



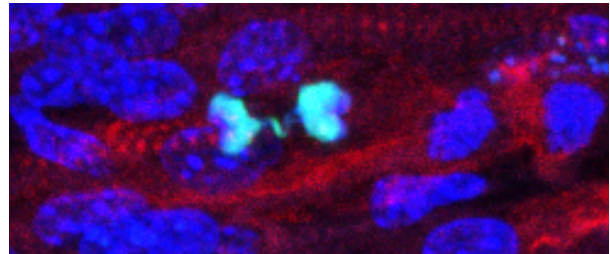
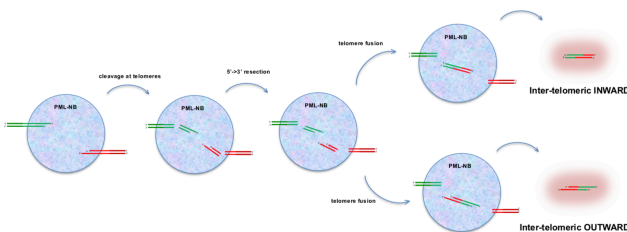
MINISTERIO
DE CIENCIA, INNOVACIÓN
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EXCELENCIA
SEVERO
OCHOA
2023-2027

4-year PhD position available in cancer and telomere research at the CBM, Madrid

We are seeking creative and motivated graduate students to join our research group. Previous knowledge in bioinformatics, cell culture and molecular biology will be positively valued. The 4-year contract is funded by a recently awarded grant from the Agencia Estatal de Investigación (**PFI contract**)



Cancer cells achieve immortality by maintaining their telomeres, the protective caps on chromosomes, above critical length. This is achieved either through the upregulation of telomerase or via an alternative lengthening mechanism, known as ALT. The choice of the telomere maintenance mechanism (TMM) employed by a tumor determines different treatment options. Therefore, identifying the TMM utilized by cancer cells is of importance.

Recently, our group uncovered a novel aspect of cancer cells that use the ALT pathway for telomere maintenance (Muyas et al., Nat. Comm. 2024). We have identified a **unique type of telomere fusion**, which we refer to as **ALT-TF**, predominantly found in ALT-positive cancers. Interestingly, we also detected ALT-TFs in the blood samples of patients with these cancers. This finding positions **ALT-TF as a potential biomarker for liquid biopsy**, holding promise for **cancer diagnosis, prognosis, and monitoring of treatment efficacy**. Our new project aims to quantify ALT-TF levels in over 6,000 metastatic cancers across various types, expanding our understanding of this phenomenon.

The selected candidate will identify **key genes driving ALT-TF formation** as well as **treatments that trigger their presence in the bloodstream**. Additionally, she/he will study the **mechanisms behind ALT-TF generation** and develop **improved methods to detect them**.

Through these efforts, our objective is to pioneer novel diagnostic, prognostic, and treatment-informing approaches, to advance in cancer treatment and patient care.

For more information about our research, visit: <https://www.cbm.uam.es/iflores>

To apply, please submit a letter of motivation, CV and academic record to iflores@cbm.csic.es

Early applications will be given priority. Application deadline: November 20th, 2024