



MalariaWorld Nr. 131 (24 September 2007)

### --- Publications ---

#### **Identification of one capa and two pyrokinin receptors from the malaria mosquito *Anopheles gambiae*** (Subscription)

Stine S. Olsen, Giuseppe Cazzamali, Michael Williamson, Cornelis J.P. Grimmelikhuijzen and Frank Hauser

*Biochemical and Biophysical Research Communications*, Volume 362, Issue 2, 19 October 2007, Pages 245-251

This is the first report on the functional characterization and crosstalk properties of capa and pyrokinin receptors in mosquitoes.

#### **Synthesis of new 7-chloroquinolinyl thioureas and their biological investigation as potential antimalarial and anticancer agents** (Subscription)

Aman Mahajan, Susan Yeh, Margo Nell, Constance E.J. van Rensburg and Kelly Chibale  
*Bioorganic & Medicinal Chemistry Letters*, Volume 17, Issue 20, 15 October 2007, Pages 5683-5685

New 7-chloroquinolinyl thiourea derivatives derived from the corresponding 4,7-dichloroquinoline isothiocyanate were synthesized and evaluated for in vitro antimalarial and anticancer activity. The most active compound from the series displayed an inhibitory IC<sub>50</sub> value of 1.2 µM against the D10 strain of *Plasmodium falciparum*. Lack of cytotoxicity towards HeLa cells indicates selectivity towards parasites.

#### **The ABO blood group system and *Plasmodium falciparum* malaria** (Open access)

Christine M. Cserti and Walter H. Dzik

*Blood* 2007;110 2250-2258

Taken together, a broad range of available evidence suggests that the origin, distribution, and relative proportion of ABO blood groups in humans may have been directly influenced by selective genetic pressure from *P. falciparum* infection.

#### **Odor Coding in the Maxillary Palp of the Malaria Vector Mosquito *Anopheles gambiae*** (Subscription)

Tan Lu, Yu Tong Qiu, Guirong Wang, Jae Young Kwon, Michael Rutzler, Hyung-Wook Kwon, R. Jason Pitts, Joop J.A. van Loon, Willem Takken, John R. Carlson, *et al.*

*Current Biology*, Volume 17, Issue 18, 18 September 2007, Pages 1533-1544

Our results describe a complete and highly concordant map of both the molecular and cellular olfactory components on the maxillary palp of the adult female *An. gambiae* mosquito. These results also facilitate the understanding of how *An. gambiae* mosquitoes sense olfactory cues that might be exploited to compromise their ability to transmit malaria.

#### **Six Genes Are Preferentially Transcribed by the Circulating and Sequestered Forms of *Plasmodium falciparum* Parasites That Infect Pregnant Women**

(Subscription)

Susan E. Francis, Vladislav A. Malkov, Andrew V. Oleinikov, Eddie Rosnagle, Jason P. Wendler, Theonest K. Mutabingwa, Michal Fried, and Patrick E. Duffy

*Infect. Immun.* 2007;75 4838-4850

These findings suggest that a suite of genes may be important for the genesis of the placental binding phenotype of *P. falciparum* and may provide novel targets for therapeutic intervention.

**Letter: Neurological Involvement in Acute Falciparum Malaria in Kenyan Children** (Subscription)

Gabriele Rossi

*JAMA* 2007;298 1274

To the Editor: In their study of the burden, risk factors, and magnitude of neurological involvement in acute falciparum malaria in Kenyan children, Dr Idro and colleagues<sup>1</sup> did not consider the use of salicylates in their patient histories.

**Letter: Neurological Involvement in Acute Falciparum Malaria in Kenyan Children Reply** (Subscription)

Richard Idro; Jane Crawley; Kevin Marsh; Charles R. J. C. Newton; Brian G. R. Neville

*JAMA* 2007;298 1274

In Reply: Based on studies we have conducted in Kenya, we believe that in most instances salicylate ingestion is unlikely to have contributed significantly to the pathophysiology of children presenting with malaria coma and acidosis.

**Letter: Malaria Chemoprophylaxis for Coalition Troops in Afghanistan** (Subscription)

Martin Tepper; Steve Schofield; James Anderson

*JAMA* 2007;298 1275

To the Editor: As members of the public health authority that issues recommendations for malaria chemoprophylaxis for the Canadian Forces members, we were interested in the Research Letter by Dr Croft and colleagues<sup>1</sup> regarding the differences in the approach to malaria prevention among armed forces deployed to Afghanistan. However, the data reported for Canada are inaccurate in that, after a reassessment of risk, the Canadian Forces discontinued the use of malaria chemoprophylaxis for members in Kabul in April 2005 and at Kandahar Air Field (from where the Canadian Forces primarily operates) in May 2006. Malaria chemoprophylaxis is still recommended outside these locations during the malaria season. Although mefloquine may be the drug most often selected, Canadian Forces members have the option of using either mefloquine weekly or doxycycline daily, with atovaquone/proguanil preferred when protection of short duration is needed.

**Letter: Malaria Chemoprophylaxis for Coalition Troops in Afghanistan Reply** (Subscription)

Ashley M. Croft; Alicia H. Darbyshire; Christopher J. Jackson; Pieter P. van Thiel

*JAMA* 2007;298 1275-1276

In Reply: Dr Tepper and colleagues point out that Canadian troops serving in Afghanistan are now offered alternatives to mefloquine for their malaria chemoprophylaxis in theater. Mefloquine has been associated with serious psychiatric events during travel abroad.<sup>1</sup> A recent survey of case reports found that mefloquine has also been associated with 19 deaths in users, including 3 suicides.<sup>2</sup> It is therefore reasonable to avoid prescribing a drug with potential serious risks (mefloquine) as first-line prophylaxis against an infection (*P. vivax* malaria) that has low regional endemicity, seasonal transmission, and low lethality.

**Antimalarial pharmacodynamics and pharmacokinetics of a third-generation antifolate—JPC2056—in cynomolgus monkeys using an in vivo–in vitro model**

(Subscription)

Michael D. Edstein, Barbara M. Kotecka, Arba L. Ager, Kirsten S. Smith, Charles A. DiTusa, Damaris S. Diaz, Dennis E. Kyle, Guy A. Schiehser, David P. Jacobus, Karl H. Rieckmann, and Michael T. O'Neil

*J. Antimicrob. Chemother.*, October 2007; 60: 811 - 818

The high potency of JPC2056 against *P. falciparum* DHFR-TS quadruple-mutant lines provides optimism for the future development of JPC2056 for the treatment of malaria infections.

**Can Weekly Home Visits and Treatment by Non-Medical Personnel Reduce Malaria-Related Mortality Among Children Under Age 5 Years?** (Subscription)

Yazoume Ye, Moshe Hoshen, Catherine Kyobutungi, and Rainer Sauerborn

*J Trop Pediatr* 2007 53:292-293

No abstract available

**Malaria returns to Kenya's highlands as temperatures rise** (Subscription)

Zoe Alsop

*The Lancet*, Volume 370, Issue 9591, 15 September 2007-21 September 2007, Pages 925-926

No abstract available

**Interdependence of domestic malaria prevention measures and mosquito-human interactions in urban Dar es Salaam, Tanzania** (Open access)

Yvonne Geissbuhler, Prosper Chaki, Basiliana Emidi, Nicodemus J Govella, Rudolf Shirima, Valeliana Mayagaya, Deo Mtasiwa, Hassan Mshinda, Ulrike Fillinger, Steven W Lindsay, Khadija Kannady, Marcia Caldas de Castro, Marcel Tanner, Gerry F Killeen

*Malaria Journal* 2007, 6:126 (19 September 2007)

In a situation of changing mosquito and human behaviour, ITNs may confer lower levels of personal protection which need to be supplemented by measures of environmental management in the community, including mosquito-proofing of houses and larviciding.

**Ensuring sustained ACT production and reliable artemisinin supply** (Open access)

Jean-Marie Kindermans, Jacques Pilloy, Piero Olliaro, Melba Gomes

*Malaria Journal* 2007, 6:125 (15 September 2007)

This paper reviews recent trends in the production, supply and price of the active ingredients as well as finished ACT products. A steady and predictable demand for the crop can eliminate wide fluctuations and indirectly contribute to price stability of the herb and, hence, the drug.

**Comparison of three molecular methods for the detection and speciation of Plasmodium vivax and Plasmodium falciparum** (Open access)

Prapaporn Boonma, Peter R Christensen, Rossarin Suwanarusk, Ric N Price, Bruce Russell, Usa Lek-Uthai

*Malaria Journal* 2007, 6:124 (15 September 2007)

The comparison between different methods was performed using field samples collected from three sites in Thailand. The main conclusion was that the gold standard for parasite detection and identification should be based on a consensus from two or more molecular methods.

**Immunogenicity in rhesus of the Plasmodium vivax mosquito stage antigen Pvs25H with Alhydrogel and Montanide ISA 720** (Subscription)

A. Saul, M. Hensmann, J. Sattabongkot, W. E. Collins, J. W. Barnwell, J. A. M. Langermans, Y. Wu, C. A. Long, F. Dubovsky & A. W. Thomas

*Parasite Immunology*, Volume 29 Issue 10 Page 525-533, October 2007

Antibody titres and transmission blocking were higher with Montanide ISA 720 than with Alhydrogel in the first trial and with the 15 µg Pvs25H/0.5 mL ISA 720 combination in the second trial.

**Erythrocyte invasion: Vocabulary and grammar of the Plasmodium rhoptry**

(Subscription)

Osamu Kaneko

*Parasitology International*, Volume 56, Issue 4, December 2007, Pages 255-262

In this article I review the largely unexplored paradigm of the malaria merozoite rhoptry, focusing on the high molecular weight rhoptry protein complex (the RhopH complex), and speculate on its grammar during invasion.

**Comparison of Quantitative Buffy Coat technique (QBC) with Giemsa-stained thick film (GTF) for diagnosis of malaria** (Subscription)

G.O. Adeoye and I.C. Nga

*Parasitology International*, Volume 56, Issue 4, December 2007, Pages 308-312

In spite of the speed and simplicity of QBC technique, it cannot be considered an acceptable alternative to GTF under routine clinical laboratory situation. However, its speed and ease of use make it an important new tool for the diagnosis of malaria.

**Cytogenetic and molecular evidence for two species in the Anopheles barbirostris complex (Diptera: Culicidae) in Thailand** (Subscription)

Atiporn Saeung, Yasushi Otsuka, Visut Baimai, Pradya Somboon, Benjawan Pitasawat, Benjawan Tuetun, Anuluck Junkum, Hiroyuki Takaoka, Wej Choochote

*Parasitology Research*, Volume 101, Number 5 / October, 2007, pages 1337-1344

The large sequence divergence of ITS2 (0.203–0.268), COI (0.026–0.032), and COII (0.030–0.038) from genomic DNA of *A. campestris*-like Forms B and E and the *A. barbirostris* Forms A, B, and C clearly supported cytogenetic and morphological evidence.

**Disruption of Var2csa Gene Impairs Placental Malaria Associated Adhesion Phenotype** (Open access)

Nicola K. Viebig, Emily Levin, Sébastien Dechavanne, Stephen J. Rogerson, Jürg Gysin, Joseph D. Smith, Artur Scherf, Benoit Gamain

*PLoS ONE* 2(9): e910

Taken together, these results demonstrate that the placental malaria associated phenotype can not be restored in FCR3Δvar2csa mutant parasites and highlight the key role of var2CSA in pregnancy malaria pathogenesis and for vaccine development.

**High case-fatality from falciparum malaria in UK travellers returning from The Gambia: A case series** (Subscription)

Christopher J. Williams, Jane Jones and Peter Chiodini

*Travel Medicine and Infectious Disease*, Volume 5, Issue 5, September 2007, Pages 295-300

Compliance with chemoprophylaxis was poor and the case-fatality rate high (11.5% vs. 3.8% in 2000–2004). A clear message emphasising the importance of chemoprophylaxis, bite avoidance and prompt diagnosis was disseminated to clinicians, public and the travel industry.

**Plasmodium vivax-associated acute respiratory distress syndrome after extended travel in Afghanistan** (Subscription)

Jason D. Maguire, Michael E. Fenton, Augustina I. Susanti and Jeffrey B. Walker

*Travel Medicine and Infectious Disease*, Volume 5, Issue 5, September 2007, Pages 301-305

Although generally considered benign, this and other recent reports of vivax malaria-associated lung injury emphasize the need for persistent pursuit of the diagnosis in febrile travelers returning from vivax endemic locations as well as aggressive monitoring for and management of life-threatening complications.

**Mefloquine versus 3-day oral quinine–clindamycin in uncomplicated imported falciparum malaria** (Subscription)

Stéphane Ranque, Philippe Parola, Eric Adehossi, Philippe Brouqui and Jean Delmont

*Travel Medicine and Infectious Disease*, Volume 5, Issue 5, September 2007, Pages 306-309

In this open randomized trial comparing 3-day oral quinine–clindamycin versus standard mefloquine regimen for uncomplicated imported falciparum malaria, mefloquine

treatment was associated with a higher risk of discontinuation of the treatment (RR=1.8, 95% CI [1.1–2.8]) related to mainly mild gastrointestinal adverse drug events. The poor tolerability of mefloquine sets a question mark against its use in outpatients.

### **A quantitative ultrastructural study of renal pathology in fatal *Plasmodium falciparum* malaria** (Subscription)

Sudarat Nguansangiam, Nicholas P. J. Day, Tran Tinh Hien, Nguyen Thi Hoang Mai, Urai Chaisri, Mario Riganti, Arjen M. Dondorp, Sue J. Lee, Nguyen Hoan Phu, Gareth D. H. Turner, Nicholas J. White, David J. P. Ferguson and Emsri Pongponratn  
*Tropical Medicine & International Health*, Volume 12 Issue 9 Page 1037-1050, September 2007

Malaria-associated renal failure is a common and serious complication of severe *Plasmodium falciparum* malaria in this population, associated with acute tubular injury rather than glomerulonephritis, and linked to localization of host monocytes in the kidney as well as sequestration of PRBCs.

### **Molecular analysis of chloroquine resistance in *Plasmodium falciparum* in Yunnan Province, China** (Subscription)

Zhaoqing Yang, Zaixin Zhang, Xiaodong Sun, Wenlin Wan, Long Cui, Xiang Zhang, Daibin Zhong, Guiyun Yan and Liwang Cui  
*Tropical Medicine & International Health*, Volume 12 Issue 9 Page 1051-1060, September 2007

Therefore, continuous surveillance of drug resistance in this area is necessary for timely adjustment of local drug policies and more effective malaria control.

### **Efficacy of pyrethroid-treated nets against malaria vectors and nuisance-biting mosquitoes in Tanzania in areas with long-term insecticide-treated net use** (Subscription)

Manisha A. Kulkarni, Robert Malima, Frank W. Masha, Shandala Msangi, Ezra Mrema, Bilali Kabula, Boniface Lawrence, Safari Kinung'hi, John Swilla, William Kisinza, Manfred E. Rau, Jane E. Miller, Joanna Armstrong Schellenberg, Caroline Maxwell, Mark Rowland, Stephen Magesa and Chris Drakeley  
*Tropical Medicine & International Health*, Volume 12 Issue 9 Page 1061-1073, September 2007

The sustained pyrethroid susceptibility of malaria vectors in Tanzania is encouraging for successful malaria control with ITNs. Continued monitoring is essential to ensure early resistance detection, particularly in areas with heavy agricultural or public health use of insecticides where resistance is likely to develop. Widespread low susceptibility of nuisance-biting *Culex* mosquitoes to ITNs raises concern for user acceptance of nets.

## **... News ...**

20 September 2007, Scidev.Net

### **Suriname has 'already hit' malaria MDG**

The country of Suriname in northern South America has already exceeded its 2015 Millennium Development Goal target for the reduction of malaria.

20 September 2007, Daily Champion

### **Nigeria: Country Set to Produce Drugs for Malaria**

Nigeria may become the first country in Sub-Saharan Africa to locally extract active ingredients from *Artemisia Annu*, for the production of Artemisinin-based anti-malaria drugs, including combination therapies (ACTs).

19 September 2007, news@nature.com

**Malaria research should go 'back to basics'** (Subscription)

Too many ineffectual vaccines threaten vital work

18 September 2007, SciDev.Net

**Antimalarials 'give children an edge' at school**

Preventative malaria treatment could improve schoolchildren's performance in endemic areas, a study suggests.

18 September 2007, East African

**East Africa: Should We Allow DDT?**

A falcon flies high above environmental ethicist Thabiso Morodi as he speaks about using DDT to combat malaria, which killed more than 900,000 Africans in 2006.

18 September 2007, New Times

**Rwanda: Jehovah's Witness Backs Spraying**

A Jehovah's Witnesses of God believer has said that the religion has not rejected the ongoing anti-malaria spraying campaign as recent field reports from the spraying teams said.

17 September 2007, The Times

**DNA battle to beat malaria**

A project to identify about 3,500 species of mosquito is under way in an effort to fight malaria, which kills more than one million people a year.

16 September 2007, Angola Press Agency

**Angola: Children, Pregnant Women Get Mosquito Nets**

Some 13,000 insecticide treated mosquito nets were distributed last August to children under five years old and pregnant women at Caála District, central Huambo Province, in the light of the governmental programme aimed at reducing the mortality caused by malaria.

16 September 2007, National History Museum

**DNA barcoding on track to revolutionise malaria control**

Scientists wishing to tackle the deadly disease malaria are using DNA barcoding to help.

K&S Consulting, an independent consultancy firm concerned with medical information provision and training activities, provides this free service.