NMDA receptor dysfunction in autism spectrum disorders

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A large number of synaptic proteins have recently been associated with diverse neuropsychiatric disorders, including autism spectrum disorders (ASDs), schizophrenia, attention deficit hyperactivity disorder, and mood disorders. ASDs represent a group of neurodevelopmental disorders characterized by impaired social and communication deficits and restricted and repetitive interests, behaviors, and activities. Although a large number of ASD-related genetic variations have been identified, only a small number of them have been verified for their causality by approaches including mouse genetics. In addition, neural mechanisms underlying the development of ASDs remain largely unknown. Synaptic scaffolding proteins at excitatory synapses interact with various other proteins including receptors and signaling molecules in order to couple receptor activation with downstream signaling events. In this presentation, I will discuss how defects in some of the excitatory synaptic scaffolding proteins are associated with NMDA receptor dysfunctions and autistic-like behavioral abnormalities in mice.

Key Words: Psychiatric disorder, Autism, Synaptic, NMDA receptor

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