LÍNEA DE INVESTIGACIÓN:

Papel de ncRNAs exosomales en la biología vascular

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LÍNEA DE INVESTIGACIÓN

Hereditary Hemorrhagic Telangiectasia (HHT), or Rendu-Osler-Weber syndrome, is a dominant autosomic rare disease. HHT is a vascular dysplasia characterized by a serious alteration of the Transforming Growth Factor (TGF)-beta signaling pathway affecting mainly to the angiogenesis process. Also, since HHT exhibits incomplete penetrance, other factors are suggested to be involved in its physiopathology. In this sense, some recent studies point out differentially expressed small non-coding RNA molecules (ncRNA; including miRNAs and lncRNA, among others) in plasma of HHT patients related to the angiogenesis process. Recently, it has been reported that ncRNAs are transported by membrane-derived small vesicles named exosomes, which mediate a novel mechanism of cell-to-cell communication linking disparate cell types and tissues. Therefore, exosomal ncRNAs have a high diagnosis value as clinical biomarkers, as well as a putative role as therapeutic vehicle focused on targeted pharmacological manipulation.

This Project combines the interest in the prediction of new biomarkers and therapeutic targets and strategies for the treatment of HHT patients, as well as making progress in the knowledge of the molecular bases of the disease and in vascular biology.

Keywords: Hereditary Hemorrhagic Telangiectasia; Exosomes; miRNAs; lncRNA; CRISPR/Cas9

PUBLICACIONES RECIENTES (5 ÚLTIMOS AÑOS)

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TESIS DIRIGIDAS (5 ÚLTIMOS AÑOS)

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“Estudio del mecanismo de liberación de endoglina soluble y su relevancia en homeostasis vascular”. Universidad Complutense de Madrid. Ana Cristina Valbuena Diez (11/12/2012). Sobresaliente, Cum laude

PROYECTOS (5 ÚLTIMOS AÑOS)

Título: Análisis funcional de miRNAs exosomales asociados a la Telangiectasia Hemorrágica Hereditaria.
Investigador Principal: Francisco Javier Blanco
Programa: Programa Estatal de I+D+i Orientados a los Retos de la Sociedad
Referencia: SAF2015-74313-JIN
Periodo: 2017 - 2019

Título: Análisis funcional de miRNAs exosomales asociados a la Telangiectasia Hemorrágica Hereditaria.
Investigador Principal: Francisco Javier Blanco
Programa: Plan Propio de Investigación de la UGR
Periodo: 2017 - 2021

Título: Development of miR-145 antagonism as a novel therapeutic strategy for application to the treatment of pulmonary arterial hypertension.
Investigador Principal: Margaret R. MacLean; Andrew H. Baker
Programa: British Heart Foundation (UK)
Referencia: SP/12/9/29593
Periodo: 2013 - 2015

Título: Estudios moleculares sobre endoglina y ALK1, dos componentes del receptor de TGF-beta endotelial implicados en la fisiopatología vascular.
Investigador Principal: Carmelo Bernabéu Quirante
Programa: Plan Nacional de I+D+i
Referencia: SAF2010-19222
Periodo: 2010 - 2013

Título: Mecanismos moleculares y celulares en enfermedades crónicas inflamatorias y autoinmunes.
Investigador Principal: Carmelo Bernabéu Quirante; Francisco Sánchez Madrid
Programa: MEICA
Periodo: 2009 - 2012