Table S1: **Quality control summary.** The table shows the number of markers removed due to low minor allele frequency (row 1) and low call rate (row 2). The first column shows the quality control results when analyzing all breeds together, and successive columns display the results from the breed specific analysis.

	All breeds	Belgian Shepherds	German Shepherds	Labrador Retrievers
Minor allele frequency < 5%	33,004 (17.8%)	44,433 (24%)	73,030 (39.4%)	55,656 (30%)
Call rate < 95%	13,600 (7.3%)	15,600 (8.4%)	13,532 (7.3%)	13391 (7.2%)
Total	46,604 (25.1%)	47,774 (32.4%)	74,256 (46.7%)	69,047 (37.2%)