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The Role of MAOA Gene in the Etiology of Autism Spectrum Disorder in Males

Authors : Jana Kisková, Dana Gabriková

Abstract : Monoamine oxidase A gene (MAOA) is suggested to be a candidate gene implicated in many neuropsychiatric disorders, including autism spectrum disorder (ASD). This meta-analytic review evaluates the relationship between ASD and MAOA markers such as 30 bp variable number tandem repeats in the promoter region (uVNTR) and single nucleotide polymorphisms (SNPs) by using findings from recently published studies. It seems that in Caucasian males, the risk of developing ASD increase with the presence of 4-repeat allele in the promoter region of MAOA gene whereas no differences were found between autistic patients and controls in Egyptian, West Bengal and Korean population. Some studies point to the importance specific haplotype groups of SNPs and interaction of MAOA with others genes (e.g. FOXP2 or SRY). The results of existing studies are insufficient and further research is needed.

Keywords : autism spectrum disorder, MAOA, uVNTR, single nucleotide polymorphism
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