



## Relationship between 5-HTTLPR polymorphism and post-stroke depression

W.Y. Guo<sup>1,4\*</sup>, Z.H. Zhang<sup>2\*</sup>, J.L. Mu<sup>3</sup>, D. Liu<sup>3</sup>, L. Zhao<sup>2</sup>, Z.Y. Yao<sup>4,5</sup> and J.G. Song<sup>3</sup>

<sup>1</sup>College of Life Science and Technology, Xinxiang Medical University, Xinxiang, Henan, China

<sup>2</sup>Department of Psychosomatic Medicine, The Second Affiliated Hospital of Xinxiang Medical University, Xinxiang, Henan, China

<sup>3</sup>Department of Neurology, The Second Affiliated Hospital of Xinxiang Medical University, Xinxiang, Henan, China

<sup>4</sup>Henan Key Lab of Biological Psychiatry, Xinxiang Medical University, Xinxiang, Henan, China

<sup>5</sup>School of Basic Medicine, Xinxiang Medical University, Xinxiang, Henan, China

\*These authors contributed equally to this study.

Corresponding authors: J.G. Song

E-mail: songjg62@126.com

Genet. Mol. Res. 15 (1): gmr.15017460

Received August 17, 2015

Accepted November 13, 2015

Published February 19, 2016

DOI <http://dx.doi.org/10.4238/gmr.15017460>

**ABSTRACT.** Post-stroke depression (PSD) is a mental illness characterized by subjective feelings of depression, cognitive dysfunction, and decreased interest. The serotonergic system is involved in the pathogenesis of depressive disorders and is regulated by the serotonin transporter gene. The serotonin transporter-linked polymorphic region (5-HTTLPR) has been examined as a factor associated with depression and other mental disorders. This study was performed to explore the relationship between 5-HTTLPR and PSD in a Han Chinese population. In total, 199 patients with PSD and 202 unrelated non-PSD patients were recruited from psychiatric hospitals. Depression was diagnosed using the Diagnostic

and Statistical Manual of Mental Disorders-Fourth Edition. Blood samples were collected from all patients for 5-HTTLPR genotyping. Genotype and allele frequencies were compared between the two groups. SS genotype frequency was significantly higher in the PSD group than in the non-PSD group. LL genotype frequency was significantly higher in the non-PSD group than in the PSD group ( $P < 0.01$ ). This study describes a positive association between 5-HTTLPR and PSD in a Han Chinese population and provides genetic evidence to support the genetic susceptibility of PSD.

**Key words:** 5-HT transporter gene-linked polymorphic region; Gene polymorphism; Post-stroke depression; Stroke