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My professional career has been linked to the study of injuries in the nervous system and neurodegenerative diseases. After my Bachelor's degree in Biology in Universidad Complutense I worked as a research technician in the Molecular Neurology laboratory at the Hospital Nacional de Paraplégicos (HNP). Then, I started my PhD studies under the direction of Dr. Manuel Nieto Sampedro and Dr. Lorenzo Romero at the Instituto Cajal and the HNP, focused on the pharmacological modulation of axonal regeneration after lesions to the Central Nervous System. I also participated in the development of other research projects focused on the role of bile salts in the development of glial scar and neuroinflammation after an injury. After PhD completion, I closely collaborated with industry developing a project to determine the effect of different cannabinoid drugs on the neuroinflammatory response and its therapeutic potential in Alzheimer's disease in the Endocannabinoids and Neuroinflammation laboratory at Universidad Francisco de Vitoria. In 2018 I returned to HNP, joining the Molecular Neuroprotection group, studying the role of miRNAs in the development of spinal cord injury and their neuroprotection role, evaluating their changes in hippocampal neurons. I also participated together with the rest of the team, in the development and validation of safe and effective tools that allow the administration of microRNAs for the treatment of spinal cord injury. Finally, since 2022, I work as study coordinator in the Functional Exploration and Neuromodulation of the Nervous System (FENNSI) group, managing and coordinating the clinical trials performed by the group.

Selected articles:

- Ruiz-Amezcuca P, Ibáñez-Barranco N, Reigada D, Novillo I, Soto A, **Barreda Manso MA**, Muñoz-Galdeano T, Maza RM, Esteban FJ, Nieto-Díaz M. 2024. *Reanalysis of published data can help to characterize neuronal death after spinal cord injury*. International Journal of Molecular Sciences. 2025 Apr.
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- Reigada D, Soto-León V, González-Rodríguez M, **Barreda-Manso MA**, Soto A, Muñoz-Galdeano T, Maza RM, Nieto-Díaz M. *Stereological evaluation of tissue preservation after neuroprotective treatments for traumatic spinal cord injury*. Advances in Stereology for Neuroscience. Neuromethods. 2024 Jun 19; 208:95-112.

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- Soto A., Nieto-Díaz M., Reigada D., **Barreda-Manso M.A.**, Muñoz-Galdeano T., Maza R.M. *miR-182-5p Regulates Nogo-A Expression and Promotes Neurite Outgrowth of Hippocampal Neurons In Vitro*. Pharmaceuticals. 2022 Apr 25;15(5):529.
- **Barreda-Manso, M. A.**, Nieto-Díaz, M., Soto, A., Muñoz-Galdeano, T., Reigada, D., & Maza, R. M. *In silico and in vitro analyses validate human microRNAs targeting the SARS-CoV-2 3'-UTR*. International Journal of Molecular Sciences, 2021, 22(11), 6094.
- Soto A, Nieto-Díaz M, Reigada D, **Barreda Manso MA**, Muñoz-Galdeano T, Maza RM. *MiR-182-5p regulates Nogo-A expression and promotes neurite outgrowth of hippocampal neurons in vitro*. Pharmaceuticals, 2022, Apr 25;15(5):529.
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