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### Detection of informative markers for searching a causative gene(s) of cleft lip with palate in A/WySn mice

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**Abstract** Cleft lip with palate is a widespread disfiguring birth defect of complex and poorly understood etiology. The A/WySn mice are good models with which to study the genetic factors of cleft. Our previous study of mated the A/WySn and C3H/He strains found that cleft lip with palate occurred due to cortisone exposure in both the A/WySn and N<sub>2</sub> backcross mice, but not in the C3H/He and F<sub>1</sub> hybrid mice. These findings suggested that autosomal recessive genetic factors cause cleft lip with palate in the A/WySn strain of mice. Interval mapping should identify a candidate chromosome and the region that included the candidate gene(s) causing cleft lip with palate. The present study investigated informative DNA markers for interval mapping. We used 136 Mit (Massachusetts Institute of Technology) markers to amplify target DNA of A/WySn, C3H/He and F<sub>1</sub> hybrid mice by PCR. Amplified DNA products were detected by direct gel analysis. We determined 82 informative markers that were distributed throughout the autosomal chromosome and which could detect polymorphisms between the A/WySn and C3H/He on gel. These results suggest that it is possible to perform the interval mapping for searching candidate chromosome including the loci responsible for cleft lip with palate in A/WySn mice using determined 82 markers.

**Key words** A/WySn mice, C3H/He mice, Cleft lip with palate, Mit marker

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