

FIND and Eiken Chemical Co., Ltd. announce agreement on further joint efforts, including financial support for LAMP-based TB diagnostics and expansion of their collaboration into HIV, malaria and sleeping sickness

Geneva, Switzerland and Tokyo, Japan – FIND, the Foundation for Innovative New Diagnostics, a Geneva-based non-profit organization funded by the Bill & Melinda Gates Foundation, and Eiken Chemical Co., Ltd., a Japan-based manufacturer of clinical diagnostics, today announced an agreement on financial support by FIND for development of tuberculosis diagnostics and a major expansion in their collaboration to develop rapid and simple tests for use in decentralized settings. FIND and Eiken have been cooperating to jointly develop LAMP-based tuberculosis diagnostics and now FIND is committing its financial support for further completion of that work. In addition to their ongoing co-development of a rapid test for detection of Tuberculosis, FIND and Eiken have extended their collaboration to further the development of novel tests to detect malaria and human African trypanosomiasis (HAT), or sleeping sickness. Furthermore, FIND and Eiken will work on development of a test for HIV virus detection for diagnosis of young children to be used in decentralized settings.

Malaria:

The goal of the joint test development for malaria, which is based on the Loop-mediated Isothermal Amplification (LAMP) method developed at Eiken, is to detect parasite DNA directly from whole blood samples in less than an hour with minimal instrumentation. “Today, parasite-based detection of malaria is carried using microscopy or rapid antigen detection test strips. These approaches may not be sensitive or reliable enough for case-management of severe and complex disease.”, stated Dr. Mark Perkins, Chief Scientific Officer at FIND. “A LAMP-based rapid diagnostic which is sensitive, specific and can differentiate *P. falciparum* from other species could be a valuable aid both to clinical care and to surveillance.”

“The FIND-Eiken collaboration was founded on the joint vision of introducing tests for use in high disease burden settings that are affordable and useable even in remote locations where there is an urgent need for a fast, easy and cost-effective way to diagnose disease,” said Dr. Giorgio Roscigno, FIND CEO. “Malaria is one of the greatest global threats to public health, causing over 300 million cases of acute illness worldwide, and resulting in over a million deaths each year, 80-90 percent of these in sub-Saharan Africa. Billions of dollars are lost each year in low productivity due to malaria. In countries with a heavy malaria burden, the disease may account for as much as 40% of public health expenditure, and up to half of outpatient visits and inpatient admissions. Moreover, the rapid rise of drug-resistant malaria and the introduction of more expensive artemisinin-based combination therapies increase the urgency for accurate case detection.”

HAT:

“There are no commercially available tests today that give a definitive diagnosis of HAT infection and clinical signs are not specific enough to guide treatment”, stated Dr. Mark Perkins. “The parasitologic tests in use for diagnosis of HAT have low sensitivity, and current serologic tests have inadequate specificity. Detection of trypanosomal DNA sequences from a patient’s blood, urine or saliva could be a significant improvement on parasitological examination.”

“Sleeping sickness is one of the major neglected infectious diseases today and is a major public health challenge in many parts of rural Africa. Unfortunately, it has received very little attention, both locally and internationally”, said Dr. Joseph Ndung’u, Head of FIND’s HAT Diagnostics programme. “More than 60 million people in Africa are at risk of being infected. The disease mainly occurs in the rural impoverished areas, affecting poor communities that cannot afford any diagnostic test. A rapid affordable diagnostic would greatly simplify patient care in these settings.”

HIV:

“Due to the presence of maternal antibodies in newborn children’s blood, the recommended method for diagnosis of an HIV infection in a young child (<12 months old) is to detect viral nucleic acid directly from a blood specimen. A single positive virological test triggers clinical management. However, all the current commercially available viral detection assays are based in central laboratories distant from health clinics and are not readily accessible. A rapid easy-to-use test for HIV nucleic acid for use in the clinic would have great potential to increase early diagnosis and appropriate selection for antiviral therapy and other appropriate care. Eiken has already demonstrated proof-of-principal for a LAMP-based HIV assay, and both Eiken and FIND shall now work together on a development plan to bring this assay through feasibility trials”, said Giorgio Roscigno.

Senior Vice President and Executive Officer of Eiken, Junji Morikawa, says “We believe that the combination of the LAMP method with a speedy and simple pre-treatment method for nucleic acid extraction can revolutionize molecular testing. Based on the LAMP technological platform, we will work toward the improvement of diagnostic tests for infectious diseases such as Malaria, HAT and HIV, important targets in our development of better tests.”

About FIND

The Foundation for Innovative New Diagnostics was launched at the World Health Assembly in May 2003 as a non-profit Swiss foundation based in Geneva. Its purpose is to support and promote the health of people in developing countries by sponsoring the development and introduction of new but affordable diagnostic products for infectious diseases.

About Eiken

Eiken Chemical Co., Ltd., has over 60 years of experience in medical diagnostics, and was the first Japanese company to successfully commercialize the manufacture of powdered culture media for microbiological investigations. The company has established itself as a leader in the clinical diagnostics market, and has a strong commitment to research and development toward products and technologies that fill needs at the cutting edge of contemporary medicine. The LAMP technology, developed at Eiken in 1998, is now a core technology being exploited to develop a range of products.

Related documents

- [Description of LAMP technology](#)
- Article from the Seattle Post-Intelligencer: [Swiss, Japanese scientists unite to tackle TB](#)
Non-profit, biomed firm to work on fast, cheap diagnostic test

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