

INTRODUCTION

- Artemisinin and piperazine resistant parasites has spread globally
- The data of resistant markers *kelch13 (pfk13)* and *plasmepsin-2 (pfpm2)* remains limited in Indonesia despite dihydroartemisinin-piperazine being used as the first-line antimalarial drug since 2009.

AIM

To assess the mutation status of both genes among *P. falciparum* isolates in endemic area

METHODS



Figure 1. Study Site

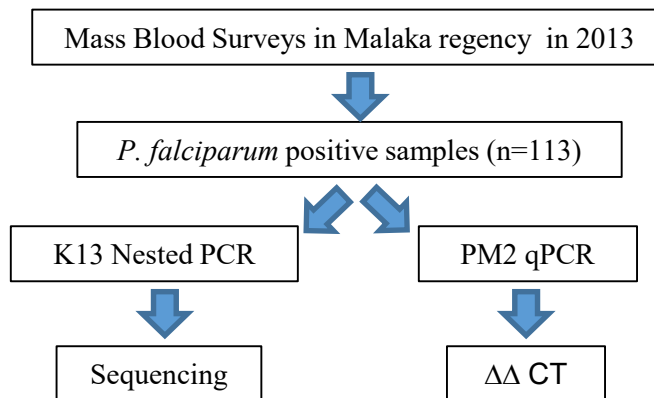


Table 1. K13 Primer Sequences

Primers	Sequences
K13_PCR_F1	5'-CGGAGTGACCAAATCTGGGA
K13_PCR_R1	5' GGGAACTCTGGTGAACAGC
K13_N1_F2	5'-GCCAAGCTGCCATTCATTG
K13_N1_R2	5'-GCCTTGTGAAAGAAGCAGA

Table 2. PM2 Primer Sequences

Primers	Sequences
PfPm2_CN_F	5'-TGGTGTATGCAGAAGTTGGAG-3'
PfPm2_CN_R	5'-TGGGACCCATAAAATTAGCAGA-3'
Pf β-tubulin_CN_F	5'-TGATGTGCGCAAGTATCC-3'
Pf β-tubulin_CN_R	5'-TCCTTTGTGGACATCTTCTC-3'

RESULTS

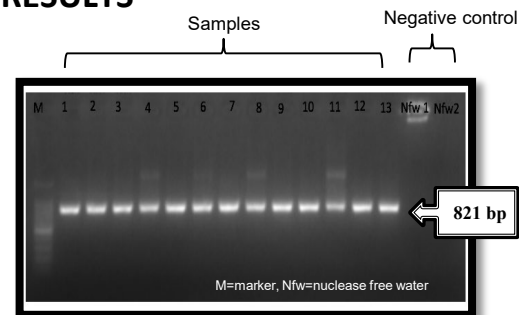


Figure 2. Visualization of amplification domain propeller gen *pfk13*

- No polymorphisms were found in the *pfk13* gene (n=76)
- pfpm2* amplification were detected only in 3.4% (1/29) isolates

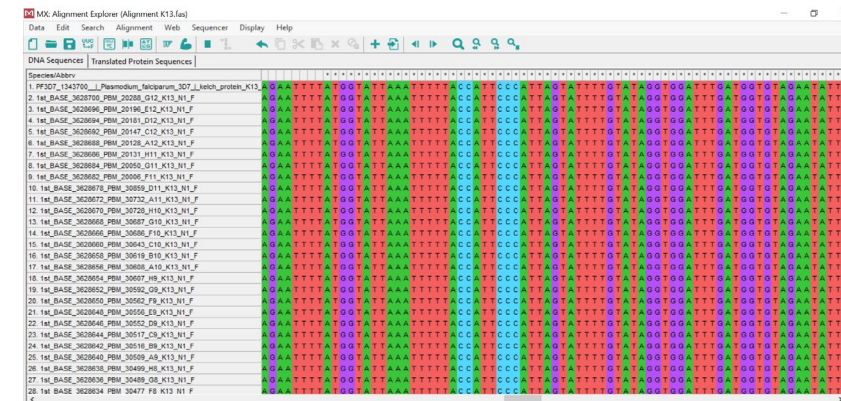


Figure 3. *pfk13* alignment result

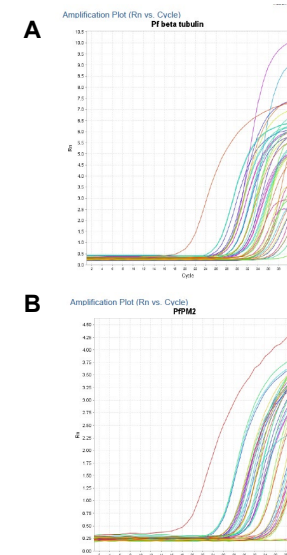


Figure 4. Amplification curve for β tubulin (A) and *pfpm2* (B)

CONCLUSION

Despite significant mutation was found in both *pfk13* & *pfpm2* genes, further studies with other resistant markers and longitudinal study to monitor the emergence of resistant parasites are required.

ACKNOWLEDGEMENT



Funded by:

BILL & MELINDA GATES foundation

