frontiers in Pharmacology

CORRECTION
published: 03 January 2022
doi: 10.3389/fphar.2021.810295

Corrigendum: Neuroprotective Effects of the Anti-Cancer Drug Lapatinib Against Epileptic Seizures *via* Suppressing Glutathione Peroxidase 4-Dependent Ferroptosis

Ji-Ning Jia[1,2,3,4†], *Xi-Xi Yin*[5†], *Qin Li*[1,2,3,4], *Qi-Wen Guan*[1,2,3,4], *Nan Yang*[1,2,3,4], *Kang-Ni Chen*[1,2,3,4], *Hong-Hao Zhou*[1,2,3,4] *and Xiao-Yuan Mao*[1,2,3,4*]

[1]Department of Clinical Pharmacology, Xiangya Hospital, Central South University, Changsha, China, [2]Institute of Clinical Pharmacology, Central South University, Hunan Key Laboratory of Pharmacogenetics, Changsha, China, [3]Engineering Research Center of Applied Technology of Pharmacogenomics, Ministry of Education, Changsha, China, [4]National Clinical Research Center for Geriatric Disorders, Changsha, China, [5]Department of Pediatrics, Xiangya Hospital, Central South University, Changsha, China

Keywords: lapatinib, epileptic seizures, neuroprotection, ferroptosis, lipid peroxidation, glutathione peroxidase 4

OPEN ACCESS

Edited and reviewed by:
Ashok Kumar,
University of Florida, United States

***Correspondence:**
Xiao-Yuan Mao
maoxiaoyuan2011@163.com

†These authors have contributed equally to this work

Specialty section:
This article was submitted to Neuropharmacology, a section of the journal Frontiers in Pharmacology

Received: *06 November 2021*
Accepted: *17 November 2021*
Published: *03 January 2022*

Citation:
Jia J-N, Yin X-X, Li Q, Guan Q-W, Yang N, Chen K-N, Zhou H-H and Mao X-Y (2022) Corrigendum: Neuroprotective Effects of the Anti-Cancer Drug Lapatinib Against Epileptic Seizures via Suppressing Glutathione Peroxidase 4-Dependent Ferroptosis. Front. Pharmacol. 12:810295. doi: 10.3389/fphar.2021.810295

A Corrigendum on

Neuroprotective Effects of the Anti-cancer Drug Lapatinib Against Epileptic Seizures via Suppressing Glutathione peroxidase 4-Dependent Ferroptosis
by Jia, J.-N., Yin, X.-X., Li, Q., Guan, Q.-W., Yang, N., Chen, K.-N., Zhou, H.-H., and Mao, X.-Y. (2020). Front. Pharmacol. 11:601572. doi: 10.3389/fphar.2020.601572

In the original article, there was a mistake in **Figure 5F** and **Figure 6B** as published. Due to our carelessness in the process of rearranging these figures, the image in the "Era + Fer-1" group within **Figure 5F** and the image in the "Lap" group within **Figure 6B** were uploaded with mistakes. The corrected **Figure 5** and **Figure 6** appears below.

The authors apologize for this error and state that this does not change the scientific conclusions of the article in any way. The original article has been updated.

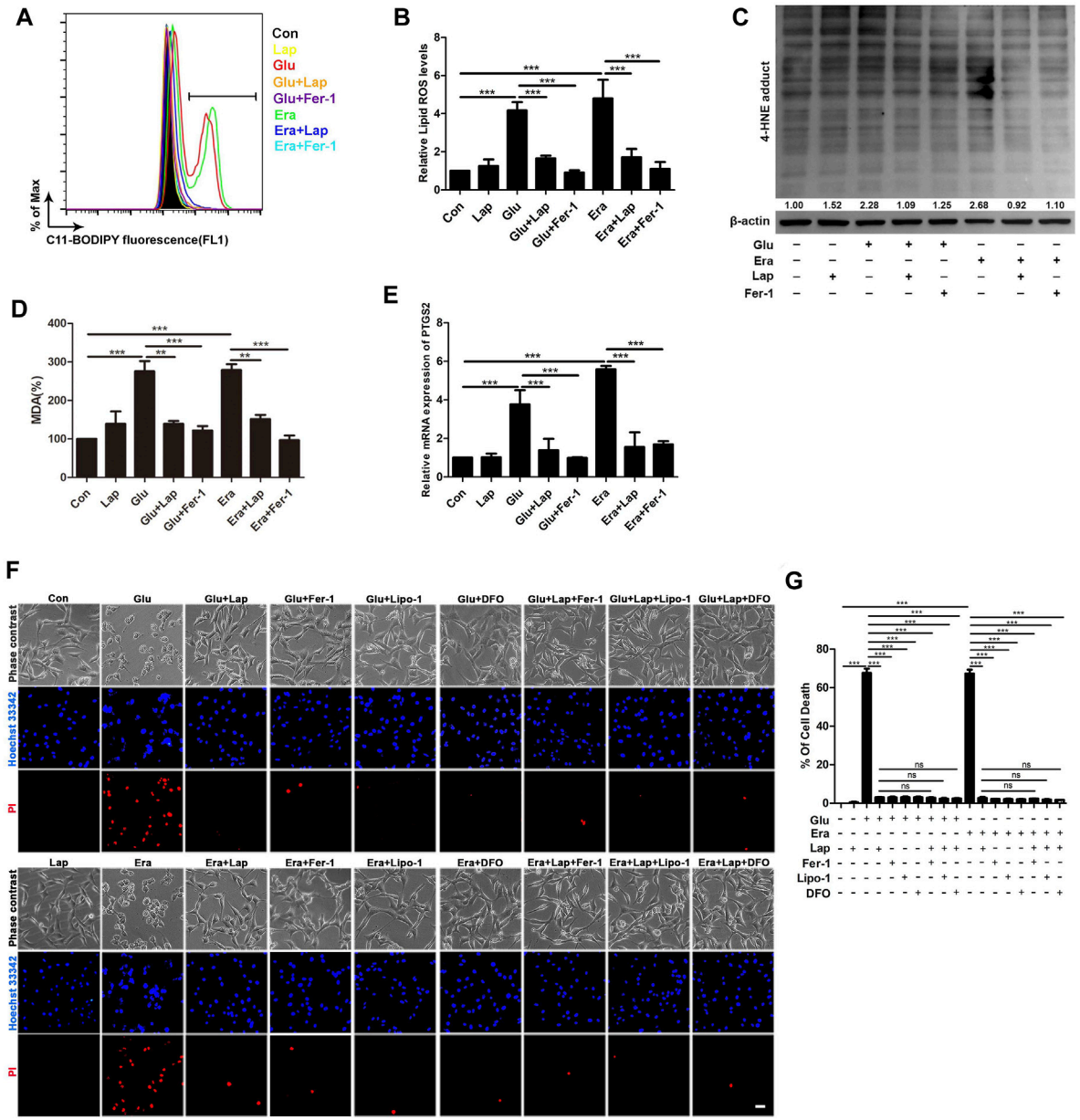

FIGURE 5 | Lapatinib prevents Glu- or erastin-induced neuronal death possibly by suppressing ferroptosis **(A–D)** Detection of lipid ROS, 4-HNE and MDA content in the glutamate (Glu)- or erastin (Era)-induced HT22 cell death model following lapatinib (Lap) (10 μM) and ferrostatin-1 (Fer-1) (12.5 μM) pretreatment for 2 h **(E)** RT-qPCR analysis of PTGS2 mRNA expression pretreated with or without Lap (10 μM) and Fer-1 (12.5 μM) in HT22 cells induced by Glu or Era **(F,G)** Comparisons of combination of Lap and ferroptosis inhibitors and Lap alone in HT22 cells following Glu or Era challenge when pretreatment with Lap (10 μM), Fer-1 (12.5 μM), liproxstatin-1 (Lip-1) (1 μM) and deferoxamine (DFO) (50 μM) pretreatment for 2 h. Scale bar: 200 μm. All results were presented as the mean ± SEM from three independent experiments, ns indicates no statistical significance. $^{**}p < 0.01$ and $^{***}p < 0.001$.

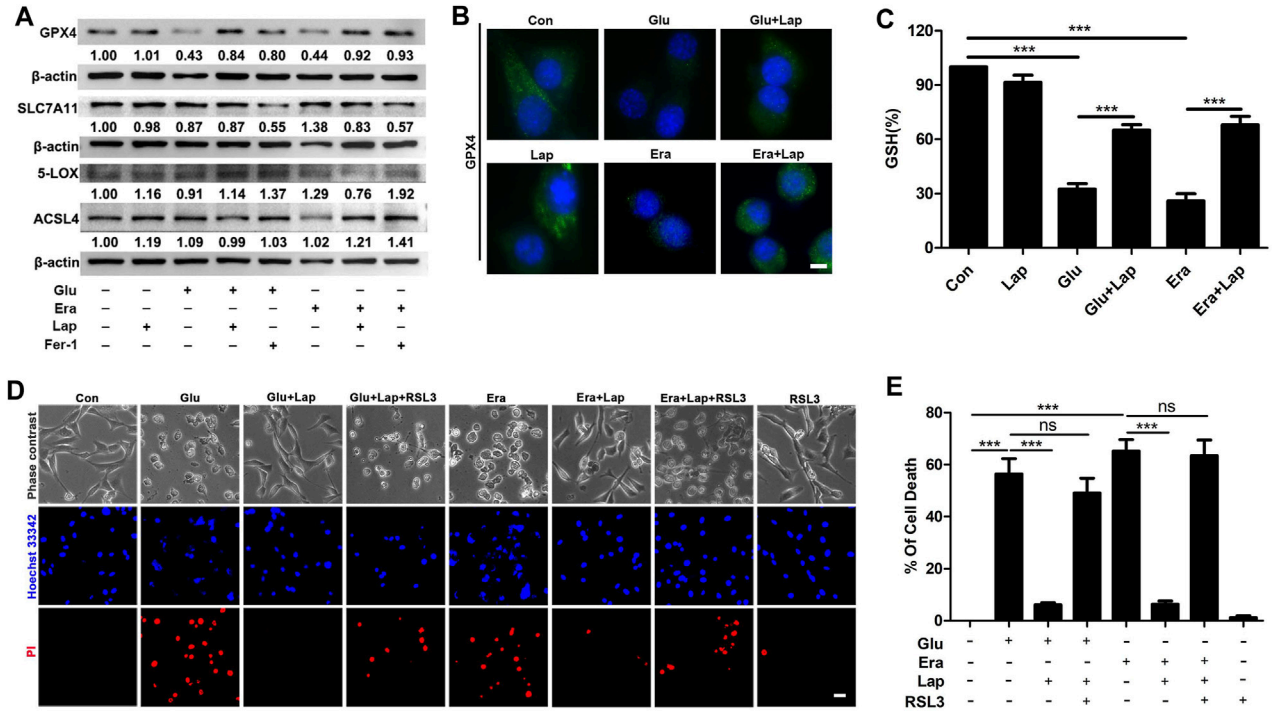

FIGURE 6 | Lapatinib inhibits neuronal ferroptosis by blocking the downregulation of GPX4 **(A)** Effects of lapatinib (Lap) or ferrostatin-1 (Fer-1) on the expressions of ferroptosis-related proteins including glutathione peroxidase 4 (GPX4), solute carrier family 7 member 11 (SLC7A11), 5-Lipoxygenase (5-LOX) or acyl-CoA synthetase 4 (ACSL4) in HT22 cell death model induced by glutamate (Glu) or erastin (Era). The value below the band is obtained via ImageJ analysis **(B)** Immunofluorescence analysis of GPX4 expression after pretreatment for 2 h with Lap (10 μM), followed by exposure to Glu or Era for another 8 h in HT22 cells. Scale bar: 50 μm **(C)** GSH level was assessed following Lap (10 μM) pretreatment for 2 h **(D,E)** Effects of GPX4 inhibition by ras-selective lethal small molecule 3 (RSL3) (1 nM) on the neuroprotection of Lap (10 μM) against Glu- or erastin-induced cell death in HT22 cells. Scale bar: 200 μm. All results were shown as the mean ± SEM from three independent experiments, ns means the difference is not statistically significant, $^{***}p < 0.001$.