

# Lead Optimization of receptor antagonist CT0093 for disease-modifying Alzheimers

<https://www.neurodegenerationresearch.eu/survey/lead-optimization-of-receptor-antagonist-ct0093-for-disease-modifying-alzheimers-2/>

## Principal Investigators

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## Institution

COGNITION THERAPEUTICS, INC.

## Contact information of lead PI

### Country

USA

## Title of project or programme

Lead Optimization of receptor antagonist CT0093 for disease-modifying Alzheimers

## Source of funding information

NIH (NIA)

## Total sum awarded (Euro)

€ 1,395,288.07

## Start date of award

15/05/2014

## Total duration of award in years

3

## The project/programme is most relevant to:

Alzheimer's disease & other dementias

## Keywords

Acquired Cognitive Impairment... Aging... Alzheimer's Disease... Alzheimer's Disease including Alzheimer's Disease Related Dementias (AD/ADRD)... Behavioral and Social Science... Brain Disorders... Dementia... Neurodegenerative... Neurosciences... Prevention... Translational Research

## Research Abstract

DESCRIPTION (provided by applicant): Cognition Therapeutics Inc.'s mission is to develop effective therapeutics for Alzheimer's, Mild Cognitive Impairment and Down's syndrome. Recent scientific discoveries in the Alzheimer's disease field have identified oligomers of the brain protein A $\beta$  42 as toxic culprits in the disease process. Drugs that antagonize the binding of this toxic protein to neuronal receptors and block the downstream pathological signaling that inhibits memory formation should prevent further damage, and unmask existing memory capacity as synapses recover. Drugs that stop oligomer-induced damage are therefore hypothesized to be disease-modifying treatments that would be effective throughout the course of the disease, and significantly impact the lives of the millions of Alzheimer's patients. Pharmaceutical industry efforts targeted specifically at oligomer blockade are currently limited. Cognition Therapeutics is one of the only companies uniquely focused on discovery of small molecule receptor antagonists of toxic soluble oligomers. We have discovered a CNS drug-like lead series of oligomer receptor antagonists, CT0093. Analogs in this series reduce binding of oligomers to synapses and completely block A $\beta$  oligomer-induced membrane trafficking changes and synapse loss. CT0093 also completely blocks oligomer-induced memory deficits in Alzheimer's disease mouse models. This proposal will allow us to expand our preliminary medicinal chemistry analoging efforts and optimize the CT0093 molecular scaffold with the goal of obtaining a disease-modifying IND candidate drug.

### **Lay Summary**

**PUBLIC HEALTH RELEVANCE:** Cognition Therapeutics Inc.'s mission is to develop effective therapeutics for Alzheimer's disease and Mild Cognitive Impairment. We have discovered a CNS drug-like lead series CT0093 that blocks the binding of the toxic A $\beta$  oligomer protein (believed to cause Alzheimer's disease) to cells in the brain. CT0093 prevents memory deficits in Alzheimer's disease mouse models. This proposal requests funding to further improve CT0093 and allow the continued advancement of this exciting candidate drug towards the clinic. Successful advancement of CT0093 would significantly impact the lives of the 35 million patient's worldwide suffering from AD and MCI, for whom no disease-modifying treatment exists.

### **Further information available at:**

#### **Types:**

Investments > €500k

#### **Member States:**

United States of America

#### **Diseases:**

Alzheimer's disease & other dementias

#### **Years:**

2016

#### **Database Categories:**

N/A

#### **Database Tags:**

N/A