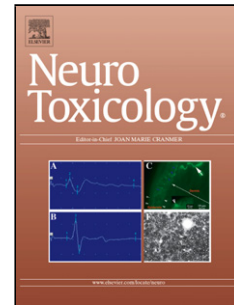


Accepted Manuscript

Title: Hypoxia regulates the level of glutamic acid decarboxylase enzymes and interrupts inhibitory synapse stability in primary cultured neurons

Authors: Seojin Hwang, Sangwoo Ham, Seong-Eun Lee, Yunjong Lee, Gum Hwa Lee



PII: S0161-813X(17)30210-3
DOI: <https://doi.org/10.1016/j.neuro.2017.10.006>
Reference: NEUTOX 2259

To appear in: *NEUTOX*

Received date: 9-6-2017
Revised date: 19-9-2017
Accepted date: 27-10-2017

Please cite this article as: Hwang Seojin, Ham Sangwoo, Lee Seong-Eun, Lee Yunjong, Lee Gum Hwa. Hypoxia regulates the level of glutamic acid decarboxylase enzymes and interrupts inhibitory synapse stability in primary cultured neurons. *Neurotoxicology* <https://doi.org/10.1016/j.neuro.2017.10.006>

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.

Hypoxia regulates the level of glutamic acid decarboxylase enzymes and interrupts inhibitory synapse stability in primary cultured neurons.

Seojin Hwang¹, Sangwoo Ham², Seong-Eun Lee¹, Yujung Lee², Gum Hwa Lee¹

¹College of Pharmacy, Chosun University, Gwangju, South Korea

²Division of Pharmacology, Department of Molecular Cell Biology, Sungkyunkwan University School of Medicine, Samsung Biomedical Research Institute (SBRI), Suwon 446-746, South Korea

Correspondence:

Gum Hwa Lee

gumhwalee@chosun.ac.kr

College of Pharmacy, Chosun University

309 Pilmun-daero, Dong-gu, Gwangju 501-759 South Korea

Highlights

- Hypoxia altered the expression of inhibitory neuron-related proteins, especially GAD67 and GAD65.
- The decrease of GAD enzymes under hypoxic condition was mediated by transcripts downregulation and enhanced proteosomal degradation.
- Hif1- α accumulation and glutamate release during hypoxia contributed to the downregulation of GADs expression.
- Hypoxia led to reduction of the density and size of inhibitory synapses in hippocampal neurons.

Download English Version:

<https://daneshyari.com/en/article/8550254>

Download Persian Version:

<https://daneshyari.com/article/8550254>

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