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## **Identifying the chromosome region of susceptibility genes of osteoarthritis; the new step toward the understanding of etiology and pathology and toward the innovative therapy of the disease**

Osteoarthritis (OA) is one of the most common diseases in Japan. About seven to ten millions of individuals are suffered from OA, whose prevalence is the highest among bone and joint diseases. OA is a disease characterized by erosion of the cartilage in various joints, such as knee, hip, hand, and spine, resulting in pain and swollen (containing water), functional impairment, and disturbance of gait. OA represents a major cause of the deterioration of the quality of life for the middle-aged and the elderly; however, the mechanism of its pathogenesis remains unknown, and hence no therapy is available.

Laboratory for Bone and Joint Diseases in SNP Research Center succeeded in the mapping of the gene for a familial OA at the long arm of the chromosome 13. The gene for OA of a 4-generation family localized to the narrow specific region including only about ten plus some genes.

The further elaboration of the genomic analysis of the special region will lead the identification of the OA gene, the better understanding of etiology and pathology of OA, and the effective therapy of the disease

The research details are reported in the reference: *American Journal of Human Genetics*, July issue (2006).



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