



Recent **ALZHEIMER'S RESEARCH**

The Memory Initiative



Written by Megan Hu

WHAT'S HAPPENING?



At many universities, professors, researchers, and students are all searching for ways to find possible drugs to treat Alzheimer's.

Currently, there is still no cure to Alzheimer's. However, ongoing research continues to expand our understanding of this condition and brings hope that more effective treatment may be developed in the future.



IN THIS ARTICLE...

**WE WILL GO OVER 2 MAIN
RESERARCH PROJECTS**

VISIT STANFORD UNIVERSITY ARTICLE

**RESEARCHERS AT THE KNIGHT
INITIATIVE FOR BRAIN RESILIENCE
HAVE DISCOVERED THAT BRAIN
METABOLISM DRUGS MAY BE
BENEFICIAL TO ALZHEIMER
PATIENTS AS WELL.**



VISIT UNIVERSITY OF SOUTHERN CALIFORNIA ARTICLE

**RESEARCHERS AT USC KEEK
SCHOOL OF MEDICINE FOUND A
CONNECTION ALZHEIMER'S AND
CHOLESTEROL**



STANFORD:

DRUGS THAT IMPROVE BRAIN METABOLISM COULD HELP ALZHEIMER PATIENTS

- A pathway well known in cancer research (Kynurenine pathway) may be a way to improve brain performance in Alzheimer patients
- An increase in IDO1 and Kynurenine triggered by accumulation of Tau proteins and Amyloid would lead to cognitive decline



**Knight Initiative
for Brain Resilience**
WU TSAI NEUROSCIENCES INSTITUTE
STANFORD UNIVERSITY



STANFORD:

DRUGS THAT IMPROVE BRAIN METABOLISM COULD HELP ALZHEIMER PATIENTS

EXPERIMENT

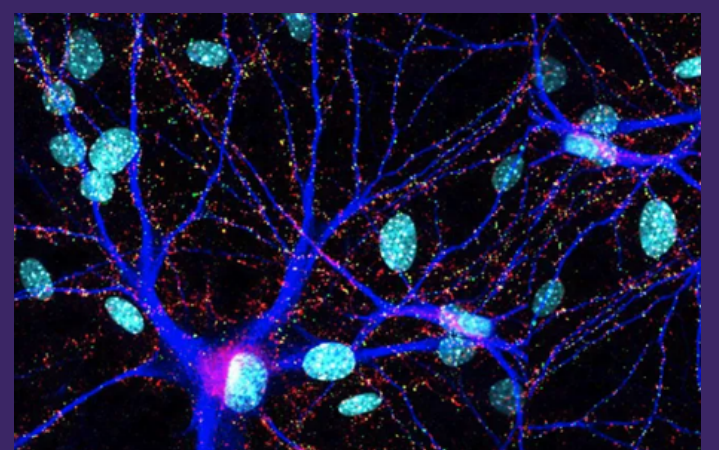
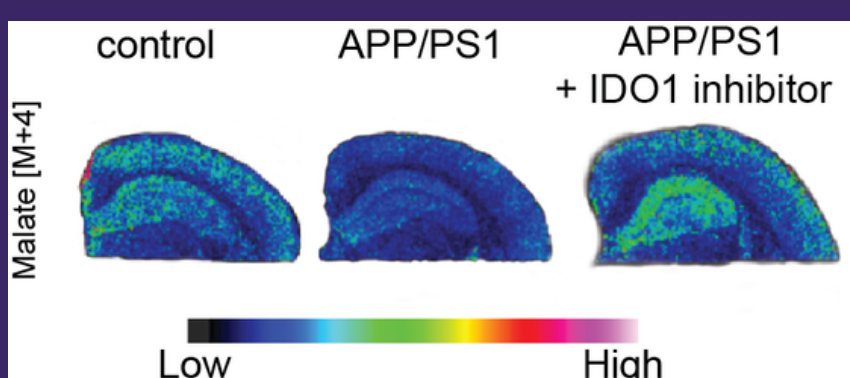
- Tested mice with Alzheimer's before and after IDO1 drug intervention

RESULTS

- Drugs improved hippocampal glucose metabolism and mice's memory
- There are already drugs that suppress IDO1 activity and production of Kynurenine which would help Alzheimer's patients

WHAT'S NEXT?

- Test IDO1 in human Alzheimer patients to see if they show similar results



USC:

POTENTIAL NEW DRUG TARGET FOR ALZHEIMER'S DISEASE

- Found a connection between Alzheimer's and Cholesterol
- Those with Alzheimer's (particularly who carry the APOE4 genetic risk) have higher levels of Oxidized Cholesterol which causes ABCA1 (responsible for producing good Cholesterol) to be trapped in wrong part of the cell
- This triggers brain inflammation
- When we get rid of Oxidized Cholesterol, we restore the recycling system of the brain for MORE GOOD cholesterol

Keck School of
Medicine of **USC**



USC

USC:

POTENTIAL NEW DRUG TARGET FOR ALZHEIMER'S DISEASE

EXPERIMENT

- Analyzed the ABCA1 pathway in mouse models and samples of the human brain tissue

RESULTS

- Observed ABCA1 getting trapped inside Lysosomes which are responsible for breaking down and clearing waste
- Oxidized Cholesterol was building up in the cell

WHAT DOES THIS MEAN?

- Drugs that lower Oxysterol in people at risk for Alzheimer's could prevent disease from advancing



IN CONCLUSION..

While there is currently no cure for Alzheimer's disease, research continues to bring us closer to understanding its causes, progression, and potential treatments.

Every year, scientists and medical professionals make new discoveries that help improve patient care, and quality of life for those affected by the disease.

Through continued investment in research, education, and innovation, we can work toward a future with more effective treatments and, one day, a cure.



Be the Change for Those You Love



Protect Memory. Preserve Dignity