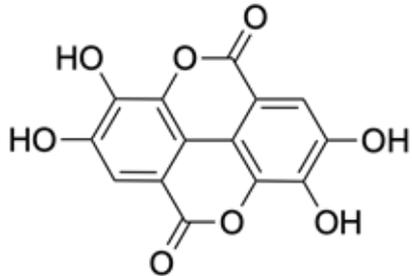


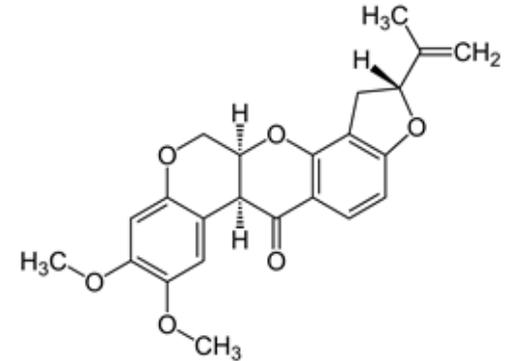
Ellagic acid protects dopaminergic neurons from rotenone-induced neurotoxicity via activation of Nrf2 signalling

Wei, Yi-zheng ; Zhu, Guo-fu ; Zheng, Chang-qing ; Li, Jing-jie ; Sheng, Shuo ; Li, Dai-di ; Wang, Guo-qing ; Zhang, Feng *J Cell Mol Med.* 2020; 24: 9446–9456. <https://doi.org/10.1111/jcmm.15616>



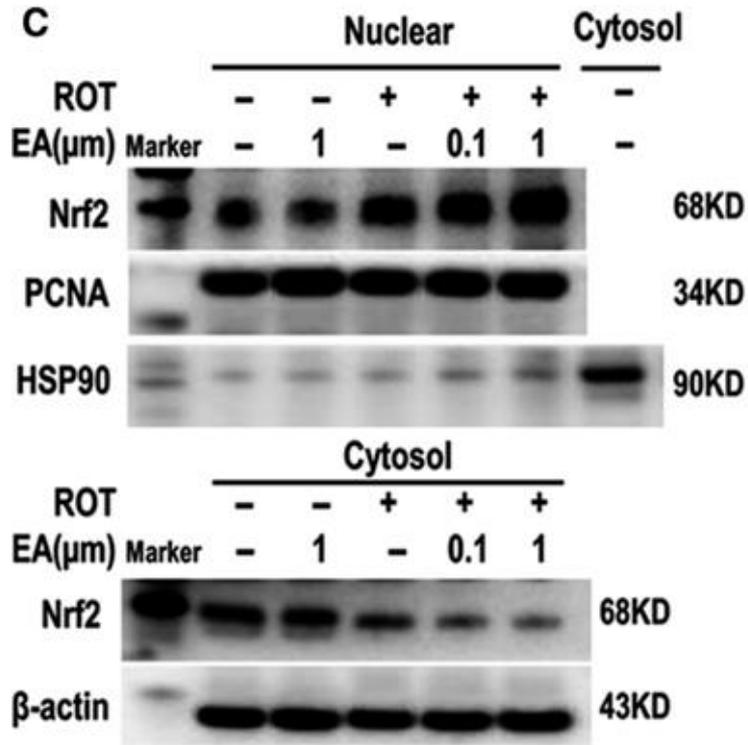
Ellagic acid

Slideshow by Boris Krakovskiy



Rotenone

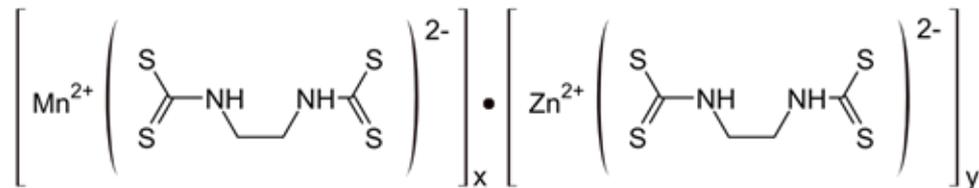
Purpose, Methods, and Results



- The purpose of this paper was to investigate how effective ellagic acid is in stopping the toxicity caused by rotenone in neural cells, as well as the role of the signalling pathway Nrf2 in this effect.
- Methods used include mouse studies with subsequent neurological testing, as well as Western blotting and an RT-PCR assay.
- Results showed that ellagic acid protected dopaminergic neural cells from damage caused by rotenone through the activation of Nrf2.

How this pertains to my research and how it will inform my decisions going forward:

- Both rotenone and mancozeb (the relevant pesticide in my own research) are known to produce reactive oxygen species, which are implicated in the cellular damage that they cause.
- Thus, it is reasonable to hypothesize that ellagic acid would activate the Nrf2 pathway, which regulates the production of antioxidant proteins in response to treatment with mancozeb as well.



^ Mancozeb

- This study is also a valuable resource for determining the parameters for designing my own experiment, in respect to things like concentrations/amounts/types of materials used, incubation times, and general scheduling, due to similarities in the cells used and overall goal of the experiment.

Works Cited:

Wei, Y., Zhu, G., Zheng, C., Li, J., Sheng, S., Li, D., Wang, G., & Zhang, F. (2020). Ellagic acid protects dopamine neurons from rotenone-induced neurotoxicity via activation of Nrf2 signalling. *Journal of Cellular and Molecular Medicine*, 24(16), 9446–9456. <https://doi.org/10.1111/jcmm.15616>