

New memory drug moves into Phase 1 clinical study

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An experimental drug that may improve memory is now being tested in a Phase 1 safety trial. The compound, BPN14770, was developed by Tetra Discovery Partners, with support from the NIH Blueprint Neurotherapeutics Network, a program designed to facilitate the discovery and development of novel neurological treatments. It is the first compound funded by the program to reach a Phase 1 clinical trial.

"We are pleased that BPN14770 has moved into a clinical study and we are eagerly awaiting the outcomes of the safety trial," said Amir Tamiz, Ph.D., program director at the NIH's National Institute of Neurological Disorders and Stroke (NINDS). The phase 1 study is being funded by the NINDS and the NIH's National Institute on Aging.

The compound is a first in class phosphodiesterase 4D negative allosteric modulator (PDE4D-NAM). PDE4D is an enzyme that plays a role in the formation of connections between brain cells. In addition, blocking PDE4D increases activity of cyclic adenosine monophosphate, a protein that enhances learning and memory. Rolipram is a different type of PDE4 inhibitor that has been shown to improve cognitive

performance in mouse models of Alzheimer's disease, stroke and [traumatic brain injury](#). Although rolipram has been effective in animal studies, it is not used clinically due to serious side effects. BPN14770 may be a possible treatment for dementia and Alzheimer's disease with less potential for side effects than rolipram.

The Phase 1 trial will test the safety and pharmacokinetics (what happens to the drug inside the body) of the compound in 48 healthy volunteers. If deemed safe, the next phase of testing will examine its effects on long-term memory and other aspects of cognition.

The NIH Blueprint Neurotherapeutics Network is a unique program that matches research scientists with drug discovery and development consultants and contract research organizations to speed up the rate at which potential drugs discovered in the lab move into clinical trials. Many principal investigators may not have the experience or resources to turn a newly discovered compound into a therapy. The Blueprint Neurotherapeutics Network grants them access to drug discovery experts who can guide them during the discovery and development stages.

"The goal of the Blueprint Neurotherapeutics Network is to rapidly move promising ideas for treating seemingly incurable neurological disorders from the lab bench to the bedside. The Network achieves this goal through collaborations between researchers, consultants and contractors. The consultants and contractors in the Neurotherapeutics Network provide their expertise to help investigators, many of whom may be new to drug development," said Dr. Tamiz.

Future research studies may test the effects of the [drug](#) in Alzheimer's patients as well as those with [mild cognitive impairment](#).

Provided by National Institutes of Health

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