



# Expression of *STK39* in peripheral blood of hypertension patients and the relationship between its genetic polymorphism and blood pressure

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**ABSTRACT.** This study investigated the *STK39* expression in peripheral blood of hypertension patients and the relation between its genetic polymorphism and blood pressure. The observation group comprised of 42 primary hypertension patients admitted to our hospital, and the control group comprised of 30 healthy individuals who underwent physical examination in our hospital during the same period. Fasting venous blood was collected from both groups in the morning to determine the *STK39* mRNA and protein levels in peripheral blood using quantitative real-time PCR and western blot. *STK39* gene SNP (rs6433027) was sequenced using PCR and its genetic variation was analyzed. The relationship between *STK39* protein level, genetic variation, and diastolic and systolic blood pressure was also analyzed. The observation group showed increased *STK39* mRNA and protein levels in peripheral blood compared to the control group, and the difference was statistically significant ( $P < 0.05$ ), suggesting C/T mutation

in *STK39* gene SNP (rs6433027). Correlation analysis showed positive association between *STK39* protein level and diastolic and systolic blood pressure ( $P < 0.05$ ), indicating a positive association between C/T genetic mutation and diastolic and systolic blood pressure ( $P < 0.05$ ). In conclusion, *STK39* mRNA and protein express abnormally in primary hypertension patients with genetic variation, which is related to the blood pressure.

**Key words:** *STK39*; Primary hypertension; Genetic variation; Diastolic blood pressure; Systolic blood pressure