Plasmodium falciparum* and *Plasmodium reichenowi* genomes. *Mol. Biol. Evol.* **22**, 1621-1626
- 128 Deitsch, K., Duraisingh, R., Dzikowski, A., Gunaseker, A., Khan, S., Le Roch, K., Llinás, M., Mair, G., McGovern, V., Roos, D., Shock, J., Sims, J., Wiegand, R. and Winzeler, E. (2007) Mechanisms of gene regulation in *Plasmodium*. *Am. J. Trop. Med. Hyg.* **77**, 201-208
- 129 Balu, B., Shoue, D., Fraser, J. and Adams, J. (2005) High-efficiency transformation of *Plasmodium falciparum* by the lepidopteran transposon element *piggyBac*. *Proc. Natl. Acad. Sci. USA.* **102**, 16391-16396
- 130 De Koning-Ward, T., Janse, C. and Waters, A. (2000) The development of genetic tools for dissecting the biology of malaria parasites. *Annu. Rev. Microbiol.* **54**, 157-185
- 131 Fidock, D. and Wellem, T. (1997) Transformation with human dihydrofolate reductase renders malaria parasites insensitive to WR99210 but does not affect the intrinsic activity of proguanil. *Proc. Natl. Acad. Sci. USA.* **94**, 10931-10936
- 132 Wu, Y., Sifri, D., Lei, H.-H., Su, X.-Z. and Wellem, T. (1995) Transfection of *Plasmodium falciparum* within human blood cells. *Proc. Natl. Acad. Sci. USA.* **92**, 973-977
- 133 Brown, A. and Catteruccia, F. (2006) Toward silencing the burden of malaria: progress and prospects for RNAi-based approaches. *Biotechniques.* **40**, S38-44
- 134 Gray, N., Wodicka, A., Thunnissen, A., Norman, T., Kwon, S., Espinoza, F., Morgan, D., Barnes, G., LeClerc, S., Meijer, L., Kim, S., Lockhart, D. and Schultz, P. (1998) Exploiting chemical libraries, structure, and genomics in the search for kinase inhibitors. *Science.* **281**, 533-538
- 135 Sakata, T. and Winzeler, E. (2007) Genomics, systems biology and drug development for infectious diseases. *Mol. BioSyst.* **3**, 841-848
- 136 Boshoff, H. and Manjunatha, U. (2006) The impact of genomics on discovering drugs against infectious diseases. *Microbes Infect.* **8**, 1654-1661
- 137 Wilson, M., DeRisi, J., Kristensen, H., Imboden, P., Rane, S., Brown, P. and Schoolnik, G. (1999) Exploring drug-induced alterations in gene expression in *Mycobacterium tuberculosis* by microarray hybridization. *Proc. Natl. Acad. Sci. USA.* **96**, 12833-12838
- 138 Boshoff, H., Myers, T., Copp, B., McNeil, M., Wilson, M. and Clifton, B. (2004) The transcriptional responses of *Mycobacterium tuberculosis* to inhibitors of metabolism. *J. Biol. Chem.* **279**, 40174-40184
- 139 Marton, M., Derisi, J., Bennett, H., Iyer, V., Meyer, M., Roberts, C., Stoughton, R., Burchard, J., Slade, D., Dai, H., Bassett, D., Hartwell, L., Brown, P. and Friend, S. (1998) Drug target validation and identification of secondary drug target effects using DNA microarrays. *Nat. Med.* **4**, 1293-1301
- 140 Freiberg, C. and Brotz-Oesterhelt, H. (2005) Functional genomics in antibacterial drug discovery. *Drug Disc. Today.* **10**, 927-935
- 141 Ohlstein, E. H., Ruffolo Jr., R. R. and Elliot, J. D. (2000) Drug discovery in the next millennium. *Annu. Rev. Pharmacol. Toxicol.* **40**, 177-191
- 142 Wang, S., Sim, T. B., Kim, Y.-S. and Chang, Y.-T. (2004) Tools for target identification and validation. *Curr. Opin. Chem. Biol.* **8**, 371-377
- 143 Paolini, G. V., Shapland, R. H., van Hoorn, W. P., Mason, J. S. and Hopkins, A. L. (2006) Global mapping of pharmacological space. *Nature Biotechnol.* **24**, 805-815
- 144 Sawyer, T. K. (2006) Smart drug discovery leveraging innovative technologies and predictive knowledge. *Nature Chem. Biol.* **2**, 646-648

- 145 Reguera, R., Tekwani, B. and Balaña-Fouce, R. (2005) Polyamine transport in parasites: A potential target for new antiparasitic drug development. *Comp. Biochem. Physiol. C.* **140**, 151-164
- 146 Metcalf, B., Bey, P., Danzin, C., Jung, M., Casara, P. and Vevert, J. (1978) Catalytic irreversible inhibition of mammalian ornithine decarboxylase by substrate and product analogues. *J. Am. Chem. Soc.* **100**, 2551-2553
- 147 Seiler, N. (2003) Thirty years of polyamine-related approaches to cancer therapy. Retrospect and prospect. Part 1. Selective enzyme inhibitors. *Curr. Drug Targets.* **4**, 537-564
- 148 Sporn, M. and Hong, W. (2008) Concomitant DFMO and sulindac chemoprevention of colorectal cancer: a major clinical advance. *Nat. Clin. Pract. Oncol.* **In Press**
- 149 Simoneau, A., Gerner, E., Nagle, R., Ziogas, A., Fujikawa-Brooks, S., Yerushalmi, H., Ahlering, T., Lieberman, R., McLaren, C., Anton-Culver, H. and Meyskens, F. (2008) The effect of difluoromethylornithine on decreasing prostate size and polyamines in men: results of a year-long phase IIb randomized placebo-controlled chemoprevention trial. *Cancer Epidemiol. Biomarkers Prev.* **17**, 292-299
- 150 VanNieuwenhove, S., Schechter, P., Declercq, J., Bone, G., Burke, J. and Sjoerdsma, A. (1985) Treatment of gambiense sleeping sickness in the Sudan with oral DFMO (DL-a-difluoromethylornithine), an inhibitor of ornithine decarboxylase; first field trial. *Trans. R. Soc. Trop. Med. Hyg.* **79**, 692-698
- 151 Iten, M., Mett, H., Evans, A., Enyaru, J., Brun, R. and Kaminsky, R. (1997) Alterations in ornithine decarboxylase characteristics account for tolerance of *Trypanosoma brucei rhodesiense* to D,L-alpha-difluoromethylornithine. *Antimicrob. Agents Chemother.* **41**, 1922-1925
- 152 McCann, P., Bacchi, C., Hanson, W., Cain, G., Nathan, H., Hutner, S. and Sjoerdsma, A. (1981) Effect on parasitic protozoa of a-difluoromethylornithine, an inhibitor of ornithine decarboxylase. *Adv. Polyamine Res.* **3**, 97-110
- 153 Wright, P., Byers, T., Cross-Doersen, D., McCann, P. and Bitonti, A. (1991) Irreversible inhibition of S-adenosylmethionine decarboxylase in *Plasmodium falciparum*-infected erythrocytes: growth inhibition *in vitro*. *Biochem. Pharmacol.* **41**, 1713-1718
- 154 Assaraf, Y., Golenser, J., Spira, D., Messer, G. and Bachrach, U. (1987) Cytostatic effect of DL-a-difluoromethylornithine against *Plasmodium falciparum* and its reversal by diamines and spermidine. *Parasitol. Res.* **73**, 313-318
- 155 Bitonti, A., McCann, P. and Sjoerdsma, A. (1987) *Plasmodium falciparum* and *Plasmodium berghei*: Effects of ornithine decarboxylase inhibitors on erythrocytic schizogony. *Exp. Parasitol.* **64**, 237-243
- 156 Casar, P., Marchal, P., Wagner, J. and Danzin, C. (1989) 5'-{[(Z)-4-Amino-2-butenyl]methylamino}-5'-deoxyadenosine: a potent enzyme-activated irreversible inhibitor of S-adenosyl-L-methionine decarboxylase from *Escherichia coli*. *J. Am. Chem. Soc.* **111**, 9111-9113
- 157 Byers, T., Bush, T., McCann, P. and Bitonti, A. (1991) Antitrypanosomal effect of polyamine biosynthesis inhibitors correlate with increases in *Trypanosoma brucei brucei* S-adenosyl-L-methionine. *Biochem. J.* **274**, 527-533
- 158 Secrist III, J. (1987) New substrate analogues as inhibitors of S-adenosylmethionine decarboxylase. *Nucleosides Nucleotides Nucleic Acids.* **6**, 78-83
- 159 Tekwani, B., Bacchi, C., Secrist, J. and Pegg, A. (1992) Irreversible inhibition of S-adenosylmethionine decarboxylase of *Trypanosoma brucei brucei* by S-adenosylmethionine analogues. *Biochem. Pharmacol.* **44**, 905-911
- 160 Pegg, A., Jones, D. and Secrist, J. (1988) Effect of S-Adenosylmethionine decarboxylase on polyamine content and growth of L1210 cells. *Biochemistry.* **27**, 1408-1415
- 161 Bitonti, A., Dumont, J., Bush, T., Edwards, M., Stemmerick, D., McCann, P. and Sjoerdsma, A. (1989) Bis(benzyl)polyamine analogs inhibit the growth of chloroquine-resistant human malaria parasites (*Plasmodium falciparum*) *in vitro* and in combination with a-difluoromethylornithine cure murine malaria. *Proc. Natl. Acad. Sci. USA.* **86**, 651-655
- 162 Bitonti, A., Bush, T. and McCann, P. (1989) Regulation of polyamine biosynthesis in rat hepatoma (HTC) cells by a bisbenzyl polyamine analogue. *Biochem. J.* **257**, 769-774
- 163 Mukhopadhyay, R. and Madhubala, R. (1995) Effects of bis(benzyl)polyamine analogs on *Leishmania donovani* promastigotes. *Exp. Parasitol.* **81**, 39-46

- 164 Rieckmann, K., Campbell, G., Sax, L. and Mrema, J. (1978) Drug sensitivity of *Plasmodium falciparum*: An *in vitro* microtechnique. *Lancet*. **1**, 22-23
- 165 Desjardins, R., Canfield, C., Haynes, J. and Chulay, J. (1979) Quantitative assessment of antimalarial activity *in vitro* by a semiautomated microdilution technique. *Antimicrob. Agents Chemother.* **16**, 710-718
- 166 Makler, M., Ries, J., Williams, J., Bancroft, J., Piper, R., Gibbins, B. and Hinrichs, D. (1993) Parasite lactate dehydrogenase as an assay for *Plasmodium falciparum* drug sensitivity. *Am. J. Trop. Med. Hyg.* **48**, 739-741
- 167 Druilhe, P., Moreno, A., Blanc, C., Brasseur, P. and Jacquier, P. (2001) A colorimetric *in vitro* drug sensitivity assay for *Plasmodium falciparum* based on highly sensitive double-site lactate dehydrogenase antigen capture enzyme-linked immunosorbent assay. *Am. J. Trop. Med. Hyg.* **64**, 233-241
- 168 Noedl, H., Wernsdorfer, W., Miller, R. and Wongsrichanalai, C. (2002) Histidine-rich protein II: a novel approach to malaria drug sensitivity testing. *Antimicrob. Agents Chemother.* **46**, 1658-1664
- 169 Trager, W. and Jensen, J. (1976) Human malaria parasites in continuous culture. *Science*. **193**, 673-675
- 170 Brecher, G. and Schneiderman, M. (1950) A time saving device for the counting of reticulocytes. *Am. J. Clin. Pathol.* **20**, 1079-1083
- 171 Lambros, C. and Vanderberg, J. (1979) Synchronisation of *Plasmodium falciparum* erythrocytic stages in culture. *J. Parasitol.* **65**, 418-420
- 172 Schulze, D., Makgatho, E., Coetzer, T., Louw, A., VanRensburg, C. and Visser, L. (1997) Development and application of a modified flow cytometric procedure for rapid *in vitro* quantitation of malaria parasitaemia. *S. Afr. J. Sci.* **93**, 156-158
- 173 Bianco, A., Battye, F. and Brown, G. (1986) *Plasmodium falciparum*: Rapid quantification of parasitemia in fixed malaria cultures by flow cytometry. *Exp. Parasitol.* **62**, 275-282
- 174 Tarcha, P., Chu, V. and Whittern, D. (1987) 2,3-Diaminophenazine is the product from the horseradish peroxidase catalyzed oxidation of o-phenylenediamine. *Anal. Biochem.* **165**, 230-233
- 175 Makler, M., Lee, L. and Recktenwald, D. (1987) Thiazole orange: A new dye for *Plasmodium* species analysis. *Cytometry*. **8**, 568-570
- 176 Motulsky, H. and Christopoulos, A. (2003) Fitting models to biological data using linear and nonlinear regression. A practical guide to curve fitting. GraphPad Software Inc., San Diego
- 177 Wouters, P., Bos, A. and Ueckert, J. (2001) Membrane permeabilization in relation to inactivation kinetics of *Lactobacillus* species due to pulsed electric fields. *Appl. Environ. Microbiol.* **67**, 3092-3101
- 178 Cho, M.-H., Niles, A., Huang, R., Inglese, J., Austin, C., Riss, T. and Xia, M. (2008) A bioluminescent cytotoxicity assay for assessment of membrane integrity using a proteolytic biomarker. *Toxicol. in Vitro*. **22**, 1099-1106
- 179 Gunasekera, A., Patankar, S., Schug, J., Eisen, G. and Wirth, D. (2003) Drug-induced alterations in gene expression of the asexual blood forms of *Plasmodium falciparum*. *Mol. Microbiol.* **50**, 1229-1239
- 180 Desakorn, V., Silamut, K., Angus, B., Sahassananda, D., Chotivanich, K., Suntharasamai, P., Simpson, J. and White, N. (1997) Semi-quantitative measurement of *Plasmodium falciparum* antigen PfHRP2 in blood and plasma. *Trans. R. Soc. Trop. Med. Hyg.* **91**, 479-483
- 181 Fivelman, Q., Adagu, I. and Warhurst, D. (2004) Modified fixed-ratio isobogram method for studying *in vitro* interactions between atovaquone and proguanil or dihydroartemisinin against drug-resistant strains of *Plasmodium falciparum*. *Antimicrob. Agents Chemother.* **48**, 4097-4102
- 182 Russel, B., Chalfein, F., Prasetyorini, B., Kenangalem, E., Piera, K., Suwanarusk, R., Brockman, A., Proayoga, P., Sugiarto, P., Cheng, Q., Tjitra, E., Anstey, N. and Price, R. (2008) Determinants of *in vitro* drug susceptibility testing of *Plasmodium vivax*. *Antimicrob. Agents Chemother.* **52**, 1040-1045
- 183 Caillard, V., Beaute-Lafitte, A., Chabaud, A., Ginsburg, H. and Landau, I. (1995) Stage sensitivity of *Plasmodium vinckei petteri* to quinine, mefloquine and pyrimethamine. *J. Parasitol.* **81**, 295-301
- 184 Bitonti, A., Byers, T., Bush, T., Casara, P., Bacchi, C., Clarkson, A., McCann, P. and Sjoerdsma, A. (1990) Cure of *Trypanosoma brucei brucei* and *Trypanosoma brucei rhodesiense* infections in mice with an irreversible inhibitor of S-adenosylmethionine decarboxylase. *Antimicrob. Agents Chemother.* **34**, 1485-1490

- 185 Bacchi, C., Nathan, H., Yarlett, N., Goldberg, B., McCann, P., Bitonti, A. and Sjoerdsma, A. (1992) Cure of murine *Trypanosoma brucei rhodesiense* infections with an S-adenosylmethionine decarboxylase inhibitor. *Antimicrob. Agents Chemother.* **36**, 2736-2740
- 186 Wells, G., Birkholtz, L.-M., Joubert, F., Walter, R. and Louw, A. (2006) Novel properties of malarial S-adenosylmethionine decarboxylase as revealed by structural modelling. *J. Mol. Graph. Model.* **24**, 307-318
- 187 Birkholtz, L.-M., van Brummelen, A., Clark, K., Niemand, J., Maréchal, E., Llinas, M. and Louw, A. (2007) Exploring functional genomics for targets and therapeutics discovery in *Plasmodia*. *Acta Trop.* **105**, 113-123
- 188 Shaw, K. and Morrow, B. (2003) Transcriptional profiling and drug discovery. *Curr. Opin. Pharmacol.* **3**, 508-512
- 189 Fang, J., Zhou, H., Rathore, D., Sullivan, M., Su, X.-Z. and McCutchan, T. (2003) Ambient glucose concentration and gene expression in *Plasmodium falciparum*. *Mol. Biochem. Parasitol.* **133**, 125-129
- 190 Oakley, M., Kumar, S., Anantharaman, V., Zheng, H., Mahajan, B., Haynes, J., Moch, J., Fairhurst, R., McCutchan, T. and Aravind, L. (2007) Molecular factors and biochemical pathways induced by febrile temperature in intraerythrocytic *Plasmodium falciparum* parasites. *Infect. Immun.* **75**, 2012-2025
- 191 Cui, L., Miao, J., Furuya, T., Fan, Q., Li, X., Rathod, P., Su, X.-Z. and Cui, L. (2008) The histone acetyltransferase inhibitor anacardic acid leads to changes in global gene expression during *in vitro* *Plasmodium falciparum* development. *Eukaryot. Cell.* **7**, 1200-1210
- 192 Mair, G., Braks, J., Garver, L., Dimopoulos, G., Hall, N., Wiegant, J., Dirks, R., Khan, S., Janse, C. and Waters, A. (2006) Translational repression is essential for *Plasmodium* sexual development and mediated by DDX6-type RNA helicase. *Science.* **313**, 667-669
- 193 Shock, J., Fischer, K. and DeRisi, J. (2007) Whole genome analysis of mRNA decay in *Plasmodium falciparum* reveals a global lengthening of mRNA half-life during the intraerythrocytic development cycle. *Genome Biol.* **8**, R134
- 194 Le Roch, K. and Winzeler, E. (2005) The transcriptome of the malaria parasite *Plasmodium falciparum*. In Molecular approaches to malaria (Sherman, I., ed.). pp. 68-84, ASM Press, Washington, D.C.
- 195 Young, J. and Winzeler, E. (2005) Using expression information to discover new drug and vaccine targets in the malaria parasite *Plasmodium falciparum*. *Pharmacogenomics.* **6**, 1-26
- 196 Gunasekera, A., Myrick, A., Le Roch, K., Winzeler, E. and Wirth, D. (2007) *Plasmodium falciparum*: Genome wide perturbations in transcript profiles among mixed stage cultures after choroquine treatment. *Exp. Parasitol.* **117**, 87-92
- 197 Nirmalan, N., Wang, P., Sims, P. and Hyde, J. (2002) Transcriptional analysis of genes encoding enzymes of the folate pathway in the human malaria parasite *Plasmodium falciparum*. *Mol. Microbiol.* **46**, 179-190
- 198 Natalang, O., Bischoff, E., Deplaine, G., Proux, C., Dillies, M.-A., Sismeiro, O., Guigon, C., Bonnefoy, S., Patarapotikul, J., Mercereau-Puijalon, O., Coppee, J.-Y. and David, P. (2008) Dynamic RNA profiling in *Plasmodium falciparum* synchronized blood stages exposed to lethal doses of artesunate. *BMC Genomics.* **9**, 388
- 199 Tamez, P., Bhattacharjee, S., Van Ooij, C., Hiller, N., Llinás, M., Balu, B., Adams, J. and Haldar, K. (2008) An erythrocyte vesicle protein exported by the malaria parasite promotes tubovesicular lipid import from the host cell surface. *PLoS Pathogens.* **4**, e10000118
- 200 Quackenbush, J. (2001) Computational analysis of microarray data. *Nat. Rev. Genet.* **2**, 418-427
- 201 Velculescu, V. (1999) SAGE and its use in global gene expression analysis. *Science.* **286**, 1491-1492
- 202 Lisitsyn, N., Lisitsyn, N. and Wigler, M. (1993) Cloning the differences between two complex genomes. *Science.* **259**, 5640-5648
- 203 Yang, Y. and Speed, T. (2002) Design issues for cDNA microarray experiments. *Nat. Rev. Genet.* **3**, 670-588
- 204 Hardiman, G. (2004) Microarray platforms - comparisons and contrasts. *Pharmacogenomics.* **5**, 487-502
- 205 Leung, Y. and Cavalieri, D. (2003) Fundamentals of cDNA microarray data analysis. *Trends Genet.* **19**, 649-659

- 206 Smyth, G. (2005) Limma: linear models for microarray data In Bioinformatics and computational biology solutions using R and bioconductor (Gentleman, R., Carey, V., Dudoit, S., Irizarry, R. and Huber, W., eds.). pp. 397-420, Springer, New York
- 207 Brazma, A., Hingamp, P., Quackenbush, J., Sherlock, G., Spellman, P., Stoeckert, C., Aach, J., Ansorge, W., Ball, C., Causton, H., Gaasterland, T., Glenisson, P., Holstege, F., Kim, I., Markowitz, V., Matese, J., Parkinson, H., Robinson, A., Sarkans, U., Schulze-Kremer, S., Stewart, J., Taylor, R., Vilo, J. and Vingron, M. (2001) Minimum information about a microarray experiment (MIAME) - toward standards for microarray data. *Nat. Genet.* **29**, 365-371
- 208 Chomczynski, P. and Sacchi, N. (1987) Single-step method of RNA isolation by acid guanidinium thiocyanate-phenol-chloroform extraction. *Anal. Biochem.* **162**, 156-159
- 209 Sambrook, J. and Russel, D. (2001) Molecular cloning, a laboratory manual. Cold Spring Harbor Laboratory Press, New York
- 210 Bozdech, Z., Zhu, J., Joachimiak, M., Cohen, F., Pulliam, B. and DeRisi, J. (2003) Expression profiling of the schizont and trophozoite stages of *Plasmodium falciparum* with a long-oligonucleotide microarray. *Genome Biol.* **4**, R9
- 211 Marko, M., Chipperfield, R. and Bimboim, H. (1982) A procedure for the large-scale isolation of highly purified plasmid DNA using alkaline extraction and binding to glass powder. *Anal. Biochem.* **121**, 382-387
- 212 Eisen, M., Spellman, P., Brown, P. and Botstein, D. (1998) Cluster analysis and display of genome-wide expression patterns. *Proc. Natl. Acad. Sci. USA.* **95**, 14863-14868
- 213 Yang, Y. and Paquet, A. (2005) Preprocessing two-color spotted arrays. In Bioinformatics and computational biology solutions using R and bioconductor (Gentleman, R., Carey, V., Huber, W., Irizarry, R. and Dudoit, S., eds.). pp. 49-69, Springer, New York
- 214 Smyth, G. (2004) Linear models and empirical Bayes methods for assessing differential expression in microarray experiments. *Stat Appl Genet Mol Biol.* **3**, Article 3
- 215 Storey, J., Xiao, W., Leek, J., Tompkins, R. and Davis, R. (2005) Significance analysis of time course microarray experiments. *Proc. Natl. Acad. Sci. USA.* **102**, 12837-12842
- 216 Dennis, G. J., Sherman, B., Hosack, D., Yang, J., Gao, W., Lane, H. and Lempicki, R. (2003) DAVID: Database for annotation, visualization, and integrated discovery. *Genome Biol.* **4**, P3
- 217 Stoeckert, C., Fischer, S., Kissinger, J., Heiges, M., Aurrecochea, C., Gajria, B. and Roos, D. (2006) PlasmoDB v5: new looks, new genomes. *Trends Parasitol.* **22**, 543-546
- 218 Rychlik, W., Spencer, W. and Rhoads, R. (1990) Optimisation of the annealing temperature for DNA amplification *in vitro*. *Nucl. Acids Res.* **18**, 6409-6412
- 219 Clark, K., Dhoogra, M., Louw, A. and Birkholtz, L.-M. (2008) Transcriptional responses of *Plasmodium falciparum* to α -difluoromethylornithine-induced polyamine depletion. *Biol. Chem.* **389**, 111-125
- 220 Hoppe, H., Verschoor, J. and Louw, A. (1991) *Plasmodium falciparum*: A comparison of synchronisation methods for *in vitro* cultures. *Exp. Parasitol.* **72**, 464-467
- 221 Gutteridge, W. and Trigg, P. (1972) Periodicity of nuclear DNA synthesis in the intraerythrocytic cycle of *Plasmodium knowlesi*. *J. Protozool.* **19**, 378-381
- 222 Bozdech, Z. and Ginsburg, H. (2004) Antioxidant defense in *Plasmodium falciparum* - data mining of the transcriptome. *Malaria Journal.* **3**, 23-33
- 223 Bozdech, Z. and Ginsburg, H. (2005) Data mining of the transcriptome of *Plasmodium falciparum*: the pentose phosphate pathway and ancillary processes. *Malaria Journal.* **4**, 17-29
- 224 Alm, K., Berntsson, A. and Oredsson, S. (1999) Topoisomerase II is non-functional in polyamine-depleted cells. *J. Cell. Biochem.* **75**, 46-55
- 225 Tkachenko, A. and Nesterova, L. (2002) Polyamines as modulators of gene expression under oxidative stress in *Escherichia coli*. *Biochemistry (Moscow).* **68**, 850-856
- 226 Yoshida, M., Kashiwagi, K., Shigemasa, A., Taniguchi, S., Yamamoto, K., Makinoshima, H., Ishihama, A. and Igarashi, K. (2004) A unifying model for the role of polyamines in bacterial cell growth, the polyamine modulon. *J. Biol. Chem.* **279**, 46008-46013
- 227 Morgan, D. (1990) Polyamines and cellular regulation: perspectives. *Biochem. Soc. Trans.* **18**, 1080-1084

- 228 Frostesjo, L. and Heby, O. (1999) Polyamine depletion up-regulates c-Myc expression yet induces G1 arrest and terminal differentiation of teratocarcinoma stem cells. *J. Cell. Biochem.* **76**, 143-152
- 229 Kumar, N., Cha, G., Pineda, F., Maciel, J., Haddad, D., Bhattacharyya, M. and Nagayasu, E. (2004) Molecular complexity of sexual development and gene regulation in *Plasmodium falciparum*. *Int. J. Parasitol.* **34**, 1451-1458
- 230 Morgan, D., Blankenship, J. and Mathews, H. (1991) Polyamines and acetylpolyamines increase the stability and alter the conformation of nucleosome core particles. *Biochemistry*. **26**, 3643-3649
- 231 Volkman, S., Barry, A., Lyons, E., Nielsen, K., Thomas, S., Choi, M., Thakore, S., Day, K., Wirth, D. and Hartl, D. (2001) Recent origin of *Plasmodium falciparum* from a single progenitor. *Science*. **293**, 482-484
- 232 Shi, L., Perkins, R., Fang, H. and Tong, W. (2008) Reproducible and reliable microarray results through quality control: good laboratory proficiency and appropriate data analysis practices are essential. *Curr. Opin. Biotech.* **19**, 10-18
- 233 Efferth, T., Gillet, J., Sauvrebry, A., Zintl, F., Bertholet, V., De Longueville, F., Remacle, J. and Steinbach, D. (2006) Expression profiling of ATP-binding cassette transporters in childhood T-cell acute lymphoblastic leukemia. *Mol. Cancer Ther.* **5**, 1986-1994
- 234 Johnsson, A., Vallon-Christensson, J., Strand, C., Litman, T. and Eriksen, J. (2005) Gene expression profiling in chemoresistant variants of three cell lines of different origin. *Anticancer Res.* **25**, 2661-2668
- 235 Nemoto, T., Kamel, S., Seyama, Y. and Kubota, S. (2001) p53 Independent G₁arrest induced by DL-a-difluoromethylornithine. *Biochem. Biophys. Res. Commun.* **280**, 848-854
- 236 Tabor, C. and Tabor, H. (1985) Polyamines in microorganisms. *Microbiol. Rev.* **49**, 81-99
- 237 Childs, A., Mehta, D. and Gerner, E. (2003) Polyamine-dependent gene expression. *Cell. Mol. Life Sci.* **60**, 1394-1406
- 238 Brehelin, L., Dufayard, J. and Gacuel, O. (2008) PlasmoDraft: a database of *Plasmodium falciparum* gene function predictions based on post-genomic data. *BMC Bioinformatics*. **9**, 440
- 239 Reguera, R., Redondo, C., Pérez-Pertejo, Y. and Balaña-Fouce, R. (2007) S-adenosylmethionine in protozoan parasites: Functions, synthesis and regulation. *Mol. Biochem. Parasitol.* **152**, 1-10
- 240 Oden, K. and Clarke, S. (1983) S-Adenosyl-L-methionine synthetase from human erythrocytes: role in the regulation of cellular S-adenosylmethionine levels. *Biochemistry*. **22**, 2978-2986
- 241 Kloor, D. and Osswald, H. (2004) S-adenosylhomocysteine hydrolase as a target for intracellular adenosine action. *Trends. Pharmacol. Sci.* **25**, 294-297
- 242 Nirmalan, N., Sims, J. and Hyde, J. (2004) Translational up-regulation of antifolate drug targets in the human malaria parasite *Plasmodium falciparum* upon challenge with inhibitors. *Mol. Biochem. Parasitol.* **136**, 63-70
- 243 Cochet, C. and Chambaz, E. (1983) Polyamine-mediated protein phosphorylations: a possible target for intracellular polyamine action. *Mol. Cell Endocrinol.* **30**, 247-266
- 244 Gissot, M., Briquet, S., Refour, P., Boschet, C. and Vauquero, C. (2005) PfMyb1, a *Plasmodium falciparum* transcription factor, is required for intra-erythrocytic growth and controls key genes for cell cycle regulation. *J. Mol. Biol.* **346**, 29-42
- 245 Fukuchi, J., Hiipakka, R., Kokontis, J., Nishimura, K., Igarashi, K. and Liao, S. (2004) TATA-binding protein-associated factor 7 regulates polyamine transport activity and polyamine analog-induced apoptosis. *J. Biol. Chem.* **279**, 29921-29929
- 246 Le Roch, K., Johnson, J., Florens, L., Zhou, Y., Santrosyan, A., Grainger, M., Yan, S., Williamson, K., Holder, A., Carucci, D., Yates III, J. and Winzeler, E. (2004) Global analysis of transcript and protein levels across the *Plasmodium falciparum* life cycle. *Genome Res.* **14**, 2308-2318
- 247 Ueda, M., Masu, Y., Ando, A., Maeda, H., Del Monte, M., Uyama, M. and Ito, S. (1998) Prevention of ornithine cytotoxicity by proline in human retinal pigment epithelial cells. *Invest. Ophthalmol. Vis. Sci.* **39**, 820-827
- 248 Wu, G. and Morris, S. J. (1998) Arginine metabolism: nitric oxide and beyond. *Biochem. J.* **336**, 1-17
- 249 Kidron, H., Repo, S., Johnson, M. and Salminen, T. (2007) Functional classification of aminoacid decarboxylases form the alanine racemase structural family by phylogenetic studies. *Mol. Biol. Evol.* **24**, 79-89

- 250 Edgar, R., Domrachev, M. and Lash, A. (2002) Gene expression omnibus: NCBI gene expression and hybridization array data repository. *Nucl. Acids Res.* **30**, 207-210
- 251 Makanga, M., Bray, P., Horrocks, P. and Ward, S. (2005) Towards a proteomic definition of CoArtem action in *Plasmodium falciparum* malaria. *Proteomics*. **5**, 1849-1858
- 252 Le Roch, K. G., Johnson, J. R., Ahiboh, H., Plouffe, D., Henson, K., Zhou, Y., Mamoun, C., Yates, J. R. r., Vial, H. and Winzeler, E. A. (2006) Genomic profiling of the malaria parasite response to the choline analogue reveals drug mechanism of action. In Keystone Symposia: Malaria Functional Genomics to Biology to Medicine ed.)^eds.)
- 253 Fraunholz, M. J. (2005) Systems biology in malaria research. *Trends Parasitol.* **21**, 393-395
- 254 Pir, P., Kirdar, B., Hayes, A., Ylsen Onsan, Z., Ulgen, K. and Oliver, S. G. (2006) Integrative investigation of metabolic and transcriptomic data. *BMC Bioinformatics*. **7**, 203
- 255 Carrette, O., Burkhard, P., Sanchez, J.-C. and Hochstrasser, D. (2006) State-of-the-art two-dimensional gel electrophoresis: a key tool of proteomics research. *Nat. Protocols*. **1**, 812-823
- 256 Schrattenholz, A. (2004) Proteomics: how to control highly dynamic patterns of millions of molecules and interpret changes correctly. *Drug Discov. Today*. **1**, 1-8
- 257 Barret, J., Brophy, P. and Hamilton, J. (2005) Analysing proteomic data. *Int. J. Parasitol.* **35**, 543-553
- 258 Wu, W., Wang, G., Baek, S. and Shen, R.-F. (2006) Comparative study of three proteomic quantitative methods, DIGE, cLCAT, and iTRAQ, using 2D gel- or MALDI TOF/TOF. *J. Proteome Res.* **5**, 651-658
- 259 Nirmalan, N., Sims, P. and Hyde, J. (2004) Quantitative proteomics of the human malaria parasite *Plasmodium falciparum* and its application to studies of development and inhibition. *Mol. Microbiol.* **52**, 1187-1199
- 260 Wolters, D., Washburn, M. and Yates III, J. (2001) An automated multidimensional protein identification technology for shotgun proteomics. *Anal. Chem.* **73**, 5683-5690
- 261 Wu, Y. and Craig, A. (2006) Comparative proteomic analysis of metabolically labelled proteins from *Plasmodium falciparum* isolates with different adhesion properties. *Malaria J.* **5**:67
- 262 Wysocki, V., Resing, K., Zhang, Q. and Cheng, G. (2005) Mass spectrometry of peptides and proteins. *Methods*. **35**, 211-222
- 263 Lu, W., Kimball, E. and Rabinowitz, J. (2006) A high-performance liquid chromatography-tandem mass spectrometry method for quantitation of nitrogen-containing intracellular metabolites. *J. Am. Soc. Mass Spectrom.* **17**, 37-50
- 264 Tweeddale, H., Notley-Mcobb, L. and Ferenci, T. (1998) Effect of slow growth on metabolism of *Escherichia coli*, as revealed by global metabolite pool ("metabolome") analysis. *J. Bacteriol.* **180**, 5109-5116
- 265 Wittmann, C., Krömer, J., Kiefer, P., Binz, T. and Heinze, E. (2004) Impact of the cold shock phenomenon on quantification of intracellular metabolites in bacteria. *Anal. Biochem.* **327**, 135-139
- 266 Bajad, S., Kimball, E., Yuan, J., Peterson, C. and Rabinowitz, J. (2006) Separation and quantitation of water soluble cellular metabolites by hydrophilic interaction chromatography-tandem mass spectrometry. *J. Chromatogr. A*. **1125**, 76-88
- 267 Munger, J., Bajad, S., Coller, H., Shenk, T. and Rabinowitz, J. (2006) Dynamics of the cellular metabolome during human cytomegalovirus infection. *PLOS Pathogens*. **2**, e132
- 268 Alwood, J., Ellis, D. and Goodacre, R. (2008) Metabolomic technologies and their application to the study of plants and plant-host interactions. *Physiol. Plant.* **132**, 117-135
- 269 Goodacre, R., Vaidyanathan, S., Dunn, W., Harrigan, G. and Kell, D. (2004) Metabolomics by numbers: acquiring and understanding global metabolite data. *Trends Biotech.* **22**, 245-252
- 270 Nielsen, J. and Oliver, S. (2005) The next wave in metabolome analysis. *Trends Biotech.* **23**, 544-546
- 271 Fernie, A., Trethewey, R., Krotzky, A. and Willmitzer, L. (2004) Metabolite profiling: from diagnostics to systems biology. *Nat. Rev. Mol. Cell Biol.* **5**, 1-7
- 272 Hall, R. (2005) Plant metabolomics: from holistic hope to hype, to hot topic. *New Phytologist*. **169**, 453-468
- 273 Bradford, M. (1976) A rapid and sensitive method for the quantitation of microgram quantities of protein utilizing the principle of protein-dye binding. *Anal. Biochem.* **72**, 248-254



- 274 Chang, W., Huang, L., Shen, M., Webster, C., Burlingame, A. and Roberts, J. (2000) Patterns of protein synthesis and tolerance of anoxia in root tips of maize seedling acclimated to a low-oxygen environment, and identification of proteins by mass spectrometry. *Plant Physiol.* **122**, 295-317
- 275 Lemonnier, M. and Lane, D. (1998) Expression of the second lysine decarboxylase gene of *Escherichia coli*. *Microbiology*. **144**, 751-760
- 276 Kikuchi, Y., Kojima, H., Tanaka, T., Takatsuka, Y. and Kamio, Y. (1997) Characterization of a second lysine decarboxylase isolated from *Escherichia coli*. *J. Bacteriol.* **179**, 4486-4492
- 277 Fisher, O., Siman-Tov, R. and Ankri, S. (2004) Characterization of cytosine methylated retions and 5-cytosine DNA methyltransferase (Ehmeth) in the protozoan parasite. *Nucleic Acids Res.* **32**, 287-297
- 278 Thiede, B., Höhenwarter, W., Krah, A., Mattow, J., Schmid, M., Schmidt, F. and Jungblut, P. (2005) Peptide mass fingerprinting. *Methods*. **35**, 237-247
- 279 Sandmeier, E., Hale, T. and Christen, P. (1994) Multiple evolutionary origin of pyridoxal-5-phosphate-dependent amino acid decarboxylases. *Eur. J. Biochem.* **221**, 997-1002
- 280 Shenai, B., Sijwali, P., Singh, S. and Rosenthal, P. (2000) Characterization of native and recombinant falcipain-2, a principal trophozoite cysteine protease and essential hemoglobinase of *Plasmodium falciparum*. *J. Biol. Chem.* **275**, 29000-29010
- 281 Pei, X., An, X., Guo, X., Tarnawski, M., Coppel, R. and Mohandas, N. (2005) Structural and functional studies of interaction between *Plasmodium falciparum* knob-associated histidine-rich protein (KAHRP) and erythrocyte spectrin. *J. Biol. Chem.* **280**, 31166-31171
- 282 Assaraf, Y., Abu-Elheiga, L., Spira, D., Desser, H. and Bachrach, U. (1987) Effect of polyamine depletion on macromolecular synthesis of the malarial parasite, *Plasmodium falciparum*, cultured in human erythrocytes. *Biochem. J.* **242**, 221-226
- 283 Kim, H., Kim, B. and Cho, Y. (1998) Purification and characterization of monomeric lysine decarboxylase from soybean (*Glycine max*) axes. *Arch. Biochem. Biophys.* **354**, 40-46
- 284 Wingler, A., Walker, R., Chen, Z.-H. and Leegood, R. (1999) Phosphoenolpyruvate carboxykinase is involved in the decarboxylation of aspartate in the bundle sheath of maize. *Plant Physiol.*, 539-545
- 285 Diefenbach, R. and Duggleby, R. (1991) Pyruvate decarboxylase from *Zymomonas mobilis*. Structure and re-activation of apoenzyme by the cofactors thiamine diphosphate and magnesium ion. *Biochem. J.* **276**, 439-445
- 286 Tanner, A., Bowater, L., Fairhurst, S. and Bornemann, S. (2001) Oxalate decarboxylase requires manganese and dioxygen for activity. *J. Biol. Chem.* **276**, 43627-43634
- 287 Gower, H., Leismann, O. and Jeltsch, A. (2000) DNA of *Drosophila melanogaster* contains 5-methylcytosine. *EMBO J.* **19**, 6918-6923
- 288 Dahl, C. and Guldberg, P. (2003) DNA methylation analysis techniques. *Biogerontology*. **4**, 233-250
- 289 Becker, M., Yen, R. and Itkin, P. (1979) Methylation of mouse liver DNA studied by means of the restriction enzymes *Msp*I and *Hpa*II. *Science*. **203**, 1019-1021
- 290 Achwal, C., Iyer, C. and Chandra, H. (1983) Immunochemical evidence for the presence of 5mC, 6mA and 7mG in human, *Drosophila* and mealybug DNA. *FEBS Journal*. **158**, 353-358
- 291 Hattman, S. (2005) DNA-[Adenine] methylation in lower eukaryotes. *Biochemistry (Moscow)*. **70**, 550-558
- 292 Görg, A., Weiss, W. and Dunn, M. (2005) Current two-dimensional electrophoresis technology for proteomics. *Proteomics*. **4**, 3665-3685
- 293 Panpumthong, P. and Vatnaviboon, P. (2006) Improvement of proteomic profile of *Plasmodium falciparum* by two-step protein extraction in two-dimensional gel electrophoresis. *Thammasat Int. J. Sc. Tech.* **11**, 61-68
- 294 Souza, R., Henriques, C., Alves-Ferreira, M., Mendonça-Lima, L. and Degrave, W. (2007) Investigation of a protein expression profile by high-resolution bidimensional electrophoresis of *Trypanosoma cruzi* epimastigotes. *Anal. Biochem.* **365**, 144-146
- 295 Sims, P. and Hyde, J. (2006) Proteomics of the human malaria parasite *Plasmodium falciparum*. *Expert Rev. Proteomics*. **3**, 87-95
- 296 Steuer, R. (2006) On the analysis and interpretation of correlations in metabolomic data. *Brief. Bioinform.* **7**, 151-158

- 297 Wertheimer, S. and Leifer, Z. (1983) Putrescine and spermidine sensitivity of lysine decarboxylase in *Escherichia coli*: evidence for a constitutive enzyme and its mode of regulation. *Biochem. Biophys. Res. Commun.* **114**, 882-888
- 298 Gygi, S., Rochon, Y., Franz, B. and Aebersold, R. (1999) Correlation between protein and mRNA abundance in yeast. *Mol. Cell Biol.* **19**, 1720-1730
- 299 Hoshen, M., Na-Bangchang, K., Stein, W. and Ginsburg, H. (2000) Mathematical modelling of the chemotherapy of *Plasmodium falciparum* with artesunate: postulation of 'dormancy', a partial cytostatic effect of the drug, and its implication for treatment regimens. *Parasitology* **121**, 237-246
- 300 Horrocks, P. and Lanzer, M. (1999) Mutational analysis identifies a five base-pair *cis*-acting sequence essential for GBP130 promoter activity in *Plasmodium falciparum*. *Mol. Biochem. Parasitol.* **99**, 77-87
- 301 Osta, M., Gannoun-Zaki, L., Bonnefoy, S., Roy, C. and Vial, H. (2002) A 24 bp *cis*-acting element essential for the transcriptional activity of *Plasmodium falciparum* CDP-diacylglycerol synthase gene promoter. *Mol. Biochem. Parasitol.* **121**, 87-98
- 302 Kyes, S., Christodoulou, Z., Pinches, R., Kriek, N., Horrocks, P. and Newbold, C. (2007) *Plasmodium falciparum* var gene expression is developmentally controlled at the level of RNA II-mediated transcription initiation. *Mol. Microbiol.* **63**, 1234-1247
- 303 Schieck, E., Pfahler, J., Sanchez, C. and Lanzer, M. (2007) Nuclear run-on analysis of var gene expression in *Plasmodium falciparum*. *Mol. Biochem. Parasitol.* **153**, 207-212
- 304 Stipanuk, M. and Dominy, J. (2006) Surprising insights that aren't so surprising in the modeling of sulfur amino acid metabolism. *Amino Acids* **30**, 251-256
- 305 Lewison, G. and Srivastava, D. (2008) Malaria research, 1980-2004, and the burden of disease. *Acta Trop.* **106**, 96-103