

The effect of GABRB3 polymorphisms on brain function and structure in healthy male volunteers assessed by multimodal imaging

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Propositions

In complement of the Ph.D thesis

The Effect of GABRB3 Polymorphisms on Brain Function and Structure in Healthy Male Volunteers Assessed by Multimodal Imaging

by

Jorge Andrés Arrubla Martínez

1. The brain is the most complex of the human organs, and its features are determined genetically.
2. *Imaging genetics* studies in humans are needed to elucidate the mechanism linked to genetic variation in humans.
3. The search of candidate genes influencing brain features is crucial for the current imaging genetic studies.
4. The gene that codifies the beta-3 subunit of the GABA-A receptor (GABRB3) is of interest due to its relationship with neurologic diseases such as epilepsy and autism.
5. The GABRB3 gene plays an important role in neurodevelopment and disruptions in its expression might lead to abnormalities in brain function and/or structure.
6. There are no imaging genetic studies with the GABRB3 as candidate gene.
7. There is a lack of knowledge of how the expression of the GABRB3 influences the features of the brain.
8. The identification of the areas of influence of the GABRB3 will be of help in future genetic therapies and in genetic counselling.