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BREAKING MEDICAL NEWS December 18, 2013

Alzheimer's Drugs Tested on Animals Fail in Human Brain Cells

December 18, 2013

Animal tests are not well-suited for evaluating potential treatments for Alzheimer's disease, according to a study published in *Stem Cell Reports*. The problem seems to be that mouse brain cells are much more responsive to the effects of drugs, compared with human brain cells, leading to an overestimation of drugs' value and disappointment when drugs are tested in patients. Much of the research dedicated to developing drugs for Alzheimer's disease has focused drugs that block the production of the amyloid proteins that form plaques in the brain. Despite promising results in animal models of Alzheimer's disease, the medications that have made it to clinical trials have so far failed. In this study, researchers used brain cells derived from stem cells taken from Alzheimer's disease patients. In these cells, therapeutically relevant doses of medications failed to affect plaque-causing amyloid levels. According to the authors, "...It appears to be conceivable that data generated...in mouse models have led to an overestimation of [medication] efficacy in human neurons, a hypothesis that is supported by the clinical failure of this class of compounds."

Mertens J, Stüber K, Wunderlich, et al. APP processing in human pluripotent stem cell-derived neurons is resistant to nsaid-based γ-secretase modulation. *Stem Cell Reports*. 2013;1:491-498.

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