Discovery of a cognitive enhancer for schizophrenia treatment

- The biotech company Iproteos, settled in Barcelona, has discovered a promising compound for the treatment of Cognitive Impairment Associated to Schizophrenia (CIAS). Animal model studies, performed in collaboration with the Neuropsychopharmacology Group from the University of Basque Country (Universidad del País Vasco) and CIBERSAM has demonstrated the compound efficacy.

- Schizophrenia affects 45 million people worldwide and is classified as one of the most disabling diseases, according to the WHO. There is no current treatment for CIAS.

- The compound, named IPR19, opens new possibilities in the procognitive drug development for schizophrenia treatment. The molecule is in regulatory preclinical phase and it is planned to be evaluated in humans in 2018.

Barcelona, 19th of December of 2016. The biotech company Iproteos, settled at Barcelona Science Park; the Neuropsychopharmacology Group belonging to the University of Basque Country (Universidad del País Vasco) and to the Centro de Investigación Biomédica en Red de Salud Mental (CIBERSAM); and the Institute for Research in Biomedicine of Barcelona (IRB Barcelona), have published an article at European Neuropsychopharmacology, where the new procognitive drug efficacy has been demonstrated.

The compound, named IPR19, has demonstrated its efficacy to revert the Cognitive Impairment Associated to Schizophrenia (CIAS), an action that is achieved through the modulation of a new mechanism of action. The target has not been explored to date for this disease, fact that emphasizes the novelty of the work. Besides, it is a stable, non-toxic and stable drug with capacity to penetrate the brain, where it performs its action. A great number of potential drugs are unable to cross the Central Nervous System protecting barrier, making impossible the therapeutic action. However, IPR19 is able to go through this restrictive barrier.
“It is the first time that a compound of these characteristics is demonstrated to have potential for being used in the treatment of CIAS. IPR19 implies a starting point for the generation of novel therapies for this symptomatology, that lacks of current treatment”, comments Roger Prades, author of the scientific paper published at European Neuropsychopharmacology.

The efficacy verification has been performed in schizophrenia animal models. Specifically, the drug action has been validated in three mouse models that are characterized by a deficit on the cognitive function. The experiments have been conducted in collaboration with the Neuropsychopharmacology group of the Basque Country University and CIBERSAM. Through a battery of tests, where working and spatial memory are evaluated, it has been demonstrated that IPR19 administration is able to revert the cognitive deficit and recover the basal levels.

“This publication is a highly relevant achievement for Iproteos, since it implies the validation of our schizophrenia project by the neuropsychopharmacology international expert community”, affirms Teresa Tarragó, CEO of Iproteos. “The collaboration with the group of Prof. Javier Meana, from the Basque Country University and CIBERSAM, has been key in the efficacy demonstration of our drug. This publication is another proof that the public-private collaboration can provide a great benefit to the Spanish research environment, if it is properly organized”.

Iproteos is currently performing the regulatory preclinical phase of its candidate for the CIAS treatment. The company recently closed a funding round, led by Caixa Capital Risc, for the performance of these experiments. It is planned that the drug will be evaluated in humans in 2018.

The Journal European Neuropsychopharmacology is the official publication of the European College of Neuropsychopharmacology (ECNP). One of the main objectives of the journal is the minimization of the gap between the neuroscience basic discoveries and the clinical translation. The articles are centred on scientific findings related to the human brain behaviour and to new treatment discoveries.

Schizophrenia is a heterogeneous disease that affects 45 million people worldwide. The clinical signs are classified into three symptom groups: positive (speech, thought and behaviour disturbances, hallucinations, delusions), negative (apathy, anhedonia) and cognitive (reduced ability to pay selective attention, difficulty on processing social and emotional information, impaired working memory). Despite there is treatment for the first two symptom groups, CIAS is an unmet medical need. This impossibilities the daily life of patients (a 90% unemployment rate is estimated among schizophrenia patients). According to the World Health Organization (WHO), schizophrenia is one of the most disabling diseases.

Given the need of procognitive drugs, Iproteos’ discovery opens new avenues to cover the lack of research in this area.
Iproteos
Iproteos is a Biotechnology Company founded in 2011 by Prof. Ernest Giralt and Dr. Teresa Tarragó. The biotech has a platform for the discovery of new drugs able to modulate protein-protein interaction. Iproteos has a drug pipeline centred on schizophrenia, epilepsy, atherosclerosis and paediatric cancer. Besides, the company performs partnership agreements with pharmaceutical and biotech companies for the discovery of new, potent and permeable compounds targeting protein-protein interactions.
http://www.iproteos.com

Group of Neuropsychopharmacology of UPV/EHU and CIBERSAM
The group of Neuropsychopharmacology of UPV/EHU and CIBERSAM, dependent on Instituto de Salud Carlos III is led by Prof. Javier Meana. Its interest is centred on the study of factors that can trigger psychotic episodes and generate cognitive impairment in schizophrenia. The group is an international referent in the study of biological substrates of mental disease and in the development of new and more efficacious treatments for these disorders.
www.ehu.es/neuropsicofarmacologia