



**S4 Fig. Three-locus genotype disease probabilities by sex.** Probability of disease (y-axis) for all combinations of *PAN2* (x-axis) and *MAP3K7CL* genotypes are plotted in dogs (73 affected and 145 unaffected males; 59 affected and 245 unaffected females) (top) homozygous and (bottom) heterozygous for *DLA-DRB1\*002:01*.