

Accepted Manuscript

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PII: S0300-483X(18)30035-0
DOI: <https://doi.org/10.1016/j.tox.2018.03.003>
Reference: TOX 52015

To appear in: *Toxicology*

Received date: 21-12-2017
Revised date: 4-3-2018
Accepted date: 6-3-2018

Please cite this article as: Su, Benyu, Guan, Qiangdong, Wang, Miaomiao, Liu, Ning, Wei, Xiaomin, Wang, Shue, Yang, Xiwei, Jiang, Wenchong, Xu, Mengmeng, Yu, Sufang, Calpeptin is neuroprotective against acrylamide-induced neuropathy in rats. *Toxicology* <https://doi.org/10.1016/j.tox.2018.03.003>

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Calpeptin is neuroprotective against acrylamide-induced neuropathy in rats

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Highlights

- Acrylamide (ACR) neuropathy model and calpeptin (CP) intervention model have been established in vitro and in vivo.
- CP has intervention effect on ACR-induced neurotoxicity.
- The mechanism of ACR-induced neuropathy is associated with the channel of calpain-MAP₂-MTs.

Abstract

The aim of this study is to explore the potent neuroprotective effect of calpeptin (CP) on neuron damage induced by acrylamide (ACR) and its mechanism. Behavioural indicators such as hind limb splay, rota-rod performance, and gait analysis were assessed weekly to evaluate neurobehavioural changes after ACR and/or CP administration. The histopathological alterations and the changes of μ -calpain, m-calpain, microtubule-associated protein 2 (MAP2), and α -tubulin and β -tubulin protein levels in spinal cord were determined. Results showed that after

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