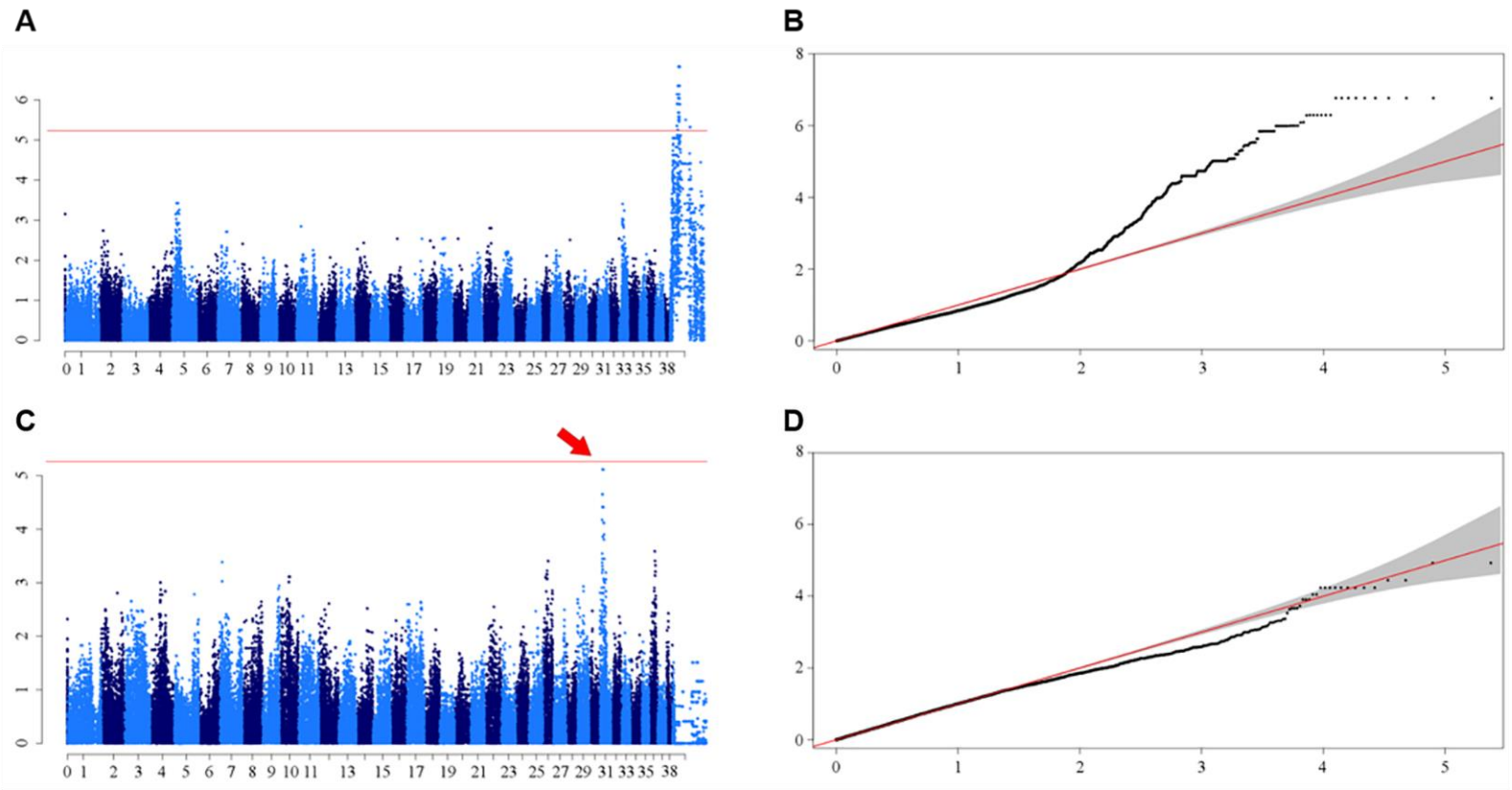
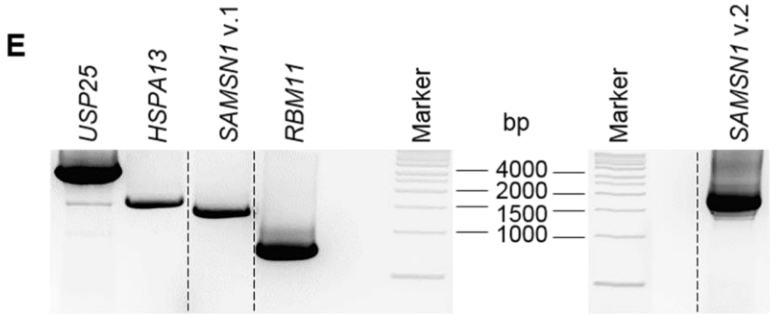

A
B
C
D
0 1 2 3 4 5 6 7 8 9 10 11 13 15 17 19 21 23 25 27 29 31 33 35 38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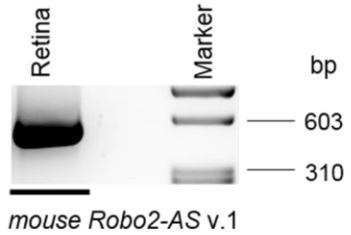
USP25
HSPA13
SAMSN1 v.1
RBM11
Marker
bp
4000
2000
1500
1000
Marker
SAMSN1 v.2


F
Retina
Marker
bp
603
310
mouse Robo2-AS v.1

Supplementary Figure S2. Results of genome-wide association study and expression analysis of selected genes. (**A**) Manhattan plot showing the negative log of the raw p-values (y-axis) calculated with the mixed-model genotypic association test for XLPRA1. On the x-axis, each canine chromosome. Note the peak in canine chromosome X. (**B**) QQ- plots of the X-chromosome analysis. The plot shows the observed versus expected -log p-values. The diagonal lane in the QQ plots indicates the distribution of SNV markers under the null hypothesis. The observed skewing of a marker toward the upper side suggests that it has a stronger association with the pathological condition than one expected by chance. The deviation of observed values from the expected is clearly visible and indicates a consistent difference between cases and controls. The red lane shows threshold for genome-wide significance after a Bonferroni correction. (**C**) Manhattan plot showing the negative log of the raw p-values calculated with the mixed-model genotypic association test for the disease resistance trait (Moderate (N=12) versus Severe (N=15) phenotype). The suggestive peak (indicated with the red arrow under the Bonferroni correction threshold) was used as a starting point for the subsequent phasing of CFA31. (**D**) QQ-plot of the disease resistance GWAS analysis. We observed no distinct skewing of a marker toward the upper side, suggestive of low power or the incomplete association. (**E**) Expression of selected genes [*RBM11, HSPA13, SAMSN1* (v.1 and v.2) and *USP25* transcripts] in 24 wks old normal canine retina. Note: in order to present the data in a streamlined way the irrelevant lanes were spliced out from the 12-wells agarose gel (indicated by dashed lines). (**F**) Expression of the orthologous *Robo2-AS* v.1 transcript in normal mouse retina (1 month old).