

# Letter to the Editor Concerning the “Evaluating Cytotoxic Potential of the Fruit and the Leaf Extracts of *Sambucus ebulus* (L.) on MCF-7 and AGS Cell Lines”



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## Dear Editor

I read the Rasouli Asl et al. study published in Research in Molecular Medicine journal in February 2021. This study aimed to investigate the cytotoxic and antiproliferative effects of the fruit and the leaf ethyl-acetate and MeOH extracts of *S. ebulus* on AGS and MCF-7 cell lines [1]. Although this research was an appropriate one and its results were very interesting, some issues should be considered.

The authors evaluated the cytotoxic effect of the fruit and the leaf ethyl-acetate and MeOH extracts of *S. ebulus* on AGS and MCF-7 cell lines using the MTT assay method. This method is suitable for the evaluation of cytotoxicity of the extracts. However, this study mentioned that “briefly, 200  $\mu$ L of the cell suspension ( $5 \times 10^3$  cells/mL) were seeded in 96-well plates and incubated for 24 h to adhere to the plate and hereafter subjected to various concentration ranges of the extracts.” The density of cells for this method is very low and may decrease the sensitivity of the MTT assay. The density of cancer cells based on the MTT assay protocols and other articles is 5000-10000 cells in each well in a 96-well plate ( $25-50 \times 10^3$  cells/mL) [2-4].

## Ethical Considerations

### Compliance with ethical guidelines

There were no ethical considerations to be considered in this research.

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### Conflict of interest

The author declares no conflict of interest.

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## References

- [1] Rasouli Asl F, Barzegar A, Ebrahimzadeh M A. Evaluating cytotoxic potential of the fruit and the leaf extracts of *sambucus ebulus* on MCF7 and AGS cell lines. Res Mol Med (RMM). 2021; 9(1):11-20. [DOI:10.32598/rmm.9.1.2]
- [2] Morten BC, Scott RJ, Avery-Kiejda KA. Comparison of three different methods for determining cell proliferation in breast cancer cell lines. J Vis Exp. 2016; (115):54350. [DOI:10.3791/54350] [PMID] [PMCID]
- [3] Van Meerloo J, Kaspers GJ, Cloos J. Cell sensitivity assays: The MTT assay. Methods Mol Biol. 2011; 731:237-45. [DOI:10.1007/978-1-61779-080-5\_20] [PMID]
- [4] Mortazavi-Derazkola S, Ebrahimzadeh MA, Amiri O, Goli HR, Rafiei A, Kardan M, et al. Facile green synthesis and characterization of Crataegus microphylla extract-capped silver nanoparticles (CME@ Ag-NPs) and its potential antibacterial and anticancer activities against AGS and MCF-7 human cancer cells. J Alloys Compd. 2020; 820:153186. [DOI:10.1016/j.jallcom.2019.153186]