



Associations of serotonin receptor gene HTR3A, HTR3B, and HTR3A haplotypes with bipolar disorder in Chinese patients

J. Jian^{1,2*}, C. Li^{1,2*}, J. Xu³, D. Qiao², G. Mi², X. Chen² and M. Tang²

¹Shandong University School of Medicine, Ji'nan, Shandong, China

²Shandong Mental Health Center Ji'nan, Shandong, China

³Business Management Department,
Shandong Center for Disease Control and Prevention, Jinan, Shandong, China

*These authors contributed equally to this study.

Corresponding author: M. Tang

E-mail: tangmaoqin12@sina.com

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ABSTRACT. Single nucleotide polymorphisms (SNPs) in HTR3A and HTR3B have been reported to be associated with bipolar disorder in European and Japanese populations. We explored the roles of 21 tag SNPs in HTR3A and HTR3B in susceptibility to bipolar disorder in a Chinese cohort. Twenty-one Tag SNPs were genotyped in a study consisting of 130 patients with bipolar disorder, who visited Shandong Mental Health Center between June 2013 and May 2014, and 109 healthy individuals as controls. All of the tag SNPs were genotyped using Sequenom MassArray matrix-assisted laser desorption/ionization time of flight spectrometry. Plink 1.07, Haploview 4.2, and SPSS 20.0 were used for the analysis of the genotypes and the associations of the haplotypes with bipolar disorder. Association analyses of tag

SNPs detected significant associations with the A allele in HTR3A rs1176719 ($P = 0.030$) and the C allele in HTR3A rs1176713 ($P = 0.048$). Haplotype-based association analyses indicated a statistically significant ($P=0.035$) five-SNP haplotype (rs1062613:C, rs11604247:C, rs1176722:G, rs2276302:A, rs1176719:G) of linkage disequilibrium in block 3. Analysis of our small Chinese sample revealed a significant association of HTR3A with bipolar disorder, but yielded no evidence of an association between HTR3B and bipolar disorder. Furthermore, evidence for an association was found for a haplotype of HTR3A. Studies with larger Chinese samples are needed to verify our findings.

Key words: HTR3A; HTR3B; Bipolar disorder; Haplotype; Single nucleotide polymorphism