

Exploring Nitazenes' Cellular Toxicity

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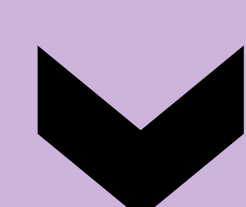
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NITAZENES



Benzylbenzimidazole Opioids

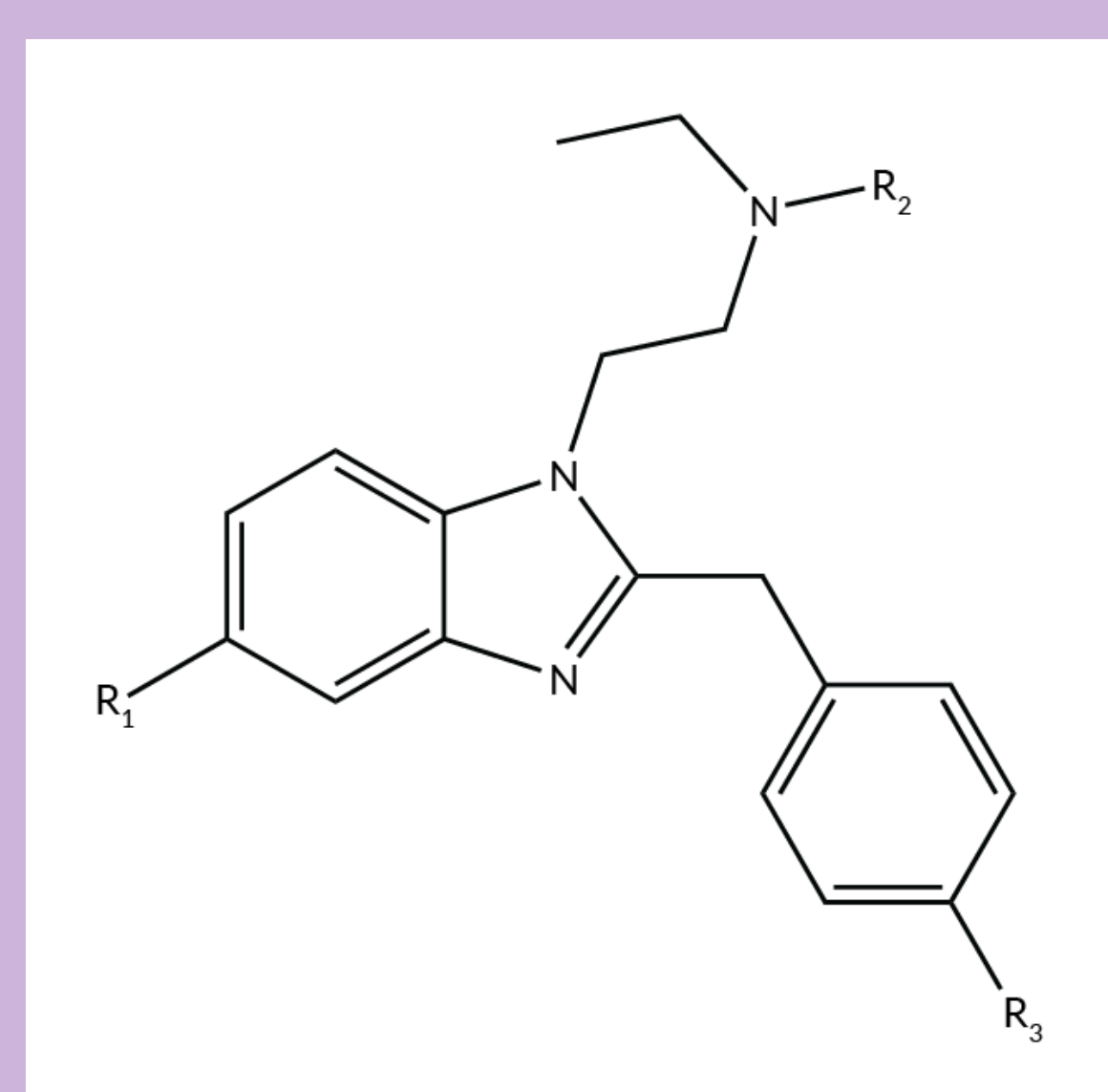


Figure 1: Nitazenes core structure. R₁-R₃ indicate the positions of the molecule that can be modified to obtain nitazenes analogues.

New Synthetic Opioids that concern the most currently

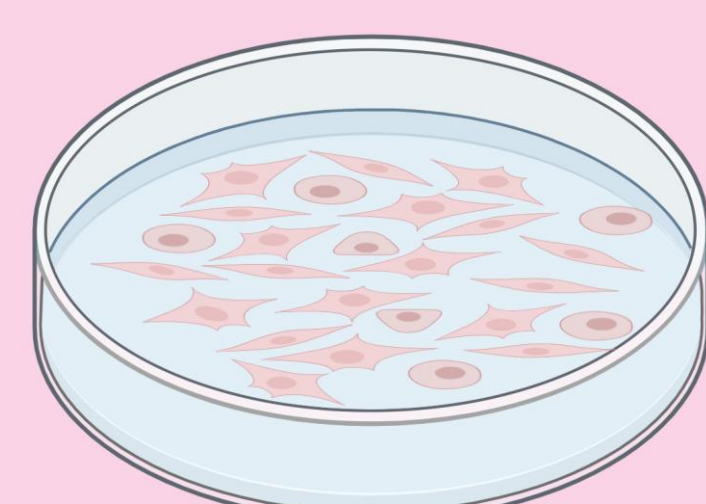
Responsible for countless fatal and non-fatal intoxications worldwide

May increase oxidative stress and other cellular dysfunctions, leading to cell autophagy and death

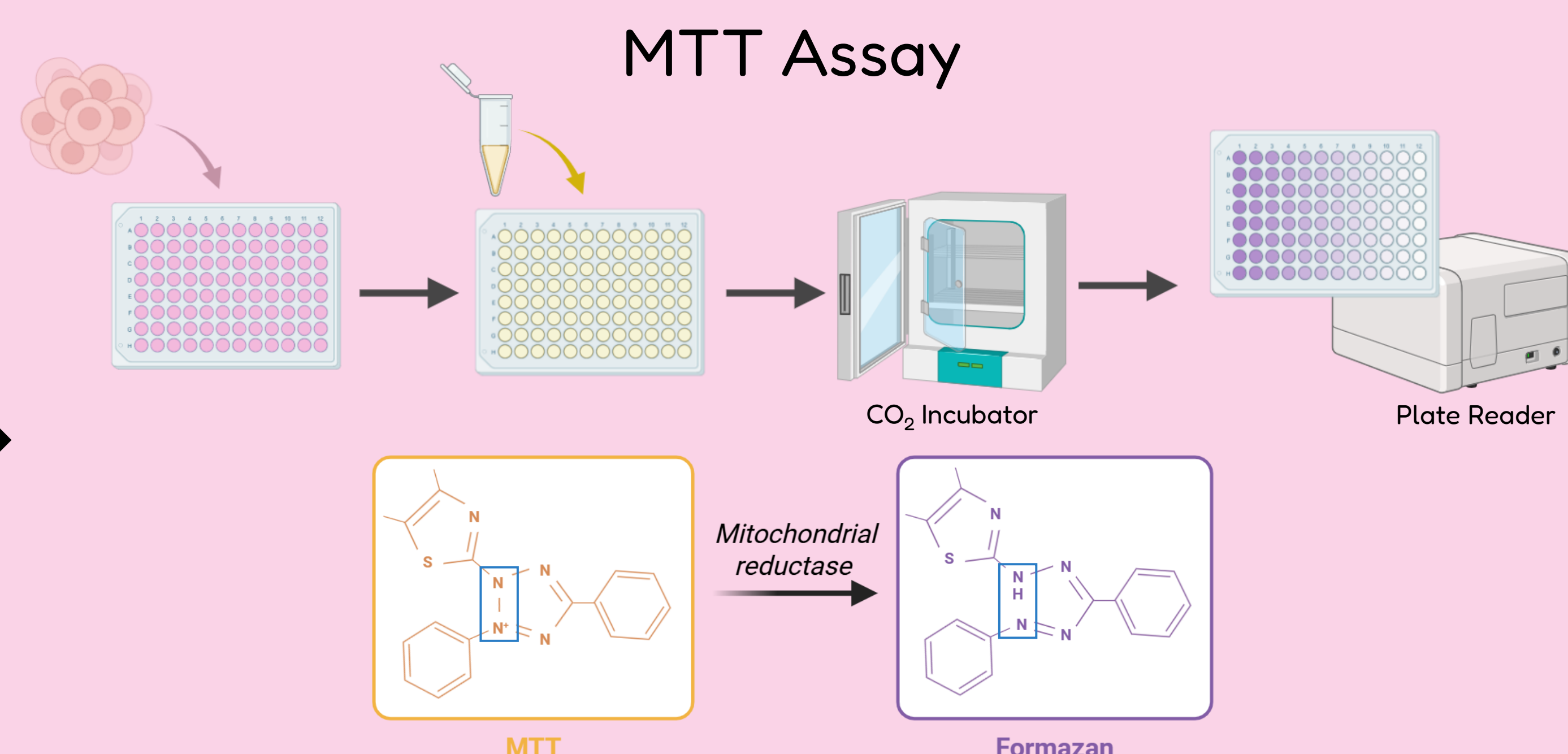
OBJECTIVE

- Study the cytotoxicity mechanism of nitazenes and their metabolites.

METHODOLOGY



SH-SY5Y
neuroblastoma
cells



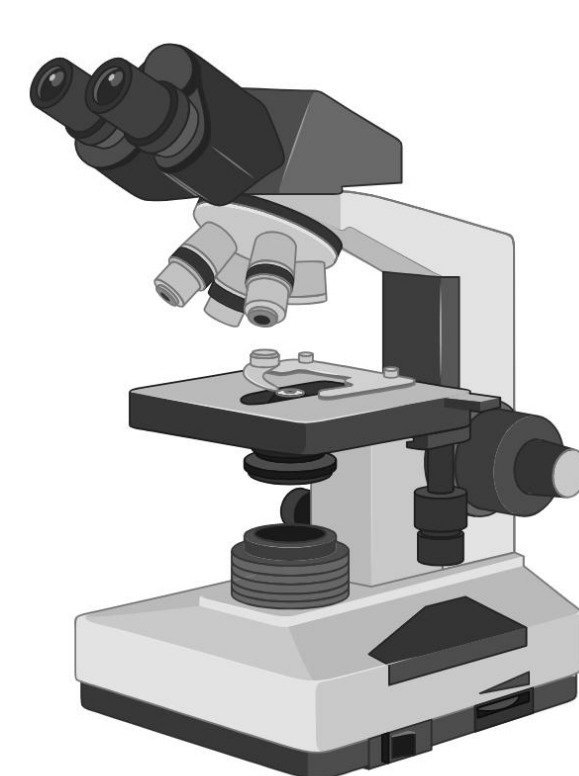
RESULTS



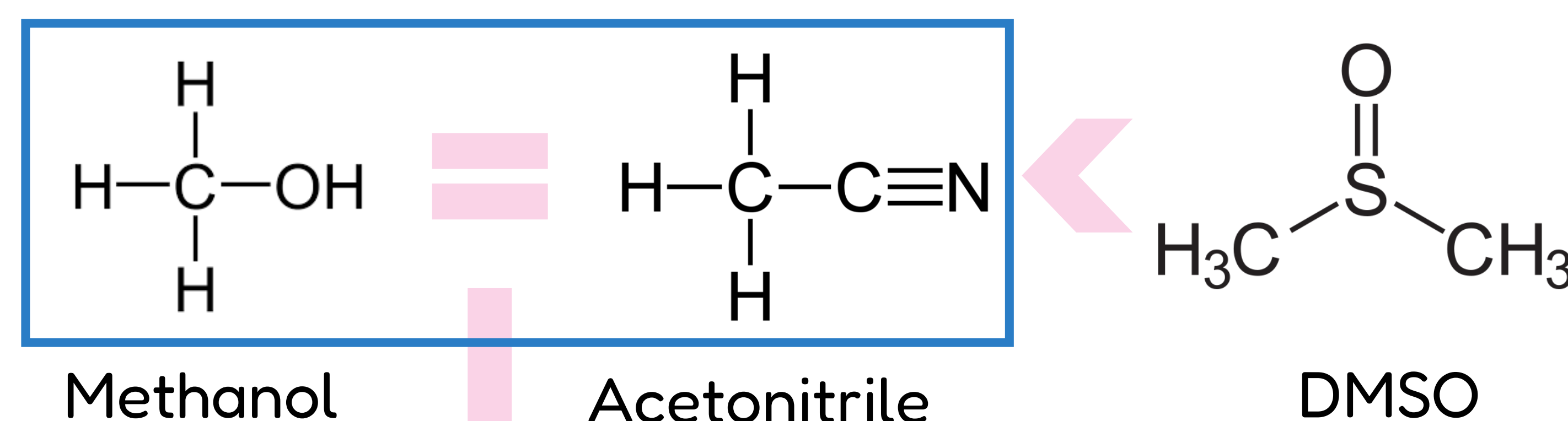
2 x 10⁴ cells
per well

Optimal cell
number

Drug Vehicles Assays



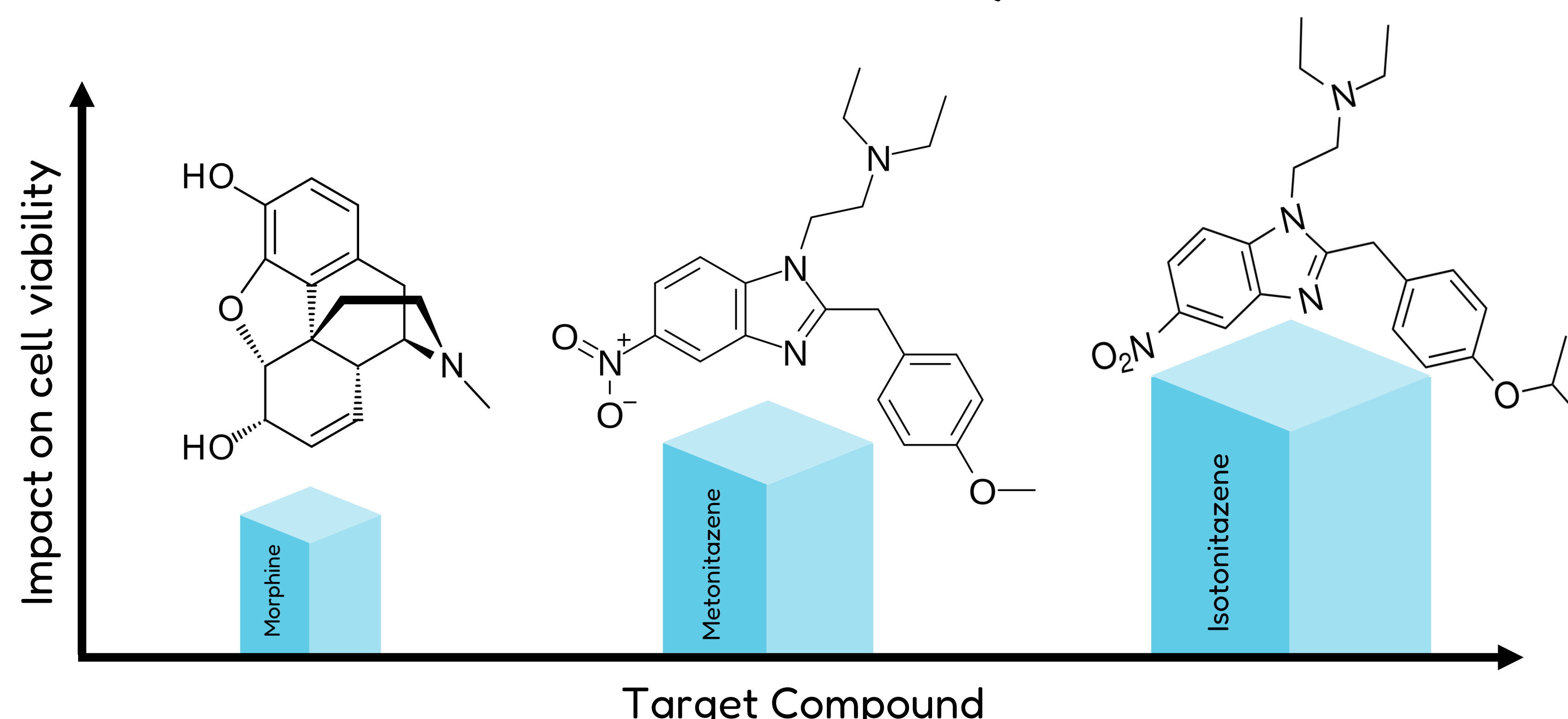
Toxicity under 1 %



2-way ANOVA: no statistically significant differences

Cell viability: higher than 80 %

Nitazenes Assays



CONCLUSIONS

The obtained results clarify the extent of nitazenes' threat and provide insight into the possible relationship between their chemical structure and their toxicological effects on human health.

REFERENCES

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- [2] E. Montanari, G. Madeo, S. Pichini, F. P. Busardò, J. Carlier, *Ther Drug Monit* **2022**, 44, 494-510.

ACKNOWLEDGMENTS: This work is financed by national funds through the FCT - Fundação para a Ciência e a Tecnologia, I.P., under the PhD Studentship 2024.00812.BDANA. Centro de Química Estrutural is a Research Unit funded by FCT through projects UIDB/00100/2020 (<https://doi.org/10.54499/UIDB/00100/2020>) and UIDP/00100/2020 (<https://doi.org/10.54499/UIDP/00100/2020>). Institute of Molecular Sciences is an Associate Laboratory funded by FCT through project LA/P/0056/2020 (<https://doi.org/10.54499/LA/P/0056/2020>). CiiEM has provided support through Project 10.54499/UIDB/04585/2020, funded by FCT.