

Publications

Open Access | Experimental manipulation of immune-mediated disease and its fitness costs for rodent malaria parasites

Grainne H Long, Brian H K Chan, Judith E Allen, Andrew F Read and Andrea L Graham
BMC Evolutionary Biology 2008, 8:128

This is the first experimental study to demonstrate that infection-induced immunopathology and parasite genetic variability may together have the potential to shape virulence evolution. In accord with recent theory, the data show that some forms of immunopathology may select for parasites that make hosts less sick.

Open Access | Polymorphism at the Apical Membrane Antigen-1 locus Reflects the World Population History of Plasmodium vivax

Priscila Grynberg, Cor Jesus F Fontes, Austin L Hughes and Erika M Braga
BMC Evolutionary Biology 2008, 8:123

These results show that genetic diversity in *P. vivax* ama-1 reflects population history, with population substructure characterizing long-established Old World populations, whereas Brazilian populations show evidence of loss of diversity and recent population expansion.

Open Access | Declining Artesunate-Mefloquine Efficacy against Falciparum Malaria on the Cambodia–Thailand Border

Chansuda Wongsrichanalai and Steven R. Meshnick
Emerg Infect Dis. 2008 May;14(5):716-9

Enforcement of rational drug use and improved diagnostic capacity are among the measures needed to avoid and contain ACT resistance.

Open Access | Dispatch: Human Infections with Plasmodium knowlesi, the Philippines

Luchavez J, Espino F, Curameng P, Espina R, Bell D, Chiodini P, Nolder D, Sutherland C, Lee KS, Singh B.

Emerg Infect Dis. 2008 May;14(5):811-813

Five human cases of infection with the simian malaria parasite *Plasmodium knowlesi* from Palawan, the Philippines, were confirmed by nested PCR. This study suggests that this zoonotic infection is found across a relatively wide area in Palawan and documents autochthonous cases in the country.

Open Access | Dispatch: Naturally Acquired Human Plasmodium knowlesi Infection, Singapore

Ng OT, Ooi EE, Lee CC, Lee PJ, Ng LC, Pei SW, Tu TM, Loh JP, Leo YS

Emerg Infect Dis. 2008 May;14(5):814-6

We report a case of naturally acquired *Plasmodium knowlesi* in Singapore, a malaria-free country.

Open Access | Book Review: Twelve Diseases That Changed Our World

Irwin W. Sherman

Emerg Infect Dis. 2008 May;14(5):866

Thereafter, the book turns to the topic of infectious diseases and the lessons learned from earlier responses to “unanticipated outbreaks of disease” to inform preparedness for future outbreaks. Specifically, the chapters are devoted to the study of cholera, smallpox, bubonic plague, syphilis, tuberculosis, malaria, fever, influenza, and AIDS.

Open Access | Distribution of knock-down resistance mutations in Anopheles gambiae molecular forms in west and west-central Africa

Federica Santolamazza et al.

Malaria Journal 2008, 7:74 (29 April 2008)

The paper gives a clear picture of the geographic extent of the kdr mutations in Anopheles gambiae S-form and M-form populations from 11 countries in west and west-central Africa.

Open Access | Cost-effectiveness analysis of insecticide-treated net distribution as part of the Togo Integrated Child Health Campaign

Dirk H Mueller, Virginia Wiseman, Dankom Bakusa, Kodjo Morgah, Aboudou Dare, Potougnima Tchamdja

Malaria Journal 2008, 7:73 (29 April 2008)

A well-designed study that demonstrates thoroughly the economic attractiveness of the distribution of long-lasting insecticide-treated nets as a malaria control intervention

Open Access | Multiple origins of resistance-conferring mutations in Plasmodium vivax dihydrofolate reductase

Vivian N Hawkins, Alyson Auliff, Surendra Kumar Prajapati, Kanchana Rungsihirunrat, Hapuarachchige C Hapuarachchi, Amanda Maestre, Michael T O'Neil, Qin Cheng, Hema Joshi, Kesara Na-Bangchang, Carol Hopkins Sibley

Malaria Journal 2008, 7:72 (28 April 2008)

The paper examines the origin and spread of pyrimethamine resistance in P. vivax populations by analysing multiple P. vivax isolates from mainly Asia in the gene Pvdhfr. The evolution of resistance in this species is most likely quite different from P. falciparum.

Open Access | Determination of nitric oxide metabolites, nitrate and nitrite, in Anopheles culicifacies mosquito midgut and haemolymph by anion exchange high-performance liquid chromatography: plausible mechanism of refractoriness

Arun Sharma, Kamaraju Raghavendra, Tridibesh Adak, Aditya P Dash

Malaria Journal 2008, 7:71 (28 April 2008)

The authors developed an HPLC-based method to detect NO metabolites and were able to quantitate nitrate and nitrite levels in haemolymph and midgut. They observed that the levels of these metabolites differ between strains An. culicifacies mosquitoes that are either susceptible or refractory to P. vivax infection.

Open Access | Evaluation of FRET real-time PCR assay for rapid detection and differentiation of Plasmodium species in returning travellers and migrants

Innocent Safeukui et al.

Malaria Journal 2008, 7:70 (28 April 2008)

The two features of note for this method are the differentiation of P. falciparum infections from other Plasmodium species and the fact that the results are obtained in 90 minutes from sample preparation to result interpretation

Open Access | Evaluation of an operational malaria outbreak identification and response system in Mpumalanga Province, South Africa

Marlize Coleman, Michael Coleman, Aaron M Mabuza, Gerdalize Kok, Maureen Coetzee, David N Durrheim

Malaria Journal 2008, 7:69 (27 April 2008)

This manuscript describes a statistical approach to setting thresholds for increased malaria case load in facilities in an area of south Africa that has experienced intensive malaria transmission control for several years. The objective is to assess the use of the proposed threshold as cut-offs for action.

Open Access | The severity of malarial anaemia in Plasmodium chabaudi infections of BALB/c mice is determined independently of the number of circulating parasites

Tracey J Lamb, Jean Langhorne

Malaria Journal 2008, 7:68 (25 April 2008)

An important and provocative paper investigating factors of importance for the severe malarial anaemia in the rodent model.

Open Access | Clinically immune hosts as a refuge for drug-sensitive malaria parasites

Eili Y Klein, David L Smith, Maciej F Boni, Ramanan Laxminarayan

Malaria Journal 2008, 7:67 (25 April 2008)

The authors describe a novel malaria transmission model system that accounts for clinical immunity. The model generates outcomes consistent with the empirical (and seemingly paradoxical) observation of slow onset of resistance in high transmission settings.

Open Access | Enhanced detection of gametocytes by magnetic deposition microscopy predicts higher potential for Plasmodium falciparum transmission

Stephan Karl, Makindi David, Lee Moore, Brian T Grimberg, Pascal Michon, Ivo Mueller, Maciej Zborowski, Peter A Zimmerman

Malaria Journal 2008, 7:66 (25 April 2008)

Field trial in PNG of a previously developed technique, which shows that magnetic separation is useful, especially for gametocyte enrichment.

Open Access | Towards a sterile insect technique field release of Anopheles arabiensis mosquitoes in Sudan: Irradiation, transportation, and field cage experimentation

Michelle EH Helinski, Mo'awia M Hassan, Waleed M El-Motasim, Colin A Malcolm, Bart GJ Knols, Badria El-Sayed

Malaria Journal 2008, 7:65 (25 April 2008)

It is concluded that although conditions are challenging, there are no major obstacles associated with the small-scale irradiation and transportation of insects in the current setting. The field cage is suitable for experiments and studies to test the competitiveness of irradiated males can be pursued. The scaling up of procedures to accommodate much larger numbers of insects needed for a release is the next challenge and recommendations to further implementation of this genetic control strategy are presented.

Open Access | PbSR is synthesized in macrogametocytes and involved in formation of the malaria crystalloids

Victoria Carter, Shoichi Shimizu, Meiji Arai, Johannes T. Dessens

Molecular Microbiology, OnlineEarly Articles

These findings are the first to identify a parasite protein involved with the crystalloid organelle, and suggest a novel protein-trafficking mechanism to deliver PbSR to the oocysts.

Open Access | Genetic Determination and Linkage Mapping of Plasmodium falciparum Malaria Related Traits in Senegal

Sakuntabhai A, Ndiaye R, Casadémont I, Peerapittayamongkol C, Rogier C, et al. (2008) PLoS ONE 3(4): e2000

This study enabled us to confirm the importance of a previously identified chromosomal region and identify two novel regions linked to the occurrence of clinical attacks and one novel region linked to asymptomatic parasite density.

Open Access | HDP—A Novel Heme Detoxification Protein from the Malaria Parasite

Jani D, Nagarkatti R, Beatty W, Angel R, Slebodnick C, et al.

PLoS Pathog 4(4)

We demonstrate that this protein is highly conserved across the Plasmodium genus, is extremely efficient in producing hemozoin, and is delivered to the food vacuole, the site of hemozoin formation, via a unique trafficking route. We also demonstrate the critical nature of this protein and suggest that it could be targeted to develop novel antimalarial drugs.

Malaria research, 1980–2004, and the burden of disease

Grant Lewison, Divya Srivastava

Acta Tropica, Volume 106, Issue 2, May 2008, Pages 96-103

Leading countries in malaria research (including India, Thailand, Kenya and Nigeria) differ greatly in the subjects that they favour.

Artesunate–erythropoietin combination for murine cerebral malaria treatment

Anne-Lise Bienvenu, Josette Ferrandiz, Karine Kaiser, Christine Latour, Stéphane Picot

Acta Tropica, Volume 106, Issue 2, May 2008, Pages 104-108

Compared to the previous study using erythropoietin high doses at the early beginning of the disease, erythropoietin treatment was decreased by six-fold and delayed to the pre-mortem phase.

Malaria detection with the Sysmex XE-2100 hematology analyzer using pseudoeosinophilia and abnormal WBC scattergram

Hee Jin Huh, Gwi Young Oh, Jung Won Huh and Seok Lae Chae

Annals of Hematology, Online First, Tuesday, April 22, 2008

In conclusion, attention to differential count and WBC scattergrams provided by the Sysmex XE-2100 would be a valuable tool in malaria detection.

Changes in PSAC Reduce Leupeptin Uptake and Can Confer Drug Resistance in P. falciparum-Infected Erythrocytes

Lisk G, Pain M, Gluzman IY, Kambhampati S, Furuya T, Su XZ, Fay MP, Goldberg DE, Desai SA

Antimicrob. Agents Chemother. published ahead of print on 28 April 2008

These changes yielded significantly reduced leupeptin uptake and could fully account for the acquired resistance. PSAC represents a novel route for uptake of bulky hydrophilic compounds acting against intraerythrocytic parasite targets. Drug development based on such compounds should proceed cautiously in light of possible resistance though selection of PSAC mutants.

Synergy of Human Immunodeficiency Virus Protease Inhibitors with Chloroquine against Plasmodium falciparum in vitro and Plasmodium chabaudi in vivo

Zhengxiang He, Li Qin, Lili Chen, Nanzheng Peng, Jianlan You, and Xiaoping Chen

Antimicrob. Agents Chemother. published ahead of print on 28 April 2008

The synergy of the activities between chloroquine and various human immunodeficiency virus protease inhibitors was investigated in chloroquine-resistant and -sensitive malaria parasites. In both in vitro and in vivo assay systems, ritonavir was found to be the most potent in potentiating antimalarial action of chloroquine.

HIV-1 protease inhibitors and clinical isolates of Plasmodium: Greater activity against P. vivax than P. falciparum

U Lek-Uthai et al.

Antimicrob. Agents Chemother. published ahead of print on 28 April 2008

PI-containing antiretroviral regimens may demonstrate prophylactic activity against both vivax and falciparum malaria in HIV-infected patients resident in areas where multi-drug resistant *P. vivax* or *P. falciparum* is found.

Pharmacokinetic Determinants of the Window of Selection for Antimalarial Drug Resistance

K. Stepniewska and N. J. White

Antimicrob. Agents Chemother. 2008;52 1589-1596

We have examined the factors which determine the duration of this window and, thus, the resistance selection pressure.

The Antimicrobial Peptide NK-2, the Core Region of Mammalian NK-Lysin, Kills Intraerythrocytic Plasmodium falciparum

Christoph Gelhaus, Thomas Jacobs, Jorg Andra, and Matthias Leippe

Antimicrob. Agents Chemother. 2008;52 1713-1720

The apparent affinity for foreign membranes that resulted in the death of a eukaryotic parasite residing in human host cells makes NK-2 a promising template for novel anti-infectives.

Effects of Plasmodium falciparum Parasite Population Size and Patient Age on Early and Late Parasitological Outcomes of Antimalarial Treatment in Children

Steffen Borrmann, Pierre-Blaise Matsiegui, Michel Anoumou Missinou, and Peter G. Kremsner

Antimicrob. Agents Chemother. 2008;52 1799-1805

In conclusion, these findings highlight the need to use adequate selection criteria and to report parasitological outcome results adjusted for the readily available determinants of chemotherapeutic failure, i.e., patient age and baseline parasitemia. The thresholds may vary by transmission intensity and drug regimen. A better understanding of the limitations of antimalarial regimens in high-risk subgroups of patients has important implications for setting policy recommendations.

Differential Effects of Quinoline Antimalarials on Endocytosis in Plasmodium falciparum

Lindi Roberts, Timothy J. Egan, Keith A. Joiner, and Heinrich C. Hoppe

Antimicrob. Agents Chemother. 2008;52 1840-1842

The effects of quinoline antimalarials on endocytosis by *Plasmodium falciparum* was investigated by measuring parasite hemoglobin levels, peroxidase uptake, and transport vesicle content. Mefloquine, quinine, and halofantrine inhibited endocytosis, and chloroquine inhibited vesicle trafficking, while amodiaquine shared both effects. Protease inhibitors moderated hemoglobin perturbations, suggesting a common role for heme binding.

Naturally occurring anti-band 3 antibodies and red blood cell removal under physiological and pathological conditions

Antonella Pantaleo, Giuliana Giribaldi, Franca Mannu, Paolo Arese, Franco Turrini

Autoimmunity Reviews, Article in Press, Uncorrected Proof

Naturally occurring antibodies (NAb) directed to band 3 protein (major erythrocyte membrane protein) are involved in the clearance of red blood cell (RBC) at the end of their lifespan as well as in the removal of RBC in different hereditary haemolytic disorders and in malaria.

Plasmodium falciparum dolichol phosphate mannose synthase represents a novel clade

Hosam Shams-Eldin, Cristiana Santos de Macedo, Sebastian Niehus, Caroline Dorn, Jürgen Kimmel, Nahid Azzouz, Ralph T. Schwarz

Biochemical and Biophysical Research Communications, Volume 370, Issue 3, 6 June 2008, Pages 388-393

Here we show that the cloned Pfdpm1 gene failed to complement a *Saccharomyces cerevisiae* mutant indicating that the parasite gene does not belong to the baker's yeast group, as was previously assumed.

PlasmoGF: an integrated system for comparative genomics and phylogenetic analysis of Plasmodium gene families

Xiang Xu, Jinyu Wu, Jian Xiao, Yi Tan, Qiyu Bao, Fangqing Zhao, and Xiaokun Li
Bioinformatics 2008 24(9):1217-1220

In the current version, PlasmoGF contained 8980 sets of gene families derived from six malaria parasite genomes: *Plasmodium falciparum*, *P. berghei*, *P. knowlesi*, *P. chabaudi*, *P. vivax* and *P. yoelii*. The availability of such a highly integrated system would be of great interest for the community of researchers working on malaria parasite phylogenomics.

Molecular diagnosis of malaria in the field: development of a novel 1-step nucleic acid lateral flow immunoassay for the detection of all 4 human Plasmodium spp. and its evaluation in Mbita, Kenya

Petra F. Mens, Aart van Amerongen, Patrick Sawa, Piet A. Kager and Henk D.F.H. Schallig
Diagnostic Microbiology and Infectious Disease, In Press, Corrected Proof

In conclusion, NALFIA is more sensitive than microscopy and a good alternative to detect PCR products while circumventing using electricity or expensive equipment, making NALFIA the 1st step toward molecular field diagnosis.

Severe malaria and host response: time for a paradigm shift in therapeutic strategies to improve clinical outcome+

Constance A.M. Finney, W. Conrad Liles, Kevin C. Kain

Drug Discovery Today: Disease Mechanisms, Article in Press, Corrected Proof

We propose that malaria pathology can be classified along a clinical spectrum, culminating in two poles of the disease defined, largely, by the host response. As such, integrated approaches, using more than one model, are required to fully understand the complex parasite-host interactions which characterise this disease.

Functional characterization of a redundant Plasmodium TRAP-family invasin, TRAP-like protein (TLP), by aldolase binding and a genetic complementation test

Kirsten Heiss, Hui Nie, Sumit Kumar, Thomas M. Daly, Lawrence W. Bergman, and Kai Matuschewski

Eukaryotic Cell published ahead of print on 25 April 2008

This is the first genetic analysis of TLP, a redundant TRAP-family invasin, in the malaria parasite.

Microtubules as antiparasitic drug targets

BJ Fennell, JA Naughton, J Barlow, G Brennan, I Fairweather, E Hoey, N McFerran, A Trudgett, A Bell

Expert Opinion on Drug Discovery, May 2008, Vol. 3, No. 5, Pages 501-518

The most promising immediate avenues for discovery and design appear to lie in development of novel benzimidazoles for helminth parasites and compounds based on antimitotic herbicides for protozoal parasites. New understanding from functional genomics, structural biology and microtubular imaging will help accelerate the development of completely novel antiparasitic drugs targeting microtubules.

Reimbursement of malaria chemoprophylaxis for travellers from Europe to Sub-Saharan Africa: Cost-effectiveness analysis from the perspective of the French health insurance system

Thierry Pistone, Michaël Schwarzinger, Pierre Chauvin, Khaled Ezzedine, Marie-Catherine Receveur, Félix Djossou, Mahinda Siriwardana, Bernard Larouzé, Denis Malvy

Health Policy, Article in Press, Corrected Proof

Results generated by this model, which can be adapted for other European countries, should be an incentive for the FHS to favourably consider MC 65% for travellers from France visiting SSA.

Diversity of the sarco/endoplasmic reticulum Ca²⁺-ATPase orthologue of Plasmodium falciparum (PfATP6)

Sabina Dahlström, Maria Isabel Veiga, Pedro Ferreira, Andreas Mårtensson, Akira Kaneko, Björn Andersson, Anders Björkman, José Pedro Gil

Infection, Genetics and Evolution, Volume 8, Issue 3, May 2008, Pages 340-345

In conclusion our findings show that PfATP6 is a more diverse gene than previously demonstrated. This natural variation may constitute a starting ground for artemisinin-driven progressive selection of resistant parasites.

Persistent Organochlorine Pesticides and Risk of Testicular Germ Cell Tumors

Katherine A. McGlynn, Sabah M. Quraishi, Barry I. Graubard, Jean-Philippe Weber, Mark V. Rubertone, Ralph L. Erickson

Journal of the National Cancer Institute Advance Access published online on April 29, 2008

Previous work had suggested that exposure to organochlorine pesticides was associated with increased risk of testicular germ cell tumors (TGCTs). The pesticide dichlorodiphenyldichloroethylene was statistically significantly associated with the risk of TGCTs, and the data suggested that chlordane isomers may be associated with the risk of seminoma.

Responding to the challenge to end malaria deaths in Africa

Raymond G Chambers, Rajat K Gupta, Tedros Adhanom Ghebreyesus

The Lancet, Volume 371, Issue 9622, 26 April 2008-2 May 2008, Pages 1399-1401

No abstract available

Drug subsidy could help Tanzania tackle malaria

Udani Samarasekera

The Lancet, Volume 371, Issue 9622, 26 April 2008-2 May 2008, Pages 1403-1406

No abstract available

A history of malaria

Bill Bynum

The Lancet, Volume 371, Issue 9622, 26 April 2008-2 May 2008, Pages 1407-1408

No abstract available

Fred Binka: fighting malaria in Africa

Priya Shetty

The Lancet, Volume 371, Issue 9622, 26 April 2008-2 May 2008, Page 1409

No abstract available

Assessing the application of Rwanda's national protocol for uncomplicated malaria treatment in healthcare institutions in Kigali city, Rwanda

M. Nzayirambaho, R.J. Freund, P. Millet, P. Lombrail, D. Malvy, G. Potel

Médecine et Maladies Infectieuses, Volume 38, Issue 3, March 2008, Pages 119-124

The authors recommend informing the care providers about the national protocol.

Findings also demonstrate the need to include care providers in any modifications of the national policy in terms of drug efficacy and potential adverse effects of the new strategy.

Spontaneous spleen rupture in the course of malaria

A. Abouzahir, R. Bouchama

Médecine et Maladies Infectieuses, Volume 38, Issue 3, March 2008, Pages 153-155
Conservative management permits to preserve the role of the spleen in immune response especially of the child and of people who regularly travel to endemic zone.

Enhanced Efficacy of Amodiaquine and Chlorpheniramine Combination over Amodiaquine Alone in the Treatment of Acute Uncomplicated Plasmodium falciparum Malaria in Children

C.O. Falade, S.O. Michael, A.M.J. Oduola

Med Princ Pract 2008;17:197-201

The combination of AMQ plus CP proved significantly more effective than AMQ alone in the treatment of acute uncomplicated falciparum malaria, most probably due to the enhancement of the antimalarial effect of AMQ by CP. The combination of AMQCP could be a better alternative to AMQ alone as a companion drug in artemisinin-based combination therapies.

Mannose-binding lectin variant associated with severe malaria in young African children

Ville Holmberg, Friederike Schuster, Ekkehart Dietz, J. Chantale Sagarriga Visconti, Sylvester D. Anemana, Ulrich Bienzle, Frank P. Mockenhaupt

Microbes and Infection, Volume 10, Issue 4, April 2008, Pages 342-348

Our results suggest that the MBL pathway of the complement system is a critical determinant of both, susceptibility to *P. falciparum* infection and manifestation of severe malaria, particularly in young children in whom specific immune responses are weak or absent.

Rosetting is associated with increased Plasmodium falciparum in vivo multiplication rate in the Saimiri sciureus monkey

Cécile Le Scanf, Inès Vigan-Womas, Hugues Contamin, Micheline Guillotte, Emmanuel Bischoff, Odile Mercereau-Puijalon

Microbes and Infection, Volume 10, Issue 4, April 2008, Pages 447-451

This indicates that rosetting is indeed associated with high parasite multiplication efficiency in vivo and, as such, may contribute to the high parasite densities observed in severe malaria.

Molecular cloning, expression, characterization and mutation of Plasmodium falciparum guanylate kinase

Mahmoud Kandeel, Masayuki Nakanishi, Takayuki Ando, Kamal El-Shazly, Tarek Yosef, Yoshihito Ueno, Yukio Kitade

Molecular and Biochemical Parasitology, Volume 159, Issue 2, June 2008, Pages 130-133

These results show that *P. falciparum* guanylate kinase is structurally and biochemically distinct from other guanylate kinases and could be a possible target in drug development.

Disruption of the Plasmodium berghei 2-Cys peroxiredoxin TPx-1 gene hinders the sporozoite development in the vector mosquito

Kazuhiko Yano, Hitoshi Otsuki, Meiji Arai, Kanako Komaki-Yasuda, Takafumi Tsuboi, Motomi Torii, Shigeyuki Kano, Shin-Ichiro Kawazu

Molecular and Biochemical Parasitology, Volume 159, Issue 2, June 2008, Pages 142-145

TPx-1 may be involved in development during exponentially multiplying stages, such as sporozoites and EEF.

Differential gene expression in incipient species of Anopheles gambiae

Bryan J. Cassone, Karine Mouline, Matthew W. Hahn, Bradley J. White, Marco Pombi, Frederic Simard, Carlo Costantini and Nora J. Besansky

Molecular Ecology, Volume 17 Issue 10 Page 2491-2504, May 2008

Compared to samples from the other developmental periods, virgin females were characterized by more than twice as many differentially expressed genes, most notably those implicated in olfaction and potentially, mate recognition.

Altered cord blood $\gamma\delta$ T cell repertoire in Nigeria: Possible impacts of environmental factors on neonatal immunity

Cristiana Cairo, Nadia Propp, Giovanni Auricchio, Cheryl L. Armstrong, Alash'le Abimiku, Giorgio Mancino, Vittorio Colizzi, William Blattner, C. David Pauza

Molecular Immunology, In Press, Corrected Proof, Available online 28 April 2008

Plasmodium falciparum causes placental infection in low parity pregnant women and is among the pathogens that affect fetal immunity. Recognizing the relationship between malaria and $\gamma\delta$ T lymphocytes in adults, we asked whether neonatal $\gamma\delta$ T cells would be altered in malaria-endemic regions as a marker for changes in fetal immunity.

Plasmodium falciparum Sec24 marks transitional ER that exports a model cargo via a diacidic motif

Marcus C. S. Lee, Pedro A. Moura, Elizabeth A. Miller, David A. Fidock

Molecular Microbiology, OnlineEarly Articles

Our data suggest that the cargo-binding function of PfSec24a is conserved and that accumulation of cargo in discrete tER sites depends upon positive sorting signals. Furthermore, the number and position of tER sites with respect to the cis-Golgi suggests a co-ordinated biogenesis of these domains.

Brief Definitive Report: Processing of the circumsporozoite protein in infected hepatocytes is not dependent on aspartic proteases

S. E. Bongfen, S. Balam, R. Torgler, J. F. Romero & G. Corradin

Parasite Immunology, OnlineEarly Articles

In the present study, we show that in vitro processing of the *Plasmodium berghei* CSP by infected mouse primary hepatocytes is exclusively dependent on proteasomes, while aspartic proteases are also needed in the case of traversed hepatocytes.

Brief Definitive Report: Cellular immune responses to recombinant Plasmodium vivax tryptophan-rich antigen (PvTRAg) among individuals exposed to vivax malaria

M. T. Alam, H. Bora, P. Mitra, N. Singh & Y. D. Sharma

Parasite Immunology, OnlineEarly Articles

In conclusion, recombinant PvTRAg was found to elicit strong cellular immune response among the *P. vivax*-exposed individuals.

Predicting functional residues in Plasmodium falciparum plasmepsins by combining sequence and structural analysis with molecular dynamics simulations

Pedro A. Valiente, Paulo R. Batista, Amaury Pupo, Tirso Pons, Alfonso Valencia, Pedro G. Pascutti

Proteins: Structure, Function, and Bioinformatics, Early View

These results shed light on the role of V105 and T108 residues in plasmepsin specificities, and they should be useful in structure-based design of novel, selective inhibitors that may serve as antimalarial drugs.

Revising antimalarial drug policy in Central America: experience in Panama

Jose E. Calzada, Franklyn Samudio, Vicente Bayard, Nicanor Obaldia III, Itza B. de Mosca, Juan M. Pascale

Transactions of the Royal Society of Tropical Medicine and Hygiene, Article in Press, Corrected Proof

Our results illustrate the potential pathogenicity of the strain of *P. falciparum* circulating in the country and provide molecular evidence of parasite resistance to chloroquine and

antifolate drugs. The public health threats of these findings for the Central American region are discussed.

Update: Fight or learn to live with the consequences?

Michael Boots

Trends in Ecology & Evolution, Article in Press, Corrected Proof

A recent paper shows that there is variation between mouse strains in tolerance to a rodent malaria and that this was negatively correlated with resistance. This is important, because tolerance has major implications for the epidemiology and coevolution of host-parasite interactions, but has been neglected in the animal literature.

Addition of CpG ODN to recombinant Pseudomonas aeruginosa ExoProtein A conjugates of AMA1 and Pfs25 greatly increases the number of responders

Feng Qian et al.

Vaccine, Volume 26, Issue 20, 12 May 2008, Pages 2521-2527

The results obtained in this study indicate the potential use of a combination strategy to increase the number of responders to malarial antigens in humans.

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

Kent E. Kester et al.

Vaccine, Volume 26, Issue 18, 24 April 2008, Pages 2191-2202

A strong association of CSP-specific antibody with protection against malaria challenge is observed and confirms similar observations made in other studies. Subsequent trials of adjuvanted RTS,S in African children and infants on a 0, 1, and 2 month schedule have demonstrated a favorable safety and efficacy profile.

Events

Infectious diseases of the nervous system: Pathogenesis and worldwide impact

Date: September 10-13, 2008

Venue: Institut Pasteur, Paris,

This is the first meeting in which experts from all continents will cover how major neurotropic parasites, bacteria & viruses interact with the nervous system.

News

General

30 April 2008, Kaisernetwork.org

DDT Byproduct Might Increase Risk of Testicular Cancer, Study Says

Men who are exposed to lingering amounts of the pesticide DDT might have an increased risk of the most common form of testicular cancer, according to a study published online Monday in the Journal of the National Cancer Institute.

28 April 2008, Science Daily

Engineers Create New Technique For Malaria Diagnosis

Researchers from the Universities of Exeter and Coventry have developed the first new technique for diagnosing malaria able to challenge the rapid diagnostic tests (RDTs) currently used in the field.

28 April 2008, Kaisernetwork.org

Washington Post Examines Efforts To Eradicate Malaria

The Washington Post on Saturday examined how although efforts to fight malaria have "newfound support almost everywhere," it is not clear that such support will "lead one day to the last case" of the disease. Whether malaria eradication can actually be achieved is an "open question," and during this year's World Malaria Day, the "prospect hovered somewhere between useful fantasy and distant hope."

26 April 2008, The Wallstreet Journal

We Have the Tools to Combat Africa's Malaria Scourge

In "More Global Warming Nonsense" (op-ed, April 10), Paul Reiter and Roger Bate point out that "in some regions, it [malaria] persisted until the insecticide DDT wiped it out. It [malaria] is a disease of the poor...increasing at an alarming rate in parts of Africa, and elsewhere in the world."

26 April 2008, Washington Post

Eradicating Malaria Worldwide Seen as a Distant Goal, at Best

There's an effective drug - artemisinin --that wasn't around 30 years ago, and a consumer product - insecticide-treated bed nets - that together are saving tens of thousands of lives. But whether that will lead one day to the last case of malaria is an open question - and one that will take another generation to answer

25 April 2008, Kaisernetwork.org

U.N. Secretary-General Ban Announces Initiative To Provide Universal Access to Malaria Control Measures in Observance of World Malaria Day

United Nations Secretary-General Ban Ki-moon on Friday announced a new initiative to provide universal access to malaria control measures in Africa by 2010.

24 April 2008, Independent Online

Saving lives from malaria

It looks a bit like the coolers used to keep drinks fresh on a sunny day but the chill box being tested in sweltering Mozambique serves a higher purpose - saving lives from malaria.

Africa

1 May 2008, The Monitor

Uganda: Breakthrough Reported in Malaria Drug Trial

Canadian scientists working with Ugandans at Makerere University have reported that their novel drug candidates to treat malaria have demonstrated good safety in their first toxicity tests in animals.

30 April 2008, This Day

African Scientists Close to Malaria Vaccine

African research scientists are close to discovering ``a safe and effective malaria vaccine," according to a WHO consultant in Accra.

30 April 2008, Kaisernetwork.org

Defeating Malaria Can Help Overcome Poverty, U.N. Secretary-General Says in Opinion Piece

It is "unacceptable" that malaria has a "crippling effect on social health, welfare and development" in Africa because the disease is "preventable and treatable," Ban Ki-moon, the United Nations secretary-general, writes in a South China Morning Post opinion piece.

30 April 2008, Ghanaian Chronicle

Ghana: Total Ghana Ltd. Declares War On Malaria

Total Petroleum Ghana Limited, in collaboration with the World Health Organization (WHO), has launched a series of activities to create public awareness about malaria prevention.

30 April 2008, The Daily Observer

Gambia: AMMREN Top Brass Call on Sir Dawda

The top brass of the Africa Media Malaria Research Network (AMMREN) led by Pa Modou Faal on Monday called on Alhagie Sir Dawda Kairaba Jawara, former President of The Gambia, who is also AMMREN's national patron at his residence in Fajara.

29 April 2008, Accra Mail

Ghana: MMFPA Out to Fight Malaria

A group calling itself "Movement for Malaria Fight and Prevention Aid - Ghana (MMFPA)" has asked Ghanaians to help in the fight against malaria in the country.

29 April 2008, Cameroon Tribune

Cameroon: Professor Umberto D'Alessandro - 'ACT Combination Has No Resistance'

Q & A on malaria treatment: interview

29 April 2008, The East African Standard

Africa: Malaria Expedition Reaches Mombasa

A grand expedition across Africa by road to raise awareness in the fight against malaria has reached Mombasa.

29 April 2008, Ghanaian Chronicle

Ghana: Alarming Rate of Malaria Cases in Asutifi District

The Asutifi District of Brong-Ahafo region during the first quarter of this year recorded an alarming rate of malaria cases, from the Out Patient Department (OPD) of the health facilities.

29 April 2008, The Voice

Botswana: PSI Launches Treated Mosquito Nets

Population Services International (PSI) has launched insecticide treated mosquito nets in their effort to help government prevent the spread of Malaria.

29 April 2008, This Day

Nigeria: 300m People Suffer From Malaria - WHO

World Health Organisation (WHO) has said more than 300 million people worldwide are affected by malaria, while between one million and 1.5 million people die from the disease every year.

28 April 2008, IRIN News

DRC: Malaria still biggest killer

Exaucée Makembi, aged three, has been very weak for three days and sleeps in the arms of her mother, Tina Nzongola, who has taken her to a health centre on the outskirts of Kinshasa. She is suffering from malaria.

28 April 2008, The Post

Cameroon: Anti-Malaria Crusaders Distribute Treated Mosquito Nets

Many families vulnerable to malaria in the Northwest and Centre Provinces have received free insecticide-treated mosquito nets from government.

27 April 2008, This Day

Nigeria: Malaria - Death Rate Drops in Kaduna

From a high death rate of 300 per day, the death toll from malaria in Kaduna State has now reduced to 80 deaths daily, according to the state's Commissioner of Health, Dr. Yari Everton.

25 April 2008, Kaisernetwork.org

MSF Launches Program in Sierra Leone That Aims To Increase Access to Malaria Diagnostics, Drugs Among Rural Residents

Medecins Sans Frontieres has launched a program in Sierra Leone that aims to increase access to no-cost malaria diagnostics and drugs among pregnant women and children in rural areas of the country.

25 April 2008, Daily Nation

Pregnant? Malaria is your greatest enemy

When a community nurse in a Kisumu neighbourhood received a phone call from a friend asking her to attend to a very sick sister-in-law, little did she know what awaited.

25 April 2008, New Vision

Uganda: New Drug Artefan for Severe Malaria

The newly-introduced anti-malarial drug, Artefan 40/240, will be used to treat severe malaria while Coartem will continue to be used for simple cases.

25 April 2008, The East African Standard

Kenya: Country Can't Test Malaria Drugs

Kenya does not have the capacity to approve, register and review applications for new drugs.

24 April 2008, The Nation

Kenya: Refugee Camps Hit By Malaria

An outbreak of malaria, diarrhoea and dysentery has been reported in camps occupied by internal refugees in the North Rift and western Kenya.

24 April 2008, The Analyst

Liberia: Country Tops Malaria Rate in West Africa

An official of the National Malaria Control Program has disclosed that Liberia has the highest rate of malaria in West Africa. Malaria is a disease that is common amongst children and older people.

24 April 2008, This Day

Africa: Is Africa Ready for Malaria Vaccine?

A vaccine against malaria, something that a few years ago we could only dream about, could be a reality in the next five years.

24 April 2008, Vestergaard Frandsen

Zambia: Child Receives 135 millionth PermaNet(r) Bed Net

Vestergaard Frandsen, a world leader in the development of disease-control textiles, will observe the first-ever World Malaria Day with a series of events in Livingstone, Zambia on April 24 and 25, 2008.

Asia

01 May 2008, Kaisernetwork.org

Malaria Spreading From North Korea to South Korea, Researchers Say

Malaria is spreading from North Korea to South Korea, a research team based in Seoul, South Korea, said on Tuesday.

29 April 2008, IRIN News

Cambodia: Malaria on the decline due to concerted awareness efforts

"Please sleep under the insecticide-treated nets," runs the message on a large banner erected for Malaria Day on 25 April. In Cambodia, that message is sinking in.

28 April 2008, IRIN News

Indonesia: Renewed drive to eliminate malaria

Indonesia, where close to 100 million people live in areas susceptible to malaria, has embarked on a drive to eliminate the disease by 2030.

28 April 2008, IRIN News

Thailand: Winning malaria battle but challenges remain

Thailand is widely recognised as a leader in the global struggle against malaria, announcing in 2005 a 50 percent drop in morbidity and mortality rates from 1998 figures, five years ahead of schedule.

28 April 2008, Yemen Times

Climate changes lead to high proliferation of malaria in Yemen

Malaria is one of Yemen's most serious health problems, according to the World Health Organization, which estimates between 800,000 and 900,000 malaria cases in Yemen.

28 April 2008, Daily Times

Pakistan: MoU signed for control of malaria, STIs in Hangu

The NWFP Health Department and the International Rescue Committee (IRC) signed a Memorandum of Understanding (MoU) to control HIV/AIDS, Sexually Transmitted Infections (STIs) and Malaria in Hangu District by improving health services to the community, a press release said.

27 April 2008, IRIN News

Pakistan: Battling malaria in Sindh Province

Outbreaks of malaria are being reported in various parts of the southern province of Sindh, with local people blaming the authorities for failing to carry out preventive measures, including the spraying of insecticide to kill mosquitoes during the pre-spring breeding season.

26 April 2008, AFP

Alert on spreading malaria in SKo

Malaria is spreading rapidly from North Korea and beginning to take root in South Korea, a Seoul research team warned Tuesday.

25 April 2008, The Times of India

Deadliest form of malaria on the rise in India

Malaria caused by the deadly plasmodium falciparum parasite is becoming common in India.

25 April 2008, IRIN News

Afghanistan: Over half the population at risk of malaria - Health Ministry

Over half of Afghanistan's estimated 26.6 million population – and especially pregnant women and children – are vulnerable to malaria, according to Afghanistan's Ministry of Public Health (MoPH).

24 April 2008, Xinhua

Health ministry: Afghanistan sees sharp reduction in malaria cases

People in the post-Taliban Afghanistan have better access to malaria control services and the country has seen a sharp reduction in malaria cases during the past five years, the Afghan public health ministry said Thursday.

24 April 2008, Newindpress

Why malaria is so rampant in Keonjhar

If Keonjhar alone contributes five percent of malaria deaths occurring in the country, there is a reason behind it. The district is home to at least 20 species of malaria carriers, as a recent ICMR study has found out.

24 April 2008, MedIndia

Parasitic Sterilization May Control Malaria

Knocking out a reproduction-specific gene may help to control parasitic proliferation, says Japanese study.

24 April 2008, IRIN NEWS

Timor-Leste: Rebuilding infrastructure poses challenge to tackling malaria

Timor-Leste reported 46,832 cases of malaria - nearly one-twentieth of the population - in 2007 but health officials are optimistic that a nationwide spraying campaign and the extensive distribution of bed nets since then will have reduced numbers.

Oceania

25 April 2008, Sydney Morning Herald

Mosquito George fights to put malaria in the net

Rather than play bowls when he retired, George McLelland took up the fight against malaria, writes Kate Benson.

24 April 2008, The Australian

Research facility joins malaria drug race

A new research facility in Brisbane is seeking fresh malaria therapies with the added challenge of making them available for as little as \$1.

23 April 2008, Radio Australia

PNG villages to receive bed nets in Malaria fight

Volunteer group, Australian Doctors International, plans to distribute 10,000 bed nets to remote villages in PNG.

Americas

29 April 2008, The Times of India

Plastic RBC may help prevent malaria

An American scientist has created an artificial version of red blood cells that can deliver vital oxygen to body tissues, and take away unwanted carbon dioxide in the bloodstream in the same way as the original red blood cells do.

28 April 2008, Fort Smith Times Record

Humanitarian Effort To Halt Malaria Good

Even if malaria is not in Congressman John Boozman's backyard, so to speak, it's an issue of worldwide importance, and his interest and involvement in efforts to eradicate the disease are commendable.

28 April 2008, Kaisernetwork.org

PEPFAR Reauthorization Bill To Benefit Malaria Efforts, Experts Say

New funding and provisions included in a bill (HR 5501) to reauthorize the President's Emergency Plan for AIDS Relief would significantly benefit efforts to fight malaria worldwide, experts said last week at a forum in Washington, D.C.

24 April 2008, Medical News Today

Elusive Protein Protects Malaria Parasite From Heme

Researchers at the Virginia Bioinformatics Institute (VBI) at Virginia Tech have identified Heme Detoxification Protein (HDP), a unique protein encoded in the malaria genome that represents a potential target for developing new malaria drugs.

24 April 2008, Voice of America

Congress to Monitor Progress of Bush Africa Malaria Initiative

US first lady Laura Bush will meet with Members of Congress today to update them on the progress of the President's Malaria Initiative, a three year old Bush administration program aimed at reducing deaths in 15 African countries.

Europe

28 April 2008, West Sussex Today

Rustington student raises awareness of malaria

Georgian Garden's Natalie Cleverly, nine, entered a Malaria Awareness Campaign and National Geographic Kids magazine competition, to design a sticker warning of the dangers of the disease.

25 April 2008, StaffNurse.com

Malaria Warnings Still Not Heeded By Travellers

British travellers remain at a substantial risk of catching malaria when travelling to certain countries, experts warned today.

MalariaWorld - Knowledge for Solutions

K&S Consulting is an independent consultancy firm concerned with medical information provision, training activities, and infectious diseases consultations.

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