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Contact: Professor Jorge Cervilla Ballesteros

[jacb@ugr.es](mailto:jacb@ugr.es)

34-663-075-835

Universidad de Granada

## A pioneering study opens roads for tailor-made antidepressants

In spite that the causes of depression have not still been fully identified, scientists acknowledge that genetic and environmental factors play a common role in the onset of this disorder. One of the environmental risk factors more often related to depression is exposure to threatening life events. On the other side, from a genetic point of view, the serotonin transporter gene, with a crucial role in communication between neurons, could predispose to depression.

An international group of scientists, headed by professors Jorge Cervilla Ballesteros and Blanca Gutiérrez Martínez, from the department of Legal Medicine, Toxicology and Psychiatry of the University of Granada, has recently published in the prestigious journal Molecular Psychiatry the pioneering study PREDICT-gene, confirming the relation between allele s in the serotonin transporter gene and exposure to threatening life events in the onset of depression. The study proves, for a population sample accounting for gender, age and family history of psychiatric disorders, that 24% of the Spanish population, comprising people with the s/s genotype, need minimal exposure to threatening life events, unlike individuals with s/l or l/l genotypes, thus confirming the relation between genetic and environmental factors in this mental disorder.

### Tailor-made antidepressants

The most important consequence of research on interaction between genetic and environmental factors is that, in a foreseeable future, scientists will be able to produce measures to predict response to antidepressants taking into account each individual's genotype, i. e. they will be able to design tailor-made drugs according to each person's genetic configuration and their exposure to environmental factors.

The research group headed by professor Cervilla Ballesteros and Gutiérrez Martínez is currently working at the University of Granada to open roads for psycho-pharmaco-genetics, a field that will allow for individual treatments, tailor-made drugs, for each patient with depression, a disorder affecting one in every five Spaniards visiting the doctor's.

This study is framed in the international project PREDICT and is funded by the European Union and the Spanish Ministry of Education and Science. One of its most important novelties is that it has been carried out through a very representative sample: a total of 737 people agreed to participate in the genetic tests, with ages ranging from 18 to 75, patients of nine primary care centres in the South of Spain. That is why this is the first representative population-based replication of earlier research, as until now research had been done into restricted population samples, comprising only women, adolescents, twins or people with affective disorders.

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