



**Supplementary Figure S2. Population background screening on WGS using references from 1000 Genome Project and Thai Whole Exome Sequence cohort.** (a) IPCAPS analysis performed on the Thai WGS merged with 26 populations from the 1000 Genomes Project (1000G) and the Thai Whole Exome Sequence (WES) cohort. The scatter plot provides an expanded view of the PCA plot. The red dashed circle specifically indicates only Asian populations including Thai WGS and WES with colored codes corresponding to the labels. (b) scatter plot of the late IPCAPS iteration showing a population cluster containing most of Thai WGS and WES samples, the dashed lines indicate the PC coordinates of samples in (b) relative to (a). The significant overlap between the two cohorts suggests that a large portion of Thai WGS and WES samples belong to a single population cluster.