

Environmental impact of Gliotoxin, Ochratoxin A and its combination in *Daphnia magna* model

Background. Gliotoxin (GTX) and Ochratoxin A (OTA) are toxins naturally produced by fungi, known for their potential health risks. **Aim.** With the aim to give a deeper insight in GTX, OTA and their combination action mechanisms, *in vitro* studies were performed in *Daphnia magna* model. **Methods.** The following assays were performed: A) acute toxicity test where subjects were treated at serial dilution concentration mycotoxins and its combination during 96h. B) heart rate: heartbeat of *D. magna* was recorded after treatment with the highest concentrations C) chronic toxicity assessment after 21 days exposure D) offspring determination during 21 days of exposure to GTX, E) growth rate tests after 21 days of exposure. **Results.** GTX exhibited IC50 values ranging from 0.08 μM to 0.006 μM and producing a decrease in *D. magna* heart rate. OTA IC50 went from 0.2 μM to 0.1 μM . Binary combination displayed a reduced survival after 48 hours leading to a decrease in offspring number. **Conclusion.** The findings contribute with valuable insights for assessing the risks associated with mycotoxin exposure. **Acknowledgements.** Spanish Ministry of Science and Innovation PID2020-115871RB-100. Conselleria d'Educació, Universitats i Ocupació from GVA: project CIAICO 2022/199. FORTHEM Alliance. University of Valencia, Ph.D. grant "Atracció de Talent".

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