

**Research Project Proposal**  
Academic year 2020-2021

***Máster en Investigación Biomédica***

<b>Project Nº 40</b>		
<b>Title:</b> <i>Investigating the role of lncRNAs in cancer cell division</i>		
<b>Department/ Laboratory</b>  <i>Regulation of Gene Expression and Gene Therapy department of CIMA/ Laboratory of lncRNAs and genome regulation in cancer</i>		
<b>Director 1</b> Maite Huarte <b>Contact:</b> <i>maitehuarte@unav.es</i>		
<b>Summary</b>  <i>One of the most exciting discoveries of the post-genomic era is the fact that practically the entire human genome can be transcribed, producing thousands of long noncoding RNAs (lncRNAs). As described by their name, lncRNAs are RNA molecules longer than 200nt, structurally similar to mRNAs, however lacking protein-coding capacity. The human genome contains thousands of lncRNAs, but the function of most of them remains unknown. Interestingly, they are profoundly dysregulated in cancer. Our group and others have shown that some lncRNAs play key roles in the transformed phenotype of cancer cells. We have observed that some lncRNAs are exquisitely expressed in different phases of the cell cycle, and are necessary for the fast and active division of cancer cells. In particular, our data show that lncRNAs are controlling a key aspect of cell division: the duplication of the centrosome and the formation of the kinetochores for the correct distribution of the genetic information in each cell cycle. In this project we plan to investigate the function of lncRNAs in this important cellular process. The student we will apply biochemical and imaging methods to determine the localization of lncRNAs at the centrosomes. The candidate lncRNAs will be perturbed using CRISPR-based techniques, to determine the phenotypic effect in cancer cells.</i>		
yes	<input checked="" type="checkbox"/>	<b>Does the project include the possibility of supervised animal manipulation to complete the training for animal manipulator?</b>
no	<input type="checkbox"/>	