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### Identification of chromosomal region(s) influencing initial dental caries susceptibility in mice

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**Abstract** Predicting the host genetic factors influencing dental caries susceptibility is important to developing preventive strategies in individuals. In this study, Quantitative Trait Locus (QTL) analysis was used to identify the candidate regions for gene(s) influencing initial dental caries susceptibility in mice, and that performed on genetic crosses of BALB/cJ and C3H/HeJ mice. Two significant QTLs on chromosomes 7 and 11 and five suggestive QTLs on chromosomes 3, 8, 16 and 17 were detected. Around the region 50 cM on Chromosome 7 and 46 cM on chromosome 11, the likelihood ratio statistic (LRS) scores showed higher than significant levels. Around 52.5 cM on chromosome 3, 38.4 cM on chromosome 8, 38.0 cM on chromosome 16, and 6.5 cM and 44.5 cM on chromosome 17, LRS scores showed higher than suggestive levels. Based on these results, it is suggested that the candidate gene(s) responsible for dental caries are located in the specified regions of six chromosomes, chromosomes 7 and 11 in particular are associated with initial dental caries.

**Key words** Inbred mouse, Initial dental caries, QTL analysis, Quantitative gene(s), *Streptococcus mutans*

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