ABSTRACT

Malaria has been a major health issue in Indonesia. Thus, diagnostic methods play a major role in the control and elimination of the disease. The most common methods in the field to detect malaria are microscopy and rapid diagnostic test (RDT), with the latter more recommended due to its simplicity and minimal expertise requirements. The most widely used RDTs are PfHRP2-based RDTs. However, the performance of PfHRP2-based RDTs are being threatened with the emergence of *pfhrp2/3* gene deletions, which can lead to false-negative RDT results. Cases of the deletion have been recorded in many countries, including Indonesia. Despite this, there have yet to be any publications regarding the issue in the country. One of the steps in detecting *pfhrp2/3* gene deletions is the amplification of single copy genes. Examples of single copy genes specific to *P. falciparum* are GLURP and EBA 175. Detection of these genes can determine the parasite's DNA quality. Therefore, the study aims to utilize methods such as conventional PCR and gel electrophoresis to detect the presence of *P. falciparum* single copy genes, specifically GLURP and EBA 175 genes, in malaria samples collected from Papua, Indonesia. The amount of samples used in the study were 98 samples. After amplification, 94 out of 98 of the samples were positive for GLURP and EBA 175 genes, which will be further used for the detection of *pfhrp2/3* gene deletion in the region.

Keywords: Malaria*; P. falciparum; Pfhrp2/3* gene deletion; Single copy genes*;* PfHRP2-based RDTs; PCR