

Abstract

Serotonergic system is a complicated system. One of the receptor subtypes, the serotonin 2A receptor, is associated with a number of psychiatric disorders. In this paper, I would review the basic science about the receptor, and then focus on the relationship between serotonin 2A receptors and psychiatric disorders such as schizophrenia, depression, suicide and Alzheimer's disease, and the possible genetic mechanisms related to the receptor gene. Clinical relevance of the receptors will be discussed. **Conclusion:** There is likely a decrease in serotonin 2A receptor in schizophrenic patients who have no past suicidal history, but an increase in serotonin 2A receptors in suicidal patients. There is possible association between the serotonin 2A polymorphism T102C and A1438G and higher risk of psychosis in Alzheimer's disease. However, there is a lack of strong association between the 5HT 2A polymorphism T102C and A1438G in most other psychiatric disorders. Further studies might be able to clarify the controversies of past studies.