ABSTRACT. We investigated the association between polymorphisms rs1801282 and rs3856806 of the PPARγ gene and metabolic syndrome (MS) among Uyghurs and Kazakhs. Mass spectrometry techniques were used to detect the PPARγ genotypes rs1801282 and rs3856806 in 987 subjects, CC genotype and C allele frequencies were 83.6 and 91.7%, respectively, at rs1801282 in Kazakhs, which were higher than those in Uyghurs (72.3 and 85.0%, respectively; P < 0.05). CC genotype and C allele frequencies were 73.6 and 85.3%, respectively, at the rs3856806 loci in Kazakhs, which were higher than those in Uyghurs (60.7 and 77.9%, respectively; P < 0.05). For the rs3856806 polymorphism in Kazakhs, CT/TT genotype and T allele frequencies were 21.2 and 12.4% for MS subjects, which were lower than those for the control group (31.6 and 17.0%, respectively; P < 0.05). Risk analysis of Kazakhs revealed that individuals with the CT and TT genotypes at rs3856806 had an increased risk, 0.524- and 0.770-fold, respectively, of developing MS than those possessing the CC genotype. Individuals with the T allele also had an increase in risk, by 0.699-fold, of developing MS than those with the C allele. For Uyghurs, those with the CC genotype at rs1801282 had higher systolic blood pressure than those with the CG/GG genotype.
Among Kazakhs, those with the CC genotype at rs3856806 had higher triglyceride and waist-hip ratio levels but lower high-density lipoprotein cholesterol levels than those with the CT/TT genotype. The rs1801282 and rs3856806 PPARγ polymorphisms differ between Uyghurs and Kazakhs from Xinjiang Province, China.

**Key words:** Uyghur; Kazakh; Metabolic syndrome; PPARγ; Gene polymorphism