

# Author's Accepted Manuscript

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PII: S0014-2999(17)30772-0  
DOI: <https://doi.org/10.1016/j.ejphar.2017.11.040>  
Reference: EJP71536

To appear in: *European Journal of Pharmacology*

Received date: 20 July 2017  
Revised date: 2 November 2017  
Accepted date: 24 November 2017

Cite this article as: Hongyan Zhou, Tuckyun Cheang, Fengjuan Su, Yifan Zheng, Shaozhen Chen, Jiezhen Feng, Pei Zhong and Ling Chen, Melatonin inhibits rotenone-induced SH-SY5Y cell death via the downregulation of Dynamin-Related Protein 1 expression, *European Journal of Pharmacology*, <https://doi.org/10.1016/j.ejphar.2017.11.040>

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**Melatonin inhibits rotenone-induced SH-SY5Y cell death via the downregulation of  
Dynamin-Related Protein 1 expression**

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**Abstract**

Previous studies have shown that melatonin can protect cells against rotenone-induced cell death. Yet, the mechanism involved in this protection requires further research. In this study, we aimed to further investigate the effects of melatonin on inhibiting rotenone-induced SH-SY5Y cells and the underlying molecular mechanisms. Human neuroblastoma SH-SY5Y cells were treated with 0.3 or 1  $\mu$ M rotenone for 6 or 12 h. Cell viability was measured with an MTS assay, the mitochondrial membrane potential was determined with a Rhodamine 123

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<sup>1</sup> These authors contributed equally to this study.

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