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NEW INSIGHTS INTO THE CELLULAR AND MOLECULAR MECHANISMS UNDERLYING THE ETIOLOGY OF SCHIZOPHRENIA

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Growing evidence suggest that disruption of cortical interneuron function is common to several psychiatric conditions, such as schizophrenia. Cortical interneurons play major roles in the function of the cerebral cortex. Through mostly inhibitory mechanisms, interneurons regulate the activity of pyramidal cells, prevent hyperexcitability, and synchronize the rhythmic output of cortical activity. In particular, the function of some classes of interneurons has been shown to be crucial for the generation and maintenance of gamma rhythms, a pattern of brain waves that is associated with perception and memory.

Work in my laboratory aims at elucidating the mechanisms controlling the development of cortical interneurons. We have recently found that several genes associated with schizophrenia, such as Nrg1 and ErbB4, control several aspects of the development of cortical interneurons. In this talk, I will summarize our current view on the biological mechanisms that may underlie the etiology of schizophrenia, linking susceptibility genes, cortical inhibitory function and brain development.