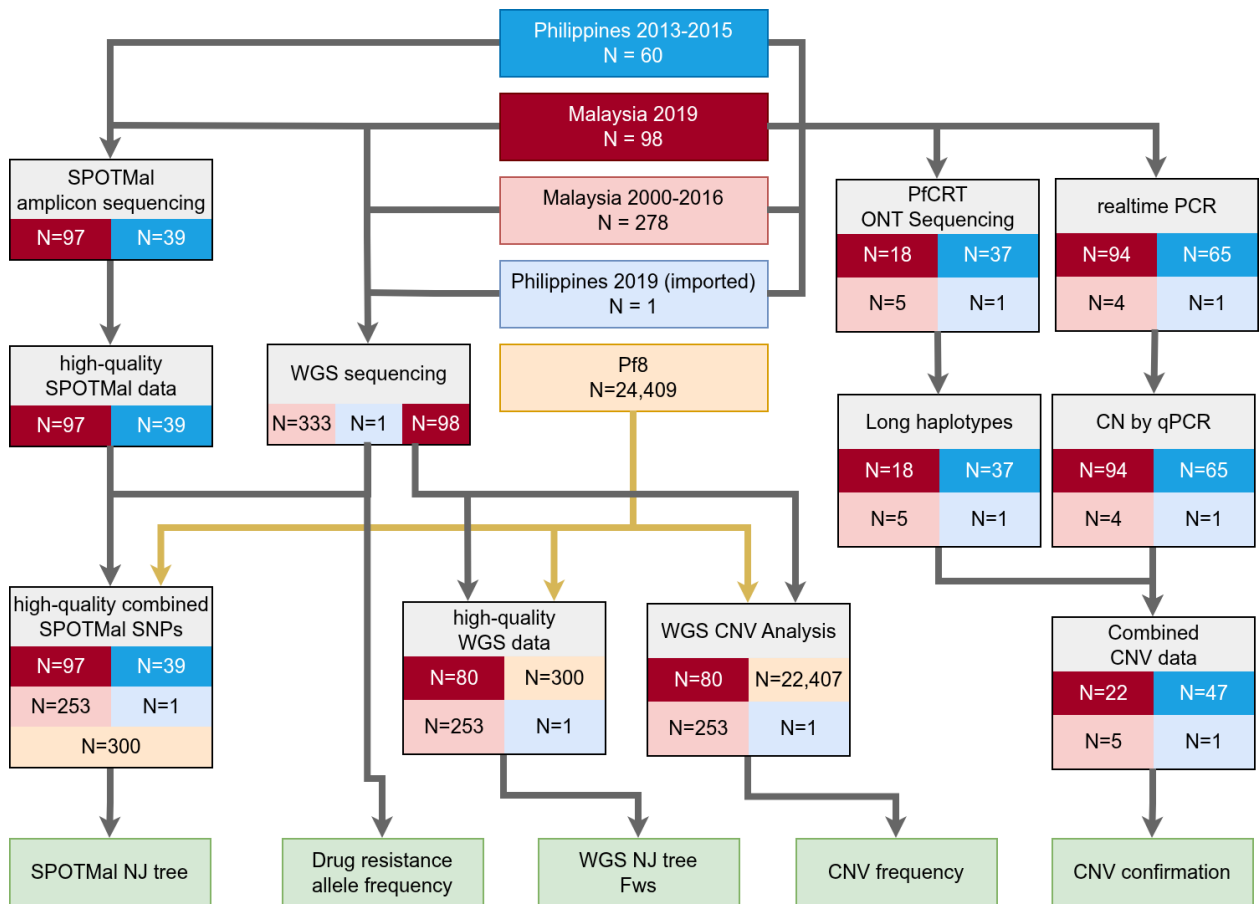
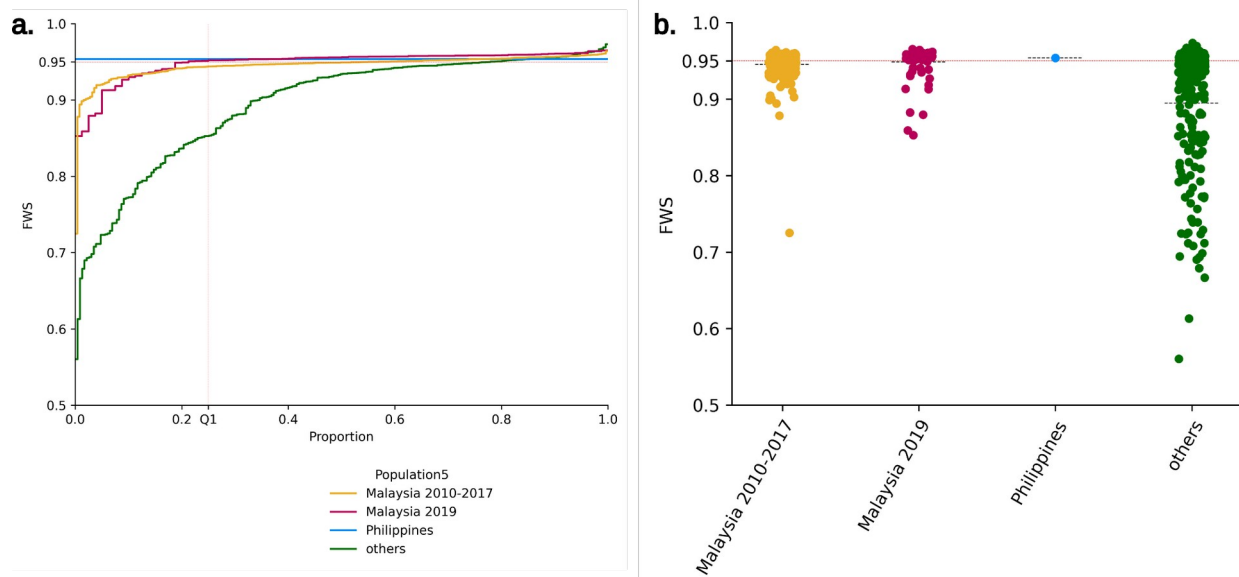
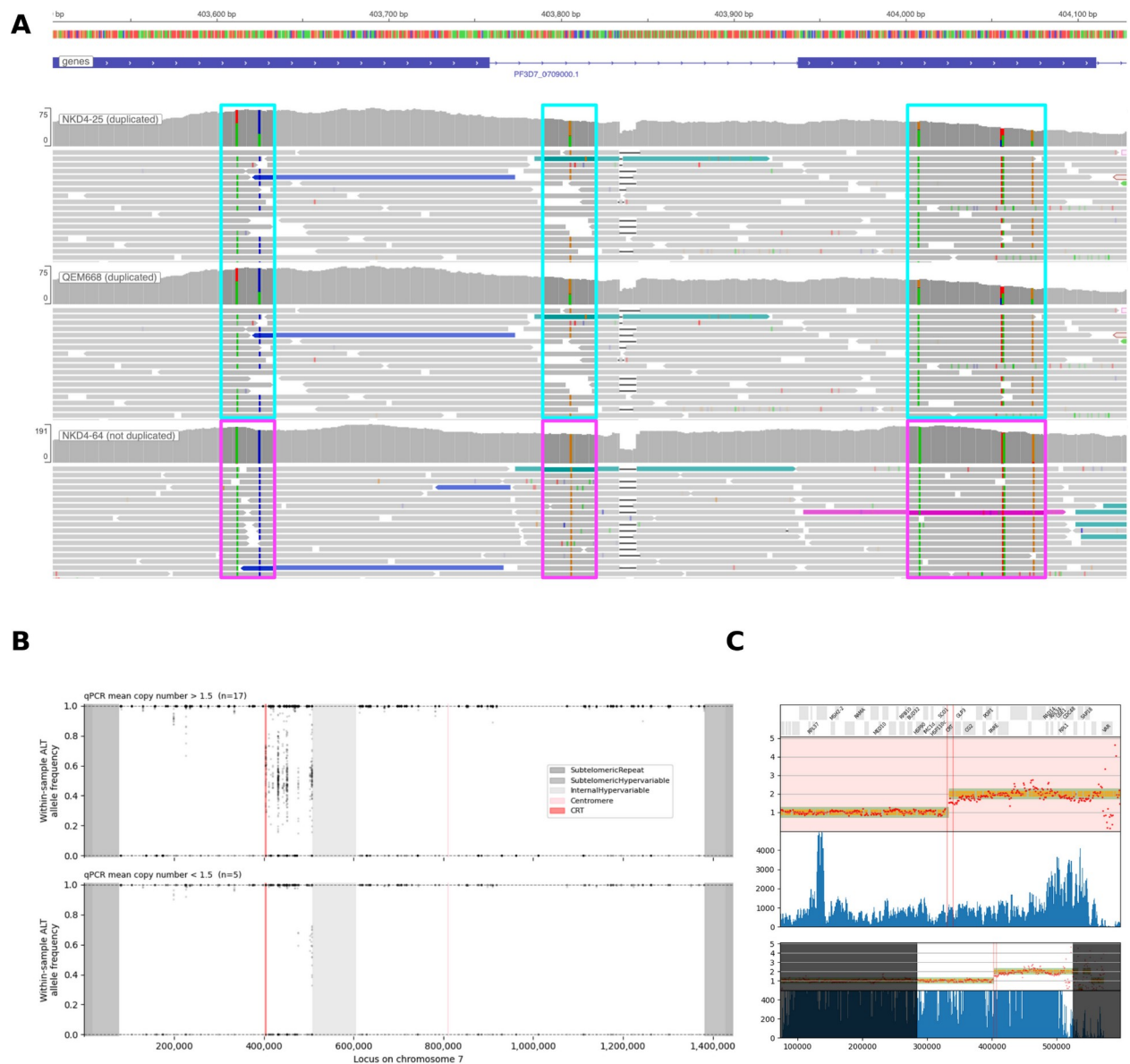




Supplementary Figure 1. Flow chart summarising sample provenance for the analyses conducted in the study. Background color indicates the country of the samples.



Supplementary Figure 2. Within-sample diversity profiles in Malaysia and comparator populations. The Fws was calculated using moimix with 23,575 biallelic SNPs (Malaysia 2010-2017 N=253, Malaysia 2019 N=80, Philippines N=1, other regions N=300). Panel a) presents the Fws distribution as Empirical Cumulative Distribution Function (eCDF) plot, and panel b) presents the distribution in categorical scatter plots. The complexity of Malaysian 2019 samples was comparable to Malaysia 2010-2017, indicating that transmission dynamics in Malaysia were relatively similar during that time period.



Supplementary Figure 3. WGS evidence of the duplicated region encompassing *pfcr*. Panel A shows a plot generated with IGV software illustrating two clonal samples with duplications (top and middle) and one sample with no duplication (bottom). Heterozygous SNPs within *pfcr* are highlighted in cyan, while homozygous SNPs are highlighted in magenta. Panel B (upper) shows the within-sample allele frequency (WSAF) of alternate (ALT) alleles at all heterozygous loci on chromosome 7, across 17 independent, monoclonal ($F_{WS} > 0.95$) Banggi Island (Malaysia 2019) samples with qPCR-based evidence of *pfcr* duplication. A number of SNPs with WSAF around 0.5 are observed within f3D7_07_v3:403,612-507,272 demarking the approximate break points of the duplicated region. Panel B (lower) presents WSAF of ALT alleles in 5 independent, monoclonal samples with qPCR-based data indicative of single copies: the heterozygote signature observed in a) is absent among these samples. Panel C shows an example of a diagnostic plot generated for sample KF003 from running the MalariaGEN Pf8 CNV calling pipeline – the copy number state changes from 1 to 2 within the two red vertical lines which represent the boundaries of the *pfcr* gene.