

Compound from chicory reveals possible treatment strategy for neurodegenerative disorders

January 10 2017

In a new research report published online in *The FASEB Journal*, scientists used mice to show that chicoric acid, a component of chicory, may help reduce memory impairment associated with Alzheimer's disease, and possibly other neurodegenerative diseases.

"Chicoric acid, a nutraceutical component of chicory, also exists extensively in *Echinacea purpurea*, lettuce, dandelion, and other edible plants and vegetables," said Xuebo Liu, Ph.D., a researcher involved in the work at the College of Food Science and Engineering, Northwest A&F University, in Yangling, China. "Chicoric acid mitigated lipopolysaccharide-induced amyloidogenesis and memory impairment via inhibiting NFκB signal pathway, suggesting that chicoric acid supplementation might be a plausible therapeutic intervention for neuroinflammation-related diseases such as Alzheimer's disease."

To reach their conclusions, Liu and colleagues used three groups of mice: a control group, a group that received lipopolysaccharide (LPS), and another group that received both LPS and chicoric acid (CA). Learning and memory capabilities were evaluated using two separate behavioral tests (Y-maze and Morris water maze) four hours after LPS injection. They found that the LPS-treated mice took a longer time to find the platform compared to the control group, whereas supplementation with CA significantly decreased the escape latency. Next, the hidden platform was removed to perform a probe trial.

Compared with the [control group](#), the mice stimulated by LPS swam across the entire pool and spent less time in the target quadrant, with a lower number of platform crossings. The [mice](#) treated with CA plus LPS exhibited a significant increase in the average time spent in the target quadrant, with more crossings of the platform.

"These are provocative findings, but with the caveat that the LPS regime is not likely a model of long-term [memory impairment](#)," said Thoru Pederson, Ph.D., Editor-in-Chief of *The FASEB Journal*. "But the possibility remains that chicoric acid could prove to be a beneficial human nutraceutical for overall memory acuity."

More information: Q. Liu et al, Chicoric acid supplementation prevents systemic inflammation-induced memory impairment and amyloidogenesis via inhibition of NF- B, *The FASEB Journal* (2016). [DOI: 10.1096/fj.201601071R](https://doi.org/10.1096/fj.201601071R)

Provided by Federation of American Societies for Experimental Biology

Citation: Compound from chicory reveals possible treatment strategy for neurodegenerative disorders (2017, January 10) retrieved 6 May 2024 from <https://medicalxpress.com/news/2017-01-compound-chicory-reveals-treatment-strategy.html>

<p>This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.</p>
--