

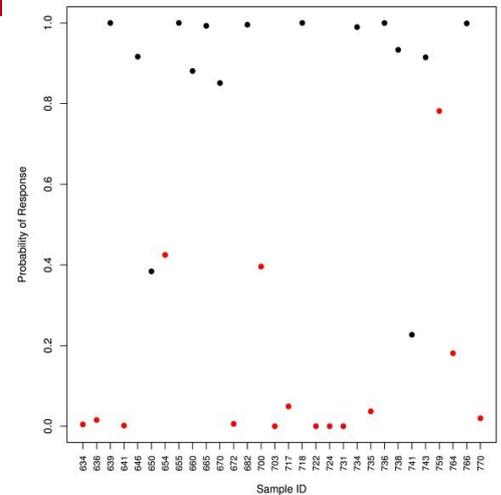
## A kit for predicting the therapeutic response to antipsychotic drugs

A consortium of public organizations led by CSIC have developed a new predicting method for patients suffering from psychotic disorders based on genetic biomarkers whose expression levels allow predicting the clinical response to antipsychotic drugs before treatment in individuals diagnosed with a psychotic disorder, such as schizophrenia. Biomedical or biotechnological company for development agreements or licensing is sought.

### An offer for licensing or development agreement

#### Prediction over gene expression

Psychotic disorders track its origin mainly from illnesses such as schizophrenia, bipolar disorder, depression, dementia, alcoholism and drug addiction syndrome, besides for the above disorders, antipsychotics may be used for obsessive-compulsive disorder, posttraumatic stress disorder, personality disorders, Tourette syndrome and autism. Usually the diagnosis is made by observation of the behavior of the patient and the patient's own experiences. The treatment in the early stages is crucial to improve the prognosis of the disease. Although medication improves some symptoms only 50-60% of patients show remarkable improvement and there are no reliable methods for adequate monitoring to increase effectiveness. However, despite a wealth of large studies into prognostic factors, there are no molecular tests available that allow predicting the clinical response to antipsychotic treatments. The existence of non-responder patients to the antipsychotic treatments makes it necessary to develop predicting methods that can be applied in the clinical practice to identify these patients at an early stage. Particularly, the inventors have identified six-genes whose expression profile, measured in blood samples, provides useful information to predict the clinical response to antipsychotics in psychotic patients, more preferably in schizophrenia patients, before treatment.



Predicted probability of response to antipsychotics using a 4-gene test. Red points represent non-responder patients and black points represent responder patients

#### Main innovations and advantages

- Monitoring of patients based on gene expression levels is the choice tool for monitoring treatment and disease progression.
- Useful for the identification, in early stages before the treatment, of those patients that will or will not respond to the antipsychotic drugs
- It could be implemented in fast and simple kits.
- Reliable: with only a four-gene expression profile can be predicted the clinical response with an accuracy of 0.83 and an area under the curve of 0.97 using a logistic regression.
- Non-invasive: it can be performed on isolated biological samples obtained from the patients through non-invasive techniques, such as blood extraction
- High predictive power (based on the Gini value).

#### Patent Status

Spanish Patent Application

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