**Curso 2025/26 **

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| **Líneas de Investigación** |
| Biología Molecular de los mecanismos de respuesta a estrés. |
| **Proyectos de Investigación (últimos 5 años)** |
| 1. Multi-omics methodologies to study neurotoxicity and reproductive health damage induced by environmental pollutants through the intestinal microbiota (NEUROMICS). Subproject 1: Metallomics and (meta)omics methodologies to study neurotoxicity and reproductive health effects of metals. Impact of gut microbiota and selenium. **REF PID2021-123073NB-C21**. R & D Knowledge Generation Project. State Program for Knowledge Generation and Scientific and Technological Strengthening of the R&D System. Ministry of Science, Innovation and Universities. Call 2021 (3 years). Principal Investigator: T.García Barrera (University of Huelva) /N. Abril Díaz (University of Córdoba). Duration: **January 2022-Dec 2024**. Grant amount: 185,500 €. Participation: CO-PRINCIPAL RESEARCHER.2. Omic and metaomic study of the effect of pollutants through the intestinal microbiota-brain axis. Fromthe animal to the cellular model (MAMOMIC). Subproject 1: Identification of molecular and microbiota alterations caused by exposure to chemical cocktails by means of omic and metaomic methodologies. Bioavailability and antagonistic effects of selenium. **Ref PGC2018-096608-B-C21.** R & D Knowledge Generation Project. State Prog. of Knowledge Generation and Scientific and Technological Strengthening of the R & D System. Ministry of Science, Innovation and Universities. Call 2018 (3 years). Principal Investigator: T. García Barrera (University of Huelva) /N. Abril Díaz (University of Córdoba). Duration: **July 2019- Dec 2021.** Grant amount: 223,850 €. Participation: CO-PRINCIPAL RESEARCHER. |
| **Publicaciones (últimos 5 años)** |
| 1. Rodríguez-Moro, G., R. Cabrera-Rubio, M. Selma-Royo, J.A. Gómez-Morlote, M.C. Collado, N. Abril, T. García-Barrera, *Modulation of the gut microbiota and the microbial-produced gut metabolites by diclofenac exposure and selenium supplementation.* Environ Sci Pollut Res Int, 2025.2. Broggini, C., P.V. Huertas-Abril, A. Membrillo, E. de la Peña, N. Abril, J. Carranza, *Proteomics of the Dark-Ventral-Patch Sexual Signal in Male Red Deer.* Animals (Basel), 2025. **15**(2).3. Broggini, C., N. Abril, A. Membrillo, E. de la Peña, J. Carranza, *Plastic sex-trait modulation by differential gene expression according to social environment in male red deer.* BMC Genomics, 2025. **26**(1): p. 160.4. Ruiz-Campillo, M.T., I.L. Pacheco, N. Abril, M.J. Bautista, Á. Martínez-Moreno, F.J. Martínez-Moreno, L. Buffoni, J. Pérez, V. Molina-Hernández, R. Zafra, *Evaluation of Th1/Th2, regulatory cytokines and transcriptional factor FoxP3 in sheep immunized with a partially protective and non-protective vaccine and challenged with Fasciola hepatica.* Vet Res, 2024. **55**(1): p. 53.5. Parra-Martínez, C., M. Selma-Royo, B. Callejón-Leblic, M.C. Collado, N. Abril, T. García-Barrera, *Gut-gonad crosstalk in mice exposed to a "chemical cocktail" combining metabolomics and microbial profile by amplicon sequencing.* Food Chem Toxicol, 2024. **188**: p. 114627.6. Huertas-Abril, P.V., M.J. Prieto-Álamo, J. Jurado, J. Pérez, V. Molina-Hernández, T. García-Barrera, N. Abril, *Transcriptional and biochemical changes in mouse liver following exposure to a metal/drug cocktail. Attenuating effect of a selenium-enriched diet.* Food Chem Toxicol, 2024. **191**: p. 114845.7. Aranda-Merino, N., A. Marín-Garrido, C. Román-Hidalgo, M. Ramos-Payán, N. Abril, R. Fernández-Torres, M. Bello-López, *Bioavailability of flumequine and diclofenac in mice exposed to a metal-drug chemical cocktail. Evaluation of the protective role of selenium.* Br J Pharmacol, 2024. **181**(13): p. 1935-1951.8. Ruiz-Campillo, M.T., D.M. Barrero-Torres, N. Abril, J. Pérez, R. Zafra, L. Buffoni, Á. Martínez-Moreno, F.J. Martínez-Moreno, V. Molina-Hernández, *Fasciola hepatica primoinfections and reinfections in sheep drive distinct Th1/Th2/Treg immune responses in liver and hepatic lymph node at early and late stages.* Vet Res, 2023. **54**(1): p. 2.9. Ramírez-Acosta, S., P.V. Huertas-Abril, M. Selma-Royo, M.J. Prieto-Álamo, M.C. Collado, N. Abril, T. García-Barrera, *The role of selenium in shaping mice brain metabolome and selenoproteome through the gut-brain axis by combining metabolomics, metallomics, gene expression, and amplicon sequencing.* J Nutr Biochem, 2023. **117**: p. 109323.10. Huertas-Abril, P.V., M.J. Prieto-Álamo, J. Jurado, T. García-Barrera, N. Abril, *A selenium-enriched diet helps to recover liver function after antibiotic administration in mice.* Food Chem Toxicol, 2023. **171**: p. 113519.11. Huertas-Abril, P.V., J. Jurado, M.J. Prieto-Álamo, T. García-Barrera, N. Abril, *Proteomic analysis of the hepatic response to a pollutant mixture in mice. The protective action of selenium.* Sci Total Environ, 2023. **903**: p. 166558.12. Arias-Borrego, A., B. Callejón-Leblic, M.C. Collado, N. Abril, T. García-Barrera, *Omics insights into the responses to dietary selenium.* Proteomics, 2023. **23**(23-24): p. e2300052.13. Rodríguez-Moro, G., C. Román-Hidalgo, S. Ramírez-Acosta, N. Aranda-Merino, J.L. Gómez-Ariza, N. Abril, M.A. Bello-López, R. Fernández-Torres, T. García-Barrera, *Targeted and untargeted metabolomic analysis of Procambarus clarkii exposed to a "chemical cocktail" of heavy metals and diclofenac.* Chemosphere, 2022. **293**: p. 133410.14. Ramírez-Acosta, S., M. Selma-Royo, M.C. Collado, F. Navarro-Roldán, N. Abril, T. García-Barrera, *Selenium supplementation influences mice testicular selenoproteins driven by gut microbiota.* Sci Rep, 2022. **12**(1): p. 4218.15. Parra-Martínez, C., M. Selma-Royo, B. Callejón-Leblic, M.C. Collado, N. Abril, T. García-Barrera, *Mice brain metabolomics after the exposure to a "chemical cocktail" and selenium supplementation through the gut-brain axis.* J Hazard Mater, 2022. **438**: p. 129443.16. Callejón-Leblic, B., M. Selma-Royo, M.C. Collado, J.L. Gómez-Ariza, N. Abril, T. García-Barrera, *Untargeted Gut Metabolomics to Delve the Interplay between Selenium Supplementation and Gut Microbiota.* J Proteome Res, 2022. **21**(3): p. 758-767.17. Broggini, C., N. Abril, J. Carranza, A. Membrillo, *Evaluation of candidate reference genes for quantitative real-time PCR normalization in blood from red deer developing antlers.* Sci Rep, 2022. **12**(1): p. 16264.18. Arias-Borrego, A., M. Selma-Royo, M.C. Collado, N. Abril, T. García-Barrera, *Impact of "chemical cocktails" exposure in shaping mice gut microbiota and the role of selenium supplementation combining metallomics, metabolomics, and metataxonomics.* J Hazard Mater, 2022. **438**: p. 129444.19. Trombini, C., J. Kazakova, A. Montilla-López, R. Fernández-Cisnal, M. Hampel, R. Fernández-Torres, M. Bello-López, N. Abril, J. Blasco, *Assessment of pharmaceutical mixture (ibuprofen, ciprofloxacin and flumequine) effects to the crayfish Procambarus clarkii: A multilevel analysis (biochemical, transcriptional and proteomic approaches).* Environ Res, 2021. **200**: p. 111396.20. Ramírez-Acosta, S., A. Arias-Borrego, F. Navarro-Roldán, M. Selma-Royo, M. Calatayud, M.C. Collado, P.V. Huertas-Abril, N. Abril, T.G. Barrera, *Omic methodologies for assessing metal(-loid)s-host-microbiota interplay: A review.* Anal Chim Acta, 2021. **1176**: p. 338620. |
| **Otras Actividades Profesionales** |
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