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## **New, non-radioactive screen for antimalarial compounds**

### ***Molecular Probes technology powers breakthrough in drug discovery***

Panama City, Panama, Feb. 16, 2004--Panama's International Cooperative Biodiversity Group (ICBG) announces the development of a new test for identification of antimalarial compounds with wide applicability in the developing world. The assay for plant-derived compounds also can be used to detect anti-plasmodial compounds from synthetic or natural sources. Initial results of the research are published in the American Journal of Tropical Medicine and Hygiene under the title "A Novel DNA-Based Microfluorometric Method to Evaluate Antimalarial Drug Activity".

The assay is based on fluorochrome binding to parasite double stranded DNA. Pico Green, a powerful fluorochrome developed by Invitrogen Corporation's Molecular Probes business enables detection of the malaria parasite in cell culture without the need for radioactive materials used in current methods. The new assay will be attractive in developing countries where access and disposal of radioactive tracers is prohibitively expensive as well as in the many developed-world labs that prefer non-radioactive reagents.

The new method will be attractive to researchers because it is relatively inexpensive, easy to implement in biodiverse developing countries and most importantly, safe according to Yolanda Corbett who developed the assay in Dr. Eduardo Ortega's lab: "A fluorescent DNA probe is safer and is a novel approach in the sense that red blood cells don't have DNA, so we could quantify the parasite in microtiter plates."

Malaria kills more than a million people each year in Africa alone and threatens nearly 40 percent of the world's population. The major impediment to malaria control is the cost and distribution of antimalarial drugs. Every year, antimalarial treatments become less effective as drug resistant strains of the malaria parasite develop, making the discovery of new antimalarials essential in this fight against the disease.

"The most important aspect of the work we do at Invitrogen is speeding and improving the research process itself," explained August Sick, General Manager of Molecular Probes.

"Rather than merely producing a tool to do the job, we look for ways to provide researchers solutions that help them make their work more cost effective, rapid and safe."

The Panama ICBG is one of several experimental efforts funded by the United States National Institutes of Health, the National Science Foundation and the Department of Agriculture to promote drug discovery and technology transfer between nations.

"A major goal of the Panama ICBG program is the transfer and development of technologies necessary to promote research into tropical parasitic diseases such as malaria, Chagas disease and leishmaniasis, especially in biodiversity rich countries where these diseases affect three billion people," said Dr. Todd Capson at the Smithsonian Tropical Research Institute. "The ability to screen fresh plant extracts in biodiverse regions will drastically reduce the price tag for drug discovery, result in a cadre of trained professionals and buttress local and international conservation efforts in developing countries where investment in research is still viewed as a risky proposition." Capson explained that Panama is an ideal setting for this research as a biologically diverse, developing country with a talented pool of researchers and where malaria strains resistant to conventional treatments pose a growing threat.

In addition to the research being done in Panama, researchers in Bolivia, Italy and Madagascar have adopted the new technique. Michel Ratsimbason, researcher from Madagascar's National Pharmaceutical Research Center (CNARP), visited Panama in a South-South technology transfer program between ICBG Madagascar and ICBG Panama: "We trained in the use of the ds-DNA fluorescence technique. The technique allows us to screen new substances to fight malaria which affects and kills so many

people in Madagascar and Africa, where parasite resistance to chlorquine is gaining ground."

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For more information about the ICBG, please visit

<http://www.fic.nih.gov/programs/icbg.html>

#### **About ICBG**

The International Cooperative Biodiversity Groups (ICBG) Program is a unique effort that addresses the interdependent issues of drug discovery, biodiversity conservation, and sustainable economic growth. Funding for this program has been provided by six components of the National Institutes of Health (NIH), the Biological Sciences Directorate of the National Science Foundation (NSF) and the Foreign Agriculture Service of the USDA. The cooperating NIH components are the Fogarty International Center (FIC), National Cancer Institute (NCI), National Institute of Allergy and Infectious Diseases (NIAID), National Institute of Mental Health (NIMH), National Institute on Drug Abuse (NIDA) and the National Heart, Lung, and Blood Institute (NHLBI).

#### **About Invitrogen**

Invitrogen Corporation (Nasdaq:IVGN) provides products and services that support academic and government research institutions and pharmaceutical and biotech companies worldwide in their efforts to improve the human condition. The company provides essential life science technologies for disease research, drug discovery, and commercial bio-production. Invitrogen's own research and development efforts are focused on breakthrough innovation in all major areas of biological discovery including functional genomics, proteomics, bio-informatics and cell biology -- placing Invitrogen's products in nearly every major laboratory in the world. Founded in 1987, Invitrogen is headquartered in Carlsbad, California and conducts business in more than 70 countries around the world. The company globally employs approximately 3,000 scientists and other professionals. For more information about Invitrogen visit the company's web site at [www.invitrogen.com](http://www.invitrogen.com)

#### **About STRI**

The Smithsonian Tropical Research Institute is an international research center established in Panama by the Smithsonian Institution to increase knowledge of the past, present and future of tropical biodiversity and its importance to humanity. For more than 90 years, researchers, students and associates have conducted research in forest and marine habitats in Panama and at other sites throughout tropical regions of the world.

<http://www.stri.org>