

Position Offered: JAE PRE/MED

Project: *Histone modifications in Polycomb-mediated epigenetic regulation*

Research fields: Genome function and dynamics; Functional genomics and computational biology; Molecular and cellular biology of cancer

Location: Sevilla, Andalucía. CABIMER (<https://cabimer.es>)

Research Group/PI: Chromatin modifications / Gonzalo Millán Zambrano (<https://cabimer.es/en/research-groups/chromatin-modifications/>)

PROJECT SUMMARY

Polycomb group (PcG) proteins are essential regulators of development and cell identity through epigenetic gene repression. However, the mechanisms that direct them to specific genomic loci remain incompletely defined. This project will investigate how H3K37me1, a recently identified histone modification, regulates the recruitment and function of the non-canonical PRC1.6 Polycomb complex. The project builds on preliminary data identifying L3MBTL2, a core component of PRC1.6, as a selective reader of H3K37me1, and on a unique H3K37R mouse embryonic stem cell (mESC) model lacking this modification. By combining genetics and functional genomics, the PhD researcher will define the transcriptional and chromatin consequences of H3K37me1 loss, providing fundamental insight into how histone modifications shape epigenetic regulation and cell identity.

PROFESSIONAL PROFILE

Minimum requirements:

Bachelor's degree in Biology, Biochemistry, Biotechnology or Biomedicine and Master's degree in a related field providing access to a PhD programme. Good command of English for scientific communication and a strong interest in molecular and cellular biology, epigenetics and gene regulation.

Other merits to be considered:

Previous research experience in molecular and cellular biology will be valued, particularly experience in mammalian cell culture, molecular biology techniques, genome editing, chromatin assays or high-throughput sequencing. Experience or basic skills in bioinformatic analysis of genomic data will be also considered. Initiative, teamwork, scientific rigour and strong motivation for research will be valued.

WHAT IS OFFERED

The successful candidate will receive comprehensive PhD training in chromatin biology and functional genomics within a collaborative and international research environment. Hands-on training will include mESC culture, CRISPR-based genome engineering, and state-of-the-art genomic and epigenomic approaches, including ChIP-seq, ATAC-seq and RNA-seq, together with the analysis and integration of epigenomic and transcriptomic datasets. The researcher will progressively gain autonomy in experimental design, data interpretation and scientific communication, supported by biweekly meetings with the PI, regular group meetings, journal clubs and annual PhD evaluations. Training will include participation in national and international scientific meetings and a 3-month international research stay. The successful candidate will benefit from CABIMER's advanced cell culture, sequencing and bioinformatics facilities.

Contract conditions:

JAE PRE/MED: Predoctoral Researcher 4 years contract. Gross annual salary of 32.565,71€. (Employer's contribution included)

Start date: before 15th December 2026

PRINCIPAL INVESTIGATOR. CONTACT DETAILS

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