

Complex trait genetics in mice

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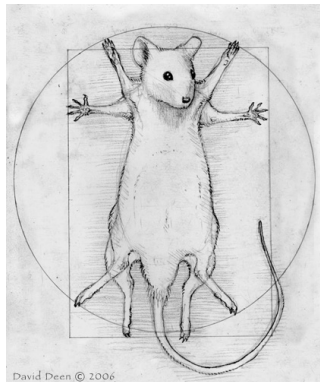
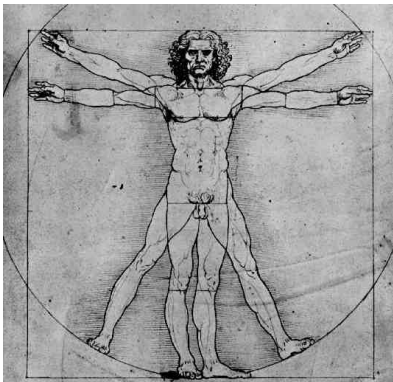
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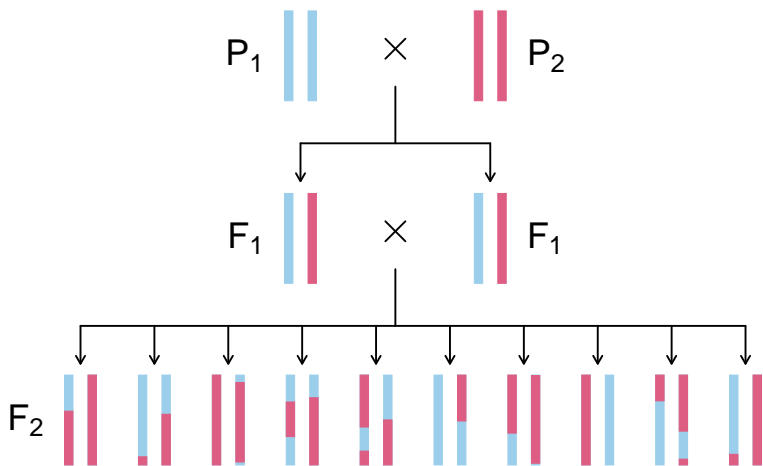




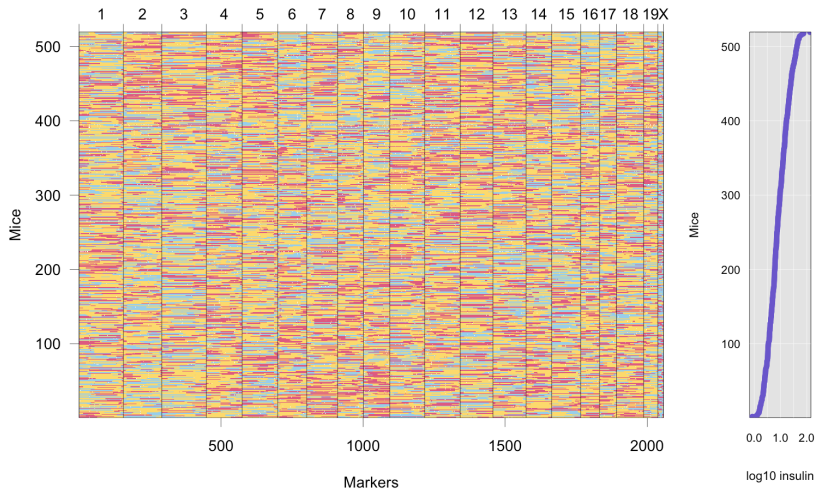


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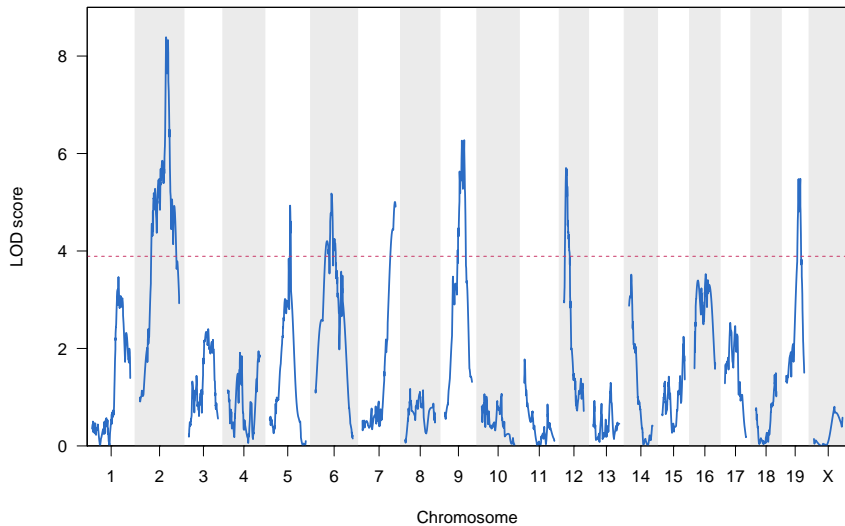
Intercross



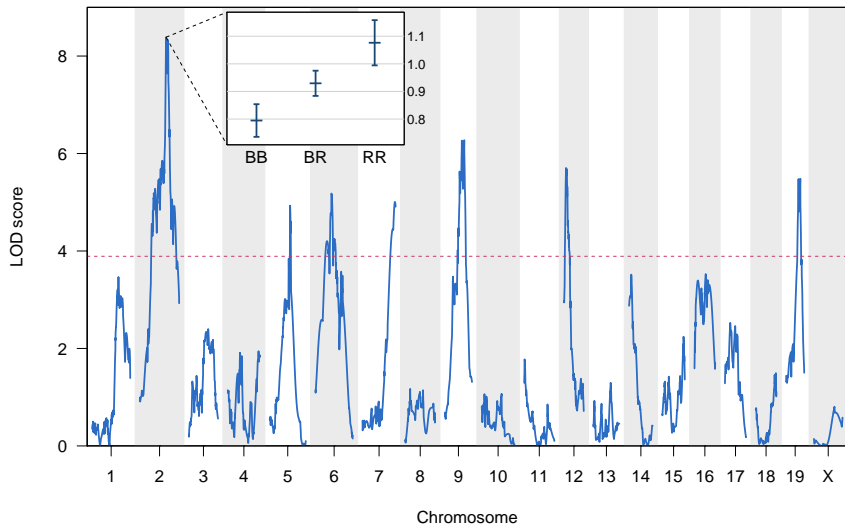
Genotype & phenotype data



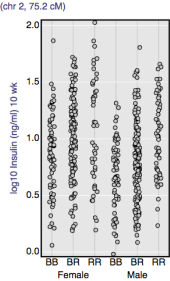
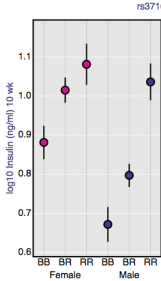
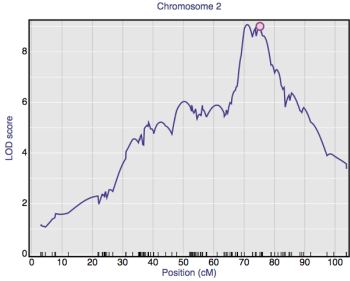
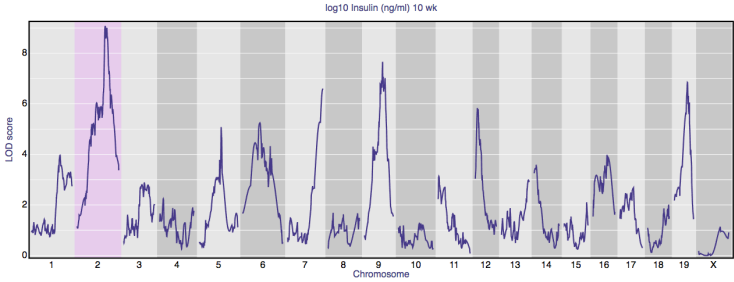
QTL mapping



QTL mapping



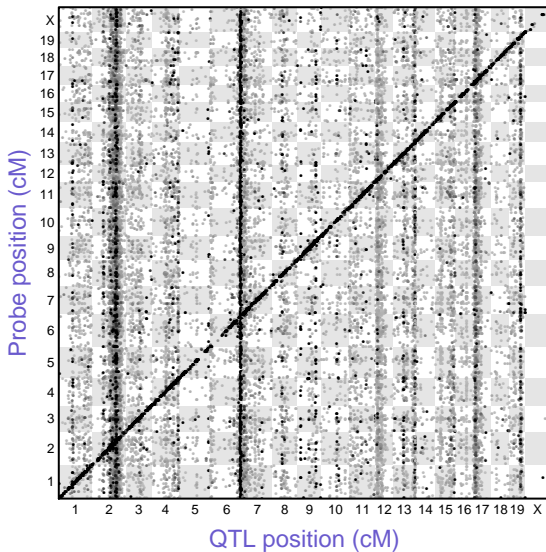
Interactive graph





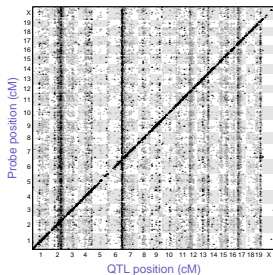
eQTL analysis

islet

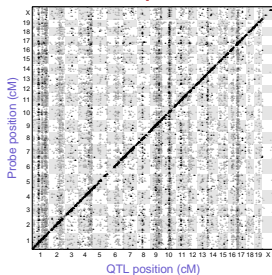


Multiple tissues

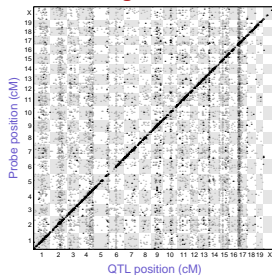
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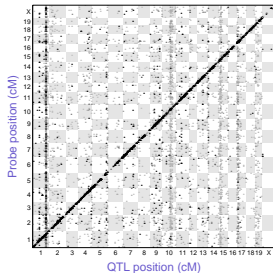
adipose



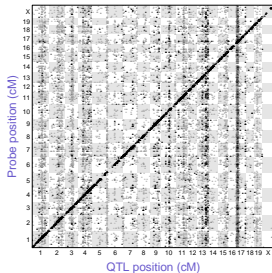
gastroc



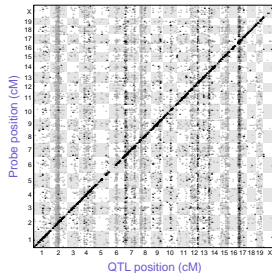
hypo



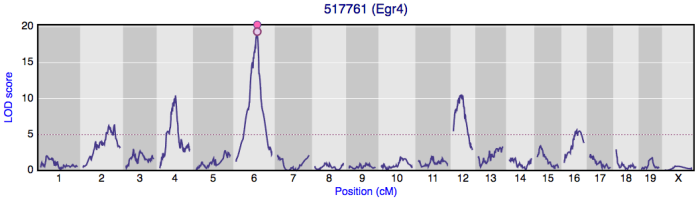
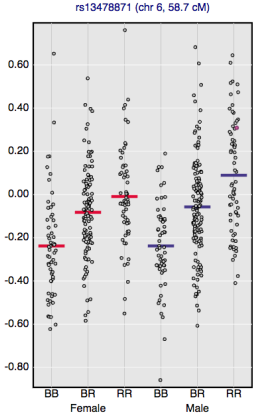
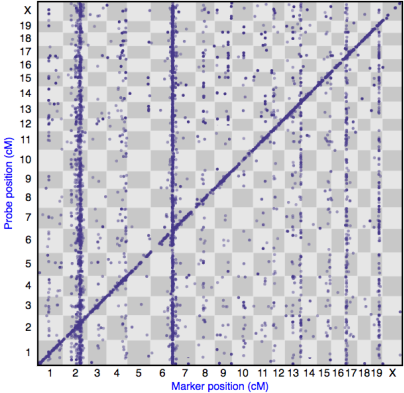
kidney



liver



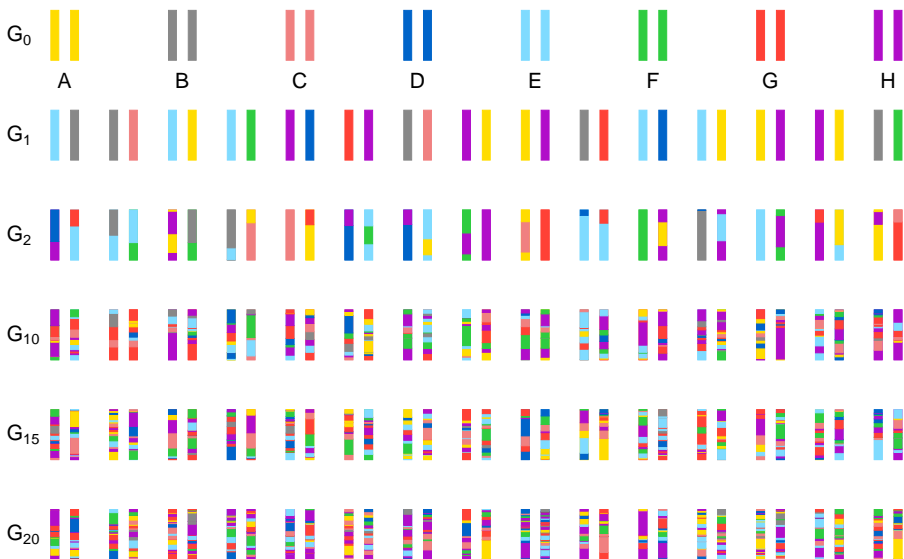
Interactive eQTL plot



Advanced intercross lines



Heterogeneous stock



Summary

- ▶ Gene mapping in mice is fun and useful
- ▶ Lots of open questions:
 - Multiple loci contributing to one trait
 - Joint consideration of many traits
 - Treatment of complex crosses with >2 strains
 - Prioritizing candidate genes
- ▶ Practicality > optimality
- ▶ Data analysis, statistical methods, software, data visualization

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