

# IFENPRODIL FOR THE TREATMENT OF CHRONIC SEIZURES

## PROBLEM DESCRIPTION

Approximately 50 million people worldwide suffer from epilepsy and the most common type is temporal lobe epilepsy (TLE). It often occurs as a result of cancer, stroke, or head trauma, but usually the etiology remains unknown. The treatment of epilepsy is difficult, and although new anticonvulsants are systematically being developed, in about 40% of cases the disease is resistant to available drugs. Thus, there is an unmet need for novel solutions for drug resistant epilepsy.

## STAGE OF DEVELOPMENT

DISCOVERY

VERIFIED IN ANIMAL MODEL

TOXICOLOGY DONE

PHASE I CT

PHASE II CT

## INNOVATION OF THE SOLUTION

Repurposing approach may allow to use ifenprodil, a marketed vasodilator, to treat TLE, including drug resistant forms of the disease. It may also be used to prevent epileptogenesis, which may occur e.g. after brain injury. Ifenprodil is a selective antagonist acting on a small subpopulation of NMDAR receptors, which has been shown to inhibit chronic seizures in a mouse model of TLE.

## THE MOST IMPORTANT ADVANTAGES

Novel approach enabling effective TLE prevention and treatment without disadvantages of broader NMDAR receptors antagonists  
No toxicity in preliminary animal studies.  
Known safety profile of ifenprodil in humans.

# PROJECT CORE TEAM

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# KEY PUBLICATION

Gorlewicz A, et al. 2022. Epileptiform GluN2B-driven excitation in hippocampus as a therapeutic target against temporal lobe epilepsy.  
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# KEY WORDS



DRUG



NEUROLOGICAL DISEASES



NEW MECHANISM

# INTELLECTUAL PROPERTY STATUS

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