

Analysis of anti-*P. knowlesi* antibodies for a survey of the malaria distribution

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Blood film examination and more sensitive PCR detecting parasite DNA are commonly used for malaria diagnosis. They show the present malaria infection. On the other hands, detection of antibodies to malaria is a useful indicator not only for the present but for near past experience of the infection. We developed ELISA systems, which uses urine as samples instead of serum, for diagnosis of parasitic disease such as schistosomiasis, lymphatic filariasis and visceral leishmaniasis. As urine samples are collected easily and safely with good compliance of residents, the ELISA systems are useful for epidemiological surveys of the diseases. We applied the urine ELISA system for a survey of malaria in Laos. Among the PCR positives, 99% were positive with the urine ELISA and 99% of urine samples from non-endemic area were negative.

Human cases of *P. knowlesi*, a monkey malaria, infection has been reported in some Asian countries. Detection of the malaria parasite with blood film examination or PCR gives the evidence of its infection. Antibodies against *P. knowlesi* antigens, however, show not only the present but past infections and accordingly expected to be more sensitive than the other examination which detects the parasite itself. Results of a survey of the antibodies to *P. knowlesi* in urine collected in Xepon, Laos will be presented.