USAID awards grant to MMV to accelerate new antimalarial research

MMV will receive US$8 million over four years under a new grant with the United States Agency for International Development (USAID) to accelerate the development of new drugs against malaria – from testing and manufacturing of candidate products to ensuring their accessibility and affordability in developing countries.

Due to the rapid increase in resistance to widely used drugs and insecticides, malaria is on the rise in many parts of sub-Saharan Africa, where it kills more children than any other disease.

“Only a limited number of alternative drugs are currently available,” said Dr E. Anne Peterson, Assistant Administrator for USAID’s Bureau of Global Health. “As drug resistance increases, the choice of affordable and effective antimalarial drugs that are available and accessible for the population in endemic countries has become much narrower.”

“Research into new and better drugs is an absolutely critical part of USAID’s malaria strategy.”

Dr E. Anne Peterson, Assistant Administrator for USAID’s Bureau of Global Health

USAID support forms the backbone of some of the most effective interventions against malaria, including antimalarial drugs. The US Government is also the largest contributor to the Global Fund to Fight AIDS, Tuberculosis and Malaria.

“USAID is sending a clear message that malaria is a complex global problem… increased investments in R&D are critical at this point because of the extraordinary promise already in the pipeline.”

Dr Chris Hentschel, Chief Executive Officer, Medicines for Malaria Venture (MMV)

MMV gratefully acknowledges the vital support of USAID which will allow MMV to advance its mission.

ExxonMobil pledges a further US$500,000 to MMV

In recognition of the progress of MMV’s antimalarial portfolio, the ExxonMobil Foundation has announced that it will continue to support MMV’s research and development of new antimalarial drugs with a further US$500,000 for 2004. This is a substantial increase from its original yearly grant of US$100,000. The new grant, made as part of ExxonMobil’s 2004 Africa Health Initiative, will help finance MMV’s overall objective of discovering and developing new antimalarials for people in disease-endemic countries.

ExxonMobil established the Africa Health Initiative in 2000 to fund and support activities related to the prevention, control and treatment of malaria in Africa. In 2004, the Initiative has awarded grants totaling more than US$5 million for 23 programmes in nine countries.

The ExxonMobil Foundation is one of MMV’s earliest donors. MMV is grateful for their continued and enthusiastic support of its mission. MMV hopes that ExxonMobil’s leadership as a corporate sponsor committed to the development of new life-saving antimalarial drugs will inspire others to join the fight against this deadly scourge.
Update on MMV's 4th Call for Letters of Interest

MMV’s 4th Call for Letters of Interest closed on 30 September 2004. A total of 81 letters of interest were received including 42 discovery, 15 development and 24 natural products proposals. The letters of interest are currently under review by MMV’s Expert Scientific Advisory Committee (ESAC), which met to make a short-list on 30 November. MMV will contact the team leaders of any short-listed projects to define the next steps. MMV extends its thanks to all researchers who submitted a letter of interest and who continue working to help fight the malaria battle by conducting research into new antimalarials.

Pyridone news: first drug candidate emerges from GSK-MMV joint portfolio

MMV signed an agreement with GlaxoSmithKline (GSK) to develop GW844520X, a member of the novel class of pyridone compounds that has shown promising antimalarial activities. Pyridones work by inhibiting the energy processes of the microorganism that causes malaria.

GW844520X is the first drug candidate to emerge from one of four projects in the GSK-MMV ‘mini portfolio’ research collaboration. This collaboration is investigating a number of new compounds that could be developed as potential antimalarials.

GW844520X is currently undergoing a detailed preclinical safety assessment. If successful, Phase I clinical trials where the safety, tolerability and pharmacokinetics in humans are studied could begin in early 2005.

“The GW844520X has the potential to become a major weapon against drug-resistant malaria,” stated Dr Chris Hentschel, Chief Executive Officer, Medicines for Malaria Venture (MMV). For more information on the GSK-MMV joint portfolio visit www.mmv.org under MMV Projects/Portfolio Building.

OZ277/RBx11160: bridging the antimalarial R&D innovation gap

“The great hope is to find a way of synthesizing artemisinin in the laboratory, freeing drug makers from the vagaries of nature.”

One of the most promising candidates in MMV’s antimalarial drug portfolio, OZ277/RBx11160, made world headlines following the publication of "Identification of an antimalarial synthetic trioxolane drug development candidate" by Jonathan Vennerstrom et al. in Nature in August 2004. The research results describing the development of a new class of synthetic drug were picked up by more than 200 news outlets around the world including the Financial Times, the New York Times and the BBC.

“A remarkable set of antimalarial drug candidates has been developed by an international collaboration of scientists, using the age-old Chinese herbal medicine artemisinin as a template.”

Dr Paul M. O’Neill, University of Liverpool, commenting on the research reported by Vennerstrom et al.

OZ277/RBx11160 is believed to have a similar mode of action to artemisinin, the natural product-based drug extracted from Artemisia annua. Artemisinins contain a structural feature known as an endoperoxide bridge that is the key to their antimalarial activity.

New Expert Scientific Advisory Committee (ESAC) Members

Four new members of ESAC took part in their first meeting in November 2004 to help select short-listed projects from the 4th Call for Letters of Interest. ESAC will meet again in January 2005 for a full review of all the projects in MMV’s portfolio.

MMV’s Chief Scientific Officer Dr J Carl Craft noted that with the addition of the four new members the Committee will have the expertise in clinical development to complement the discovery and basic science background of the current members.

Dr George Aynilian is a pharmacist with expertise in clinical research (Phase I-IV) and international regulatory affairs. He has 15 years of drug development experience in leadership roles, including strategic operations and project management in pharmaceutical and hospital product divisions.

Dr Zulfiqarali Gulamhussien Premji will bring to ESAC his more than 25 years of experience in teaching, research and clinical work. He also has an extensive background in laboratory work involving diagnosis and molecular biology techniques.

Dr John A. Salmon, a senior pharmaceutical research scientist with expertise in bioanalysis, drug metabolism and pharmacokinetics, has experience as a consultant in biopharmacy to the pharmaceutical industry. He is also a visiting lecturer at King’s College, London and at the University of Greenwich.

Dr Henrietta Ukwu will add her more than 10 years of senior pharmaceutical industry and regulatory experience to the Committee. She is currently Vice-President, Global Regulatory Policy for Merck & Co., Inc.

MMV extends a warm welcome to the new members, who like those already on the Committee, give their time on a voluntary basis to help MMV fine tune its cutting edge antimalarial portfolio, the largest in history.

1 "A feverish response," The Economist (print edition), 20 November 2004, p. 32
4 Ibid.
5 Ibid.
**Artemisinin: balancing supply and demand**

**Keeping the shelves full**

The global community must maintain and reinforce its commitment to provide adequate funding to insure that patients have access to artemisinin combination therapies (ACTs), currently the most effective treatment for malaria in many endemic areas.

Yet funding for ACTs is not the only issue: the World Health Organization (WHO) announced in early November 2004 that a sharp rise in demand has led to a shortage of artemisinin. Production of artemisinin relies on adequate supply of the natural product, *Artemisia annua* and requires taking into account harvest times, growing seasons and the high costs of extraction. The entire process can take upwards of nine months and metric tonnes of *Artemisia annua* will be needed to produce enough ACTs to meet demand. The WHO says the shortage is likely to persist until at least March 2005 (World Health Organization Media Release WHO/77, 8 November 2004).

**Anticipating future need**

A number of MMV’s projects currently in clinical development are based on artemisinin combination therapy (ACT). To keep updated on the ACT situation, MMV team members attended a meeting organized by the United Nations Children’s Fund Supply Division in Copenhagen on 16 November 2004. The meeting gave an overview of the future need for ACTs to treat *P. falciparum* malaria; provided information on the anticipated demand for ACTs in 2004-2006 and related funding issues; and sought to identify actual global capacity to produce enough of the raw material to supply drugs to patients in endemic countries.

**Médiplant: A Swiss contribution**

In October 2004, three members of MMV’s science team visited Médiplant, a center for research on medicinal and aromatic plants in Conthey in the Canton of Valais in Switzerland.

Médiplant, which has garnered coverage in the local media for its cultivation of *Artemisia annua*, has ten years of research experience working on *Artemisia* including localizing the artemisinin molecule, studying the dynamics of the artemisinin content of a given plant and the variability of the species and its genetics, selecting genotypes, creating hybrids and studying the density of planting and establishing crop calendars.

Médiplant has created a genetic pool of artemisinin that is of potential interest for the development of new varieties adapted to particular environmental conditions. A higher yielding plant, if adapted for cultivation in African countries, could hold a lot of promise. MMV left Médiplant with a wealth of information and a vial full of seeds. MMV’s newest science team member, Ian Bathurst has already started his own sample crop to get a firsthand look at this important plant.

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**New MMV team member**

Dr Ian Bathurst joined MMV’s science team in September 2004. Ian brings to MMV his extensive research and industry experience in New Zealand, United Kingdom, and the USA. At MMV, Ian identifies and investigates potential manufacturing partners. He is currently working with Dr Lise Riopel on the 8-aminoquinolines project and he has direct responsibility for the Novel tetracycline derivatives, FABI (Fatty Acid Biosynthesis i) and the PDF (Peptide Deformylase Inhibitor) projects. Ian can be reached at bathursti@mmv.org
MMV marks its 5th anniversary in New Delhi

MMV board members and management gathered in New Delhi on 7-8 November 2004 for MMV’s 11th Board Meeting to discuss current progress and future goals – and to mark the 5th anniversary of MMV’s founding. All board members were present for the meeting which took place at the Council of Scientific and Industrial Research (CSIR) Science Centre. While in Delhi, the MMV team took advantage of the opportunity to visit Ranbaxy Laboratories Ltd, MMV’s pharmaceutical partner for the development of OZ277/RBx11160.

“Under promise over deliver,” has been MMV’s aim since it was founded. MMV’s first annual report published in 2000 noted the context for this cautious stance: “It is unfortunately the case that any unbiased history of the many and varied battles man has fought against malaria will record several examples of unreached goals, and victories being claimed prematurely.” After five years of operation the MMV Board reviewed progress against a background of rising media interest in MMV and was assured that while positive publicity was obviously welcomed, MMV would not change this caution.

Launched by the World Health Organization (WHO), the International Federation of Pharmaceutical Manufacturers Associations (IFPMA) and other interested parties on 3 November 1999 and legally incorporated on the 15th of that month, MMV can now claim that it, together with its many partners both private and public, manages the largest portfolio of antimalarial R&D in history. This is of course not a goal in itself but many of the projects in MMV’s portfolio are now in the clinic and it is increasingly probable that the fruits of this substantial effort will begin to yield new drug registrations in the next few years.

MMV will hold its 5th Annual Stakeholders’ Meeting in May 2005 which will be an occasion to take stock, with its donors, of five years of progress and to plan for a transition to activities further down the value chain. If 2000-2005 was mainly focused on discovery research, 2005-2010 will focus more on development and delivery activities. ‘Health Impact’ as quickly as possible without compromising quality is now not just an aspiration but a goal that can be planned.

On 3 November 1999, Dr Gro Harlem Brundtland stated: “Everyone spoke of the ‘new world’ of public/private partnership that was opening up, and of the ‘good will, not just self interest, of all parties.” Dr Brundtland saw MMV as a direct attack on poverty and a contribution towards the major global initiatives underway to encourage equitable social and economic development.  


Curing Malaria Together