



Shank3, a new marker of Schizophrenia

Reference: VAL-681-CHUM

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Background

Schizophrenia is a chronic psychiatric disorder characterized by a profound disruption in cognition, behaviour and emotion that affects up to 1% of the worldwide population. Today, there is a poor understanding of the genes involved in schizophrenia which severely hampered the development of improved antipsychotic drugs. Schizophrenia is thought to be due to polygenic inheritance though a fraction of the cases could result from variably penetrant *de novo* mutations. The possibility that schizophrenia could be caused by *de novo* mutations was first proposed over a half century ago. In view of the fact that little is known about the genes altered in schizophrenic subjects and of the small number of efficient therapeutic and diagnostic treatments available, there remains a need to identify new genes associated with schizophrenia and to provide new diagnostic methods and therapeutic targets for the treatment of schizophrenia.

Technology

The laboratory of Dr. Rouleau discovered changes in Shank3, a gene linked to a variety of neuro-developmental diseases, such as autism, in a population of subjects afflicted with schizophrenia.

The discovery of a high proportion of *de novo* mutations within parts of Shank3, associated to schizophrenic patients, represents for the first time a genetic marker that can be linked to this disease.

Results

Mutations were discovered in human subjects through genetic screening. The neuro-developmental effects of these changes were confirmed in a zebrafish model.

Applications

This product can meet 2 commercial needs:

1. Primarily, as a prognostic and diagnostic tool for schizophrenia.
2. As a target for drug screening, which can lead to new treatments for schizophrenia.

Competitive Advantages

To date, there are no gene-based diagnostic tests for schizophrenia available on the market.

Patent Status

US provisional patent filed (Q2/2009)

Business Opportunity

Univalor is seeking a license agreement with a commercial partner.

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