

A mycotoxin present in many types of food deteriorates neuroregeneration

September 19 2014



Universidad CEU Cardenal Herrera

The research, carried out in the Faculty of Health Sciences of CEU Cardenal Herrera University, in cooperation with the University of Valencia, was published in the *Journal of Applied Toxicology*. This is one of the first articles worldwide to research the effect of Ochratoxin A on the subventricular zone of the brain, which in the adult mammalian brain is where neurogenesis primarily occurs.



Researchers at the Institute for Biomedical Sciences at CEU-UCH, in cooperation with colleagues of University of Valencia, showed through in vitro as well as in vivo experiments on lab animals the potential negative effect on neuroregeneration caused by Ochratoxine A, a mycotoxine found in many types of food, especially cereals and their derivatives. The study showed that Ochratoxine A deteriorates the formation of new neurons in the brain, a process called neurogenesis that, in particular, takes place in the subventricular zone, which in the adult brain is the largest of the neurogenic zones.

CEU-UCH professors José Miguel Soria, head of the research group 'Strategies in Neuroprotection and Neuroreparation' at the CEU-UCH Faculty of Health Sciences, and María Ángeles García Esparza, a member of the group, monitored the research, which was published in the Journal of Applied Toxicology. The authors further show that Ochratoxin Acan accumulate in the brain, where it causes increased cellular decay in the neurogenic zones, which in turn affects the production of <u>neural stem cells</u>. As neural stem cells regenerate neural populations, a decreased production of these could be a crucial factor in neurodegenerative diseases.

More information: Sara Paradells, Brenda Rocamonde, Cristina Llinares, Vicente Herranz-Pérez, Misericordia Jimenez, Jose Manuel Garcia-Verdugo, Ivan Zipancic, Jose Miguel Soria, Mª Angeles Garcia-Esparza. Neurotoxic effects of ochratoxin-A on the subventricular zone of adult mouse brain. *Journal of Applied Toxicology* 07/2014; <u>DOI:</u> <u>10.13140/2.1.1347.1362</u>

Provided by Asociacion RUVID

Citation: A mycotoxin present in many types of food deteriorates neuroregeneration (2014,



September 19) retrieved 4 May 2024 from <u>https://medicalxpress.com/news/2014-09-mycotoxin-food-deteriorates-neuroregeneration.html</u>

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.