Universidad de Navarra
Facultad de Ciencias

MASTER'S DEGREE IN BIOMEDICAL RESEARCH
Research Project Proposal
Academic year 2023-2024

Project Nº 04 ASIGNADO
Title: *Role of SLU7 in carcinogenesis: from epigenetics to protein stability (**SLUTOME**).*
Department/ Laboratory *CIMA.* *Solid Tumors Division. Hepatology program (Lab 4.02: Differentiation and biomarkers in liver cancer)*
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Summary

The aim of our laboratory is to understand the process of hepatocarcinogenesis and to identify new biomarkers and therapeutic targets for liver cancer. During the last decade we have uncovered the essential role of the splicing regulator SLU7 in maintaining liver identity and protecting the liver against damage. Moreover, we found that SLU7 is a survival factor for cancer cells from very different tissues. To perform those activities, we have demonstrated that SLU7 regulates epigenetics, splicing, transcription and unexpectedly the stability of very diverse proteins, in many cases through interaction. Currently using in vivo models of tumorigenesis, we want to prove the therapeutic value of SLU7 silencing using inducible shRNAs, CRISPR and /or aptamers conjugated to siRNAs. Moreover, we want to deepen our understanding of the role of SLU7 in proteostasis characterizing the proteome regulated by SLU7 and its interactome, as well as to evaluate their alterations in pathological conditions such as non-alcoholic fatty disease (NAFLD) and cancer.

Methodology: in vivo mouse models of syngenic and orthotopic tumors and NAFLD associated to diets; in vitro models of NAFLD; cell culture; transfections; real time PCR; Western blot; Co-Immunoprecipitations.

References: Elizalde et al. J Clin Invest 2014, Urtasun et al. Oncogene 2016; Jimenez et al, NAR 2019; Gárate-Rascón et al. Hepatology 2021; Recalde et al. NAR 2021; Gárate-Rascón et al. Int J Med Sci 2022.

yes	X
no	

Does the project include the possibility of supervised animal manipulation to complete the training for animal manipulator?