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**THE STUDY OF ANGIOTENSINOGEN
GENE POLYMORPHISM BY MICROCHIP
ELECTROPHORESIS**

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Objective To investigate the AGT gene polymorphism distribution and the relationship between the AGT gene polymorphism and essential hypertension (EH) in Shenyang Hans population using the new microchip-based method, and to develop a microchip-based electrophoretic method for rapid detection of genotype.

Method One hundred and twenty-three patients with EH and one hundred and three controls recruited from Shenyang Hans population were examined. The gene polymorphisms of AGT (G(-6)A) was determined by polymerase chain reaction-restriction fragment length polymorphism (PCR-RFLP) with microchip electrophoresis and agarose gel electrophoresis.

Result (1) Microchip electrophoresis can separate PCR products of AGT gene within 250s. (2) The A allele frequency was very high in both groups (control: 0.7038, hypertensive: 0.7073), it was almost identical in the different groups ($\chi^2=0.024$, $p>0.05$), there was also no significant difference in frequencies of the allele of G(-6)A between Shenyang and Tibetan population ($p>0.05$).

Conclusion (1) In comparison with gel electrophoresis, the new microchip-based method has distinct features such as high separation efficiency, smaller sample volume requirement, high-throughput application as well as the sensitivity of detection. (2) Shenyang Hans population has a higher frequency of A allele in AGT gene (-6)site. G/A polymorphism exists at locus -6 of human AGT gene, which is not linked to hypertension in Shenyang Han people.