

## Generation of Transgenic Mice Overexpression Mouse RESISTIN

**J. R. Chun, S. J. Song, J. T. Do , K. S. Chung, H. T. Lee**

*Animal Resource Research Center, Konkuk University, Seoul*

The hormone resistin is associated with type II diabetes mellitus in rodent model. Resistin impairs glucose tolerance and insulin action. A new class of anti-diabetic drugs were called thiazolidinediones (TZDs) downregulates a resistin which is induced during adipocyte differentiation. But the connection between increased adiposity and resistin remains unknown. The objectives of this study was to clone a mouse resistin cDNA and to generate transgenic mice overexpressing mouse resistin gene. The 555 bp of mouse resistin was amplified from mouse cDNAs by polymerase chain reaction (PCR) and cloned into pCR<sup>®</sup> 2.1 TOPO T-vector. Mouse resistin mRNA on the basis of Genbank sequence (accession no. AF323080). Then, the PCR product was cloned into pTarget<sup>™</sup> mammalian expression vector that has pCMV promoter and chimeric intron. Restriction enzyme analysis with BamH I and Not I was carried out to determine an orientation of the insert in the vector. The pCMV-mus/resistin gene was prepared from previous recombinant pTarget<sup>™</sup>-mus/resistin by digestion of Bgl II, and has used for microinjection into pronuclei of one cell embryos. The microinjected embryos were transferred to pseudopregnant foster-mother. Mouse resistin expression was detected in transgenic F1 mice by Reverse Transcriptase-

Polymerase Chain Reaction (RT-PCR). Resistin gene expression mouse has heavier body weight which was measured higher level of plasma glucose than that of normal mouse. And in diet-induced experiments, the abdominal fat pads were isolated from each 24h starvation and re-feeding after fasting group mice that were assessed by RT-PCR analysis. In fasting group mice, resistin expression was higher than that of re-feeding group mice. This result suggests that the resistin gene overexpressing mice may be became to obesity and be useful as an animal disease model to be diabetes mellitus caused by insulin resistance of resistin.

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