

Science closing in on mystery of age-related memory loss

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The world's scientific community may be one step closer to understanding age-related memory loss, and to developing a drug that might help boost memory. In an editorial published May 7 in *Science*, J. David Sweatt, Ph.D., chair of the University of Alabama at Birmingham (UAB) Department of Neurobiology, says that drugs known as histone deacetylase inhibitors are showing great promise in stopping memory loss - and even in boosting the formation of memory in animal models.

Sweatt's editorial was published in conjunction with findings published in *Science* from researchers led by Shahaf Peleg at the European Neuroscience Institute at University Goettingen in Germany. The European researchers' findings supplement and support work done previously in Sweatt's laboratory.

"It's a real proof of concept," said Sweatt. "We've been studying histone deacetylase inhibitors for some 10 years. Studies in our lab and elsewhere strongly suggested that these drugs could potentially reverse aging-associated memory dysfunction.

"The new results from Peleg's group provide important proof-of-principal that this might be a viable approach to therapeutic interventions in aging."

Sweatt, director of the Evelyn F. McKnight Brain Institute at UAB, cautions that the findings have so far only been observed in mouse models. He says further research is warranted to see if the findings

translate to [memory formation](#) in humans.

He is especially encouraged because histone deacetylase inhibitors seem to be beneficial in both normal age-related [memory decline](#), as evidenced by the Peleg team's findings, and in a mouse model of Alzheimer's disease, as reported by Sweatt's laboratory earlier this year in a different paper in *Neuropsychopharmacology*.

"These studies will hopefully lead to more effective prevention strategies to improve quality of life in the aged, as well as contribute to a better understanding of memory," Sweatt said.

Provided by University of Alabama at Birmingham

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