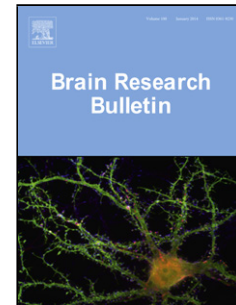


Accepted Manuscript

Title: Protective effects of kinetin against aluminum chloride and D-galactose induced cognitive impairment and oxidative damage in mouse

Authors: Yunpeng Wei, Dan Liu, Yin Zheng, Honglian Li, Chaoshuang Hao, Wuqing Ouyang



PII: S0361-9230(17)30130-2
DOI: <http://dx.doi.org/10.1016/j.brainresbull.2017.08.014>
Reference: BRB 9286

To appear in: *Brain Research Bulletin*

Received date: 7-3-2017
Revised date: 9-8-2017
Accepted date: 29-8-2017

Please cite this article as: Yunpeng Wei, Dan Liu, Yin Zheng, Honglian Li, Chaoshuang Hao, Wuqing Ouyang, Protective effects of kinetin against aluminum chloride and D-galactose induced cognitive impairment and oxidative damage in mouse, Brain Research Bulletin <http://dx.doi.org/10.1016/j.brainresbull.2017.08.014>

This is a PDF file of an unedited manuscript that has been accepted for publication. As a service to our customers we are providing this early version of the manuscript. The manuscript will undergo copyediting, typesetting, and review of the resulting proof before it is published in its final form. Please note that during the production process errors may be discovered which could affect the content, and all legal disclaimers that apply to the journal pertain.

Protective effects of kinetin against aluminum chloride and D-galactose induced cognitive impairment and oxidative damage in mouse

Yunpeng Wei^a, Dan Liu^a, Yin Zheng^a, Honglian Li^a, Chaoshuang Hao^a, Wuqing Ouyang^{a,*}

^a *College of Veterinary Medicine, Northwest A&F University, Yangling, Shaanxi 712100, China*

* Corresponding author at: College of Veterinary Medicine, Physiology, Basic veterinary medicine and Cell biology, Northwest A&F University, 22 Xinong Road, Yangling, Shaanxi 712100, China. Tel.: +86 29 87091201; Fax: +86 29 87091201.

E-mail address: oywq2017@126.com (W. Ouyang).

Highlights

- Kinetin improved memory and spatial learning abilities, and attenuated brain histopathologic changes
- Kinetin inhibited Al level in cortex and hippocampus, depressed AChE activity and restored ACh content
- Kinetin elevated activities of anti-oxidative enzymes and increased the content of HO-1
- Kinetin inhibited oxidative damage
- Kinetin inhibited the expressions of APP, β -secretase, γ -secretase and A β ₁₋₄₂

Abstract: Increasing evidence indicates that aluminum exposure and oxidative stress play crucial roles in the initiation and development of Alzheimer's disease (AD). Aluminum chloride (AlCl₃) and D-galactose (D-gal) combined treatment of mice is considered as an easy and cheap way to obtain an animal model of AD. Kinetin is a plant cytokinin, which is also reported to exert neuro-protective effects in vivo and in vitro. Thus, in this study, neuro-protective effects of kinetin were investigated in an AD model of mice induced by AlCl₃ and D-gal. The Morris water maze (MWM) test was performed to directly evaluate neuro-protective effects of kinetin on the memory and spatial learning abilities, while the histopathological changes were examined by hematoxylin and eosin (H & E) staining method. To further investigate mechanisms involved, Al content in cortex and hippocampus was determined. In addition, related detection kits were used to determine

Download English Version:

<https://daneshyari.com/en/article/5736333>

Download Persian Version:

<https://daneshyari.com/article/5736333>

[Daneshyari.com](https://daneshyari.com)