NgR1

The protein NgR1 is encoded by RTN4R, a gene linked to schizophrenia.

Thomas et al, previously reported NgR1 as receptor for the epilepsy-linked protein LGI1. NgR1 regulates synapse number and synaptic plasticity, whereas LGI1 antagonizes NgR1 signaling and promotes synapse formation. Impairments in synapse formation are common in neurological disease and we hypothesized that an LGI1-NgR1 signaling pathway may contribute to the development of schizophrenia.

Variants in NgR1 and LGI1 may be associated with schizophrenia and variants in NgR1 found in schizophrenic patients have impaired LGI1-NgR1 signaling. Impaired LGI1-NgR1 signaling may contribute to disease progression [1)].

1)
Thomas RA, Ambalavanan A, Rouleau GA, Barker PA. Identification of genetic variants of LGI1 and RTN4R (NgR1) linked to schizophrenia that are defective in NgR1-LGI1 signaling. Mol Genet Genomic Med. 2016 Mar 11;4(4):447-456. eCollection 2016 Jul. PubMed PMID: 27468420.