TECHNOLOGY OFFER
STEROIDAL NITRONES WITH ANTIOXIDANT AND NEUROPROTECTIVE ACTIVITY FOR THE TREATMENT OF ICTUS AND NEURODEGENERATIVE DISEASES

Opportunity No: T01

Summary

The Institute Ramón y Cajal for Health Research (IRYCIS) in collaboration with the Spanish Council for Scientific Research (CSIC) have developed a synthesized steroid-nitrone, with an innovative mechanism of action for the treatment of ischemic stroke and other neurodegenerative diseases.

The treatment efficacy have already been proved in an animal model of brain ischemia, with promising results. We are looking for partners to carry out the preclinical package and get approval to start a first-in-human clinical trial.

Description

Stroke, or cerebrovascular disease (CVD), is classified into ischemic and haemorrhagic according to their etiology, with a rate of 85% and 15%, respectively.

In the brain, the initial period of reperfusion after an ischemic stroke causes an additional stress by the production of reactive oxygenated species (ROS). The nitrone group acts as a radical scavenger, reduces the oxidative stress and consequently diminish neuronal death.

The Institute Ramón y Cajal for Health Research (IRYCIS) and the Spanish Council for Scientific Research (CSIC) have developed a synthesized steroid-nitrone (named S2) suitable for the treatment of ischemic stroke, due to its neuroprotective effect and the capacity to cross the blood-brain barrier.

In vitro assays in neuronal cultures have shown high neuroprotective activity against ischemia-reoxygenation, and in vivo studies in an animal model of brain ischemia shown a significantly decrease of neuronal death and apoptosis, and neurological deficit score (NDS) improvement.

Advantages and innovations

S2 is a synthesized steroid-nitrone that have proved an improved neuroprotective effect and higher cell permeability compared to other known nitrones, such as NXY-059 (compound that failed in phase III clinical trial).

Stage of development

Preclinical stage.

Intellectual Property Rights

Priority date: May 22, 2013
Ownership: 100% Biomedical Research Foundation Ramon y Cajal University Hospital - FiBioHRC

Technology keywords

006001016 Pharmaceutical Products / Drugs
006001015 Neurology, Brain Research

Market Application keywords

005002 Therapeutic
005003002 Pharmaceuticals/fine chemicals

Role of partner sought

Compound formulation.
Proof of Concept (PoC) in animal model.
Regulatory non-clinical and clinical studies.
Extension to other neurodegenerative diseases.

Type of partnership considered

License agreement
Co-development agreement

Contact

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