



Universidad de Valladolid



Propuesta de Trabajo de Fin de Grado

Datos del Trabajo de Fin de Grado	
Título:	The contribution of minority mitochondrial outer membrane permeabilisation to B cell lymphomagenesis
Tutor:	Dra. M ^a Beatriz Durán Alonso
Departamento UVA:	Dpto. Bioquímica y Biología Molecular y Fisiología
Directores externos (si procede):	Dr. Joel Riley
Institución o empresa externa a la UVA (si procede):	Cell Death & Inflammation Lab Institute of Developmental Immunology Biocenter Medical University of Innsbruck Innrain 80 6020 Innsbruck Austria
Breve descripción:	<p>Mitochondrial cell death is usually executed by the complete permeabilisation of the mitochondrial network, releasing pro-apoptogenic proteins (such as cytochrome c) into the cytosol where they initiate the rapid caspase activation and ultimately cell death. However, we have recently challenged this dogma, and found that under sub-lethal stress conditions only some of the mitochondria in a cell undergo permeabilisation, a process called “<u>minority mitochondrial outer membrane permeabilisation</u>”, or “miMOMP”. This results in sub-lethal caspase activation which is not sufficient to kill the cell, but does drive CAD-dependent DNA damage, leading to genomic instability.</p> <p>It remains unknown whether minority MOMP can occur physiologically. Of interest to our laboratory, we are interested in whether miMOMP contributes to B cell lymphomagenesis. In this project, we will test whether cells of the pre-malignant B cells as well as B cell lymphoma cells undergo minority MOMP induced by various stimuli, and whether this is CAD dependent. This project will involve cell culture, FACS, (super-resolution) microscopy, genome editing by CRISPR-Cas9, synthetic biology and other standard laboratory techniques. This project will also make extensive use of a method called BH3 profiling, with which we can probe the likelihood of a cell to undergo mitochondrial cell death.</p>
Asociado a Prácticas Externas (SI o NO): NO	

SR. COORDINADOR DEL GRADO EN BIOMEDICINA Y TERAPIAS AVANZADAS

Debe remitirse al Coordinador del Grado (grado.biomedicina@uva.es).



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Nombre del estudiante preasignado (si procede): LIDIA XIU CORRERO RIVAS

SR. COORDINADOR DEL GRADO EN BIOMEDICINA Y TERAPIAS AVANZADAS

Debe remitirse al Coordinador del Grado (grado.biomedicina@uva.es).