



Role of Neuregulin 3 Genes Expression on Attention Deficits in Schizophrenia

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Abstract

Genetic epidemiological studies strongly suggest that additive and interactive genes, each with small effects, mediate the genetic vulnerability for schizophrenia. With the human genome working draft at hand, candidate gene (and ultimately large-scale genome-wide) association studies are gaining renewed interest in the effort to unravel the complex genetics of schizophrenia. Linkage and fine mapping studies have established that the neuregulin 3 gene (NRG3) is a susceptibility locus for schizophrenia. Association studies of this disorder have implicated NRG3 variants in both psychotic symptoms and attention performance. These animals show increases in reaction time (RT) variability and false alarms on choice reaction time (CRT) tasks. The aims of the present study were to extend analysis of the association between NRG3 and psychotic symptoms and attention in animal model of schizophrenia. Twenty-one-day-old male Wistar rats were either reared in individual cages (isolated rats) or in group cages of six per cage (group-housed rats) for 8 weeks. After the CRT test and decapitation of brain, symptoms and performance scores were then tested for association with the NRG3 variant rs6584400 by polymerase chain reaction method. A significant association was found between the number of rs6584400 DNA and the CRT for reaction time in post weaning social isolation rats.

Keywords: Neuregulin 3, Gene Expression, Attention, Schizophrenia.

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