**PARTNER PROFILE**

**Call: xxxxxxxxx**

**Main call objectives: xxxxxxx**

**FIBAO - Foundation for Biomedical Research in Eastern Andalusia Alejandro Otero**

FIBAO is a non-profit foundation specializing in the management of biomedical research for the Andalusian Public Health System. The foundation supports biomedical research groups and facilitates the transfer of research results to industry and society. FIBAO offers a comprehensive platform of services covering the entire value chain of biomedical research, from discovery to application in healthcare.

**Key Facts:**

* **Institutes Managed:** iBS.Granada Research Centre, Hospitals in Eastern Andalusia.
* **Researchers and Patients:** FIBAO hosts around 500 researchers and provides services to approximately 8,000 patients annually through its associated hospitals and research centres.
* **Management expertise:** wide experience in managing research projects and organization and management of clinical trials.

**Research Group Expertise:**

(Short resume including experience in the call topic, participation in networks, etc):

Our research group (MP09, Neuropharmacology of Pain) utilizes translational preclinical pain models in mice and rats to investigate the mechanisms underlying various pain modalities, including nociceptive, inflammatory, neuropathic, and visceral pain. A significant portion of our research is dedicated to validating and developing innovative preclinical pain outcomes. We examine drug effects using standard cutaneous stimulation methods (e.g., von Frey filaments and radiant heat) and employ functional measures to assess the impact of pain and analgesia on physical function, along with ongoing pain assessments using artificial intelligence tools.

As pharmacologists, we focus on novel pharmacological targets for pain treatment. We have invested considerable effort into studying sigma-1 receptors as a potential target for the development of new analgesics, particularly their role in neuron-immune cell communication in pain conditions. In fact, we are members of the COST Action CA23156 - European Network for Sigma-1 Receptor as a Therapeutic Opportunity (SIGMA-1EUROPE).

We combine advanced behavioural analysis techniques with histological assessments, immunohistochemistry using various neuronal and immune cell markers, flow cytometry to determine immune cell populations, and transcriptomic data to provide a comprehensive understanding of drug effects on pain conditions, as demonstrated in our publications.

The pain research line in our group is led by the following Principal Investigators:

Enrique J Cobos del Moral (responsible researcher): <https://orcid.org/0000-0002-9657-4521>

Francisco R Nieto López (responsible co-investigator): <https://orcid.org/0000-0001-9555-0651>

Rafael González Cano: <https://orcid.org/0000-0002-9657-4521>

Miguel Ángel Tejada Giráldez: <https://orcid.org/0000-0002-9323-7626>

**Possible Involvement in the project:**

(Capacity of patient recruitment, clinical or data analysis, etc)

While we could employ various techniques, such as immunostaining and flow cytometry assays, among others, we specialize in behavioural analyses. Our expertise includes mouse pain models utilizing chemical irritants (such as capsaicin and formalin), behavioural models of central sensitization (like capsaicin-induced secondary mechanical allodynia), peripheral sensitization (with PGE2, NGF, or GDFN), inflammatory pain models (including CFA and carrageenan), postoperative pain models (like plantar incision and laparotomy), neuropathic pain models caused by traumatic nerve injury (Spared Nerve Injury) or by antineoplastics (such as paclitaxel), as well as visceral pain models induced by experimental colitis (via the intracolonic administration of chemical irritants), cystitis (cyclophosphamide-induced), and endometriosis. In addition, our expertise includes a model of rheumatoid arthritis in rats focusing on pain phenotyping and in the study of joint pathology by magnetic resonance imaging (MRI).

For assessing pain outcomes, we routinely employ standard tests such as the von Frey test, plantar test, and paw pressure test. Additionally, we use functional measures like grip strength and exploratory locomotion, alongside advanced tools based on artificial intelligence to quantify facial pain expressions and complex behaviours. This diversity in our methodologies enables us to profile novel analgesics effectively, as demonstrated by out active collaborations with several academic groups in medicinal chemistry from Spain, Italy, Germany, and Poland, as well as with the pharmaceutical industry, to develop new analgesics.