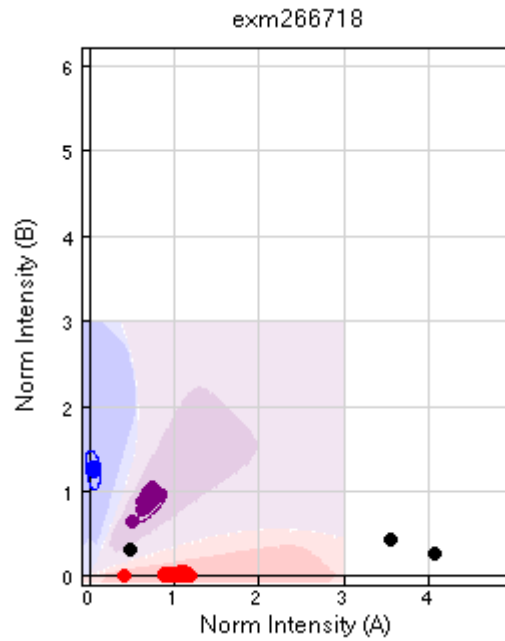
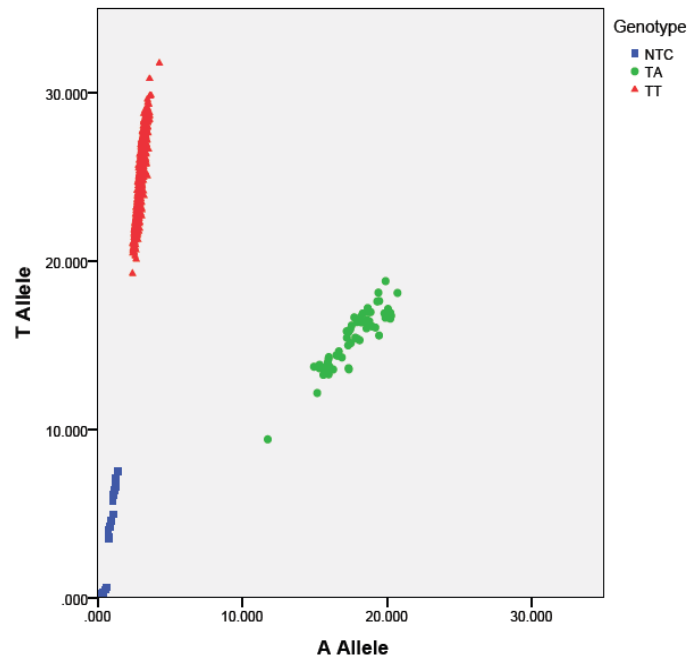


## Supplementary Material:

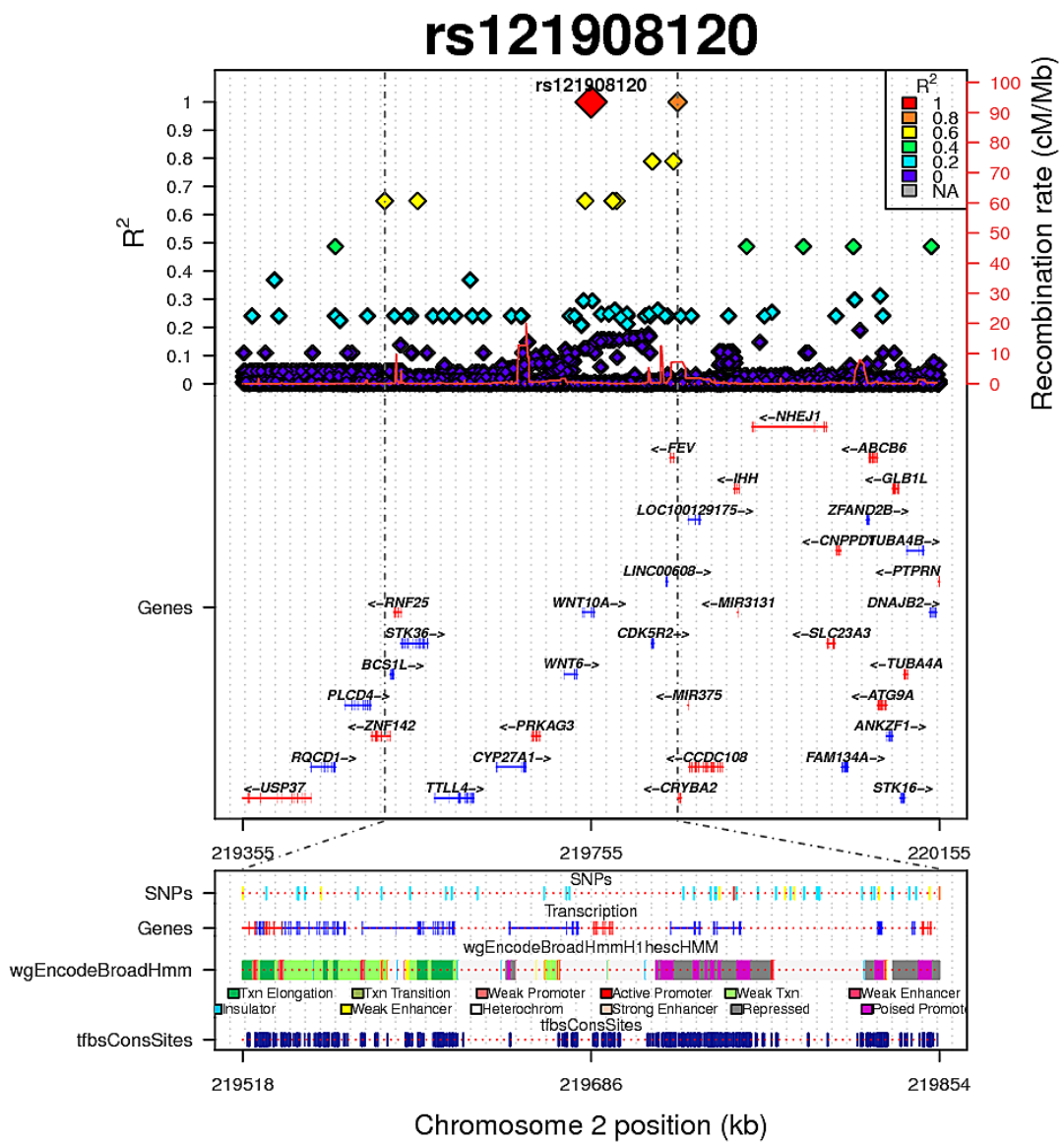
### WNT10A exonic variant increases the risk of keratoconus by decreasing corneal thickness



**Supplementary Figure 1.** Genotype cluster plot of rs121908120 (exome chip id: exm266718) in the discovery cohort (Raine). Black dots indicate not calling; blue and red indicate the homozygotes; purple indicates the heterozygotes.



**Supplementary Figure 2.** Genotype cluster from a Taqman assay for rs121908120 (exome chip id: exm266718) in the Keratoconus cases. NTC refers to the no template control (i.e. no DNA added).



**Supplementary Figure 3.** LocusTrack plot displaying variants within the rs121908120 region ( $\pm 400\text{Kb}$ ). Left axis displays the extent of LD ( $r^2$ ) of each variant with rs121908120. Dotted lines represent the region of the bottom panel. Bottom panel show SNPs in high LD with the same color code as the upper panel; Genes show the genes transcribed regions; wgEncodeBroadHMM track displays the chromatin state segmentation for Human Stem cells; tfbsConsSites show regions with a conserved transcription factor binding site.