



Investigation of single nucleotide polymorphisms in phosphodiesterase 4D gene in Mongol and Han patients with ischemic stroke in Inner Mongolia

J.P. Shi^{1,2}, W.D. Chen¹, J.Q. Zhou³, M.M. Xue¹, F. Xue¹, H.Z. Li¹ and Z.P. Xu²

¹Chinese Internal Medicine Teaching and Researching Section, Inner Mongolia Medical University, Hohhot, Inner Mongolia, China

²Chinese Internal Medicine Teaching and Researching Section, Tianjin University of Traditional Chinese Medicine, Tianjin, China

³Internal Medicine Section, No. 253 Hospital of PLA, Hohhot, Inner Mongolia, China

Corresponding author: Z.P. Xu
E-mail: xuzongpeitianjin@163.com

Genet. Mol. Res. 14 (3): 10281-10287 (2015)

Received January 6, 2015

Accepted May 8, 2015

Published August 28, 2015

DOI <http://dx.doi.org/10.4238/2015.August.28.13>

ABSTRACT. We investigated single nucleotide polymorphisms (SNP) at 87 sites of the phosphodiesterase 4D (*PDE4D*) gene in Mongol and Han patients with ischemic stroke in Inner Mongolia. SNPs in 226 patients with ischemic stroke (case group, 110 Mongol patients, 116 Han patients) and 220 patients without neurological disease (control group, 102 Mongol patients, 118 Han patients) were detected by polymerase chain reaction-restriction fragment length polymorphism and gene sequencing. The genotype and allele frequencies of all groups were compared. There were no statistically significant differences in genotypes in the *PDE4D* gene at 87 sites between the case and control groups ($P > 0.05$). The C allele frequency

in the case group was significantly higher than that in the control group ($P < 0.05$). The CC genotype and C allele frequencies in the Mongol case subgroup were higher than those in the Mongol control subgroup ($P < 0.05$). The CC genotype and C allele frequencies in the Han case subgroup were higher than those in the Han control subgroup ($P < 0.05$). In the case group, there were no significant differences at 87 sites for genotypes and allele frequencies between the Mongol and Han subgroups. In the control group, there were no significant differences at 87 site genotypes and allele frequencies between the Mongol and Han subgroups. The increase in the C allele frequency at 87 SNP sites in *PDE4D* may increase ischemic stroke risk. We found no differences in the risk between Mongol and Han populations in Inner Mongolia.

Key words: Han people; Ischemic stroke; Phosphodiesterase 4D gene; Mongol; Single nucleotide polymorphism