

# Alzheimer's drug begins human trials

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Human clinical trials are under way for a U.S. drug to treat Alzheimer's disease, based on the design of a Purdue University researcher.

"Current drugs manage the symptoms, but this could be the first disease-modifying therapy," said Professor Arun Ghosh. "It may be able to prevent and reverse the disease."

Ghosh and Jordan Tang of the Oklahoma Medical Research Foundation developed the drug CTS-21166.

In 2000, Tang identified beta-secretase, a key enzyme in the progression of Alzheimer's that triggers the formation of amyloid plaques in the brain. Ghosh later built a molecule that binds to the enzyme and inhibits its activity.

"These molecules fit together like puzzle pieces," Ghosh said. "We created a molecule that fits with a key piece of the Alzheimer's disease puzzle. When the treatment molecule binds to the enzyme, it changes the shape of that puzzle piece so that it no longer fits in its original spot. This halts the chain reaction that leads to the devastating symptoms of Alzheimer's disease."

Ghosh reports his recent work in the May 17 issue of the *Journal of Medicinal Chemistry*.

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