

# Review of: "D5R and the hippocampus: adjustment to the dysconnectivity theory of schizophrenia"

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The author states that the purpose of the article is to emphasize the role of D5R in hippocampus regarding the pathophysiology of schizophrenia. The topic is highly interesting and important to address, and made me curious to read it. Moreover, the introduction starts with "The involvement of the D5R in schizophrenia has been poorly established", which made me even more curious to see how the author would compile and review results from previous research in order to establish D5R's involvement.

The article then continues with a short presentation of how D5R functions within hippocampus, and the D5R pathway and its regulation of ROS. There is also a short section regarding research based on fMRI scans and signs of phenotypic abnormalities in hippocampus but also in other brain structures such as amygdala and the temporal lobe that can be implicated in schizophrenia. Next section covers D5R and its relation to other neurotransmitters controlling hippocampal functions, such as 5HT, Ach and GABA. The author subsequently addresses memory distortion in schizophrenia, followed by only a very short section on *Hippocampus pathoanatomy in schizophrenia* and finishes with a section on *Receptor alternations associated with the hippocampus, the prefrontal cortex and the basal ganglia*.

Although the title of the article indicates an intriguing topic, I find that the author never really addresses it. I am missing a clear 'red thread' and it only to a small extent touches on the subject. It would be good if the author could in the beginning of the article give the definition of or describe 'the dysconnectivity theory of schizophrenia', so that the reader immediately will get a basic understanding of this theory. Also, a short introduction or description of the plasticity of hippocampus and how this is affected in schizophrenia patients. Then, I wish the author would make it more clear on how hippocampal/D5R function and dysfunction is linked to schizophrenia.

I also find that the quality of the language could be improved in the article. For example, there are sentences with unclear references, such as "Dopamine 5 receptor (D5R) is located in a lot of regions and is more prevalent than the D1R", which regions are referred to here, regions within hippocampus or within the brain? Another example, "It appears that the axons from where DA arrives to the hippocampus, determine the type of activity, the latter would be engaged.", what is 'latter' referring to in this case? The language should also be made more formal, e.g., "it is high time we talk about" needs to be rephrased to more formal scientific English. I also find several assumptions made in the article which are not supported by previous published results. Overall, the article needs to include more references.

