

New Animal Models and Pre-Clinical Screening Methodology for Psychiatric Drug Development (Carmel)

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Background

Psychiatric disorders such as depression, anxiety and schizophrenia are leading causes of disability worldwide, and have a huge social impact. Available drugs prescribed to treat these disorders are mostly non-specific and help, in the best cases, 40-50% of patients. All cause side effects, and many of the existing drugs (some of which have become blockbusters) are coming close to patent expiration.

Despite the clear need for better drugs and major advances in the understanding of the molecular basis of these disorders in recent years, efforts to discover and develop new drugs for neuropsychiatric disorders have been relatively unsuccessful.

The development of new drugs is hampered by the absence of adequate predictive animal models for preclinical drug screening. Inadequate animal models have led to continuous failure in identifying relevant novel candidates for drug development and to missing identifying relevant properties of candidate drugs, which, as a result, were not further tested.

Preclinical screening, at the earliest stages of discovery, and valid animal models for early compound selection are mandatory to provide initial assessment of the functional effects of novel compounds in drug development.

Advancing Preclinical Screening and Animal Models

Of all the major psychiatric indications, the depression and anxiety markets represent and continue to represent the highest levels of unmet need.

The University of Haifa's Brain and Behavior Laboratory headed by Prof. Gal Richter-Levin has developed novel, predictive preclinical models and more reliable complex screening methodologies which overcome shortcoming of previous animal models. These advanced tools are offered to pharmaceutical companies in the field both as drug-screening platforms that are able to reliably identify properties of drugs relevant to human symptomology, and as an effective platform for identifying relevant novel candidates.

According to a market research report by BBC Research, the global market for drugs used to treat mental disorders was valued at \$70.1 billion in 2012 and is estimated to have declined slightly to nearly \$69 billion in 2013.

The Brain and Behavior Laboratory Services

Established novel and unique behavioral animal models for anxiety, post-traumatic stress disorder and depression.

- For effective drug screening
- For identifying novel candidates for drug development

A multidisciplinary approach for designing the preclinical models suitable to the most relevant symptoms of a specific disorder, including classical electrophysiological parameters, behavioral parameters and unique data analysis methods.

Biochemical and electrophysiological measurements and analysis power.

A committed scientific team with the relevant experience and expertise to develop and set up relevant rodent models.

Investment & partnership opportunities

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