

APPENDIX B

GS.SNP defines the correlation between a gene's expression and a SNP's coding marker values. We find that regardless of the method for additive marker coding used (see Suppl. Table 2 for an explanation of these marker coding methods), the traditional LOD score is highly related to GS.SNP. Suppl. Fig. 3 shows this relationship with respect to a marker of interest on the 19th chromosome; this particular marker had a LOD score of 3.36 with respect to weight. We use additive marker coding for this analysis, which leads to a Spearman correlation of 0.75 ($p \leq 10^{-20}$) with the traditional LOD score (see Suppl. Fig. 3a). GS.SNP represents a SNP correlation that, statistically speaking, estimates a distributional parameter. In contrast, a LOD score or p-value refers to the results of a significance test on that parameter. The p-value is highly dependent on the number of observations (mice). In data applications, we suggest that both measures should be reported.