



Research Project Proposal
Academic year 2021-2022
Máster en Investigación Biomédica

Project Nº 10		
Title: <i>Effects of a hypothermic mimetic on neuroinflammation</i>		
Department/ Laboratory <i>Department of Pharmacology and Toxicology, School of Pharmacy and Nutrition</i>		
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<p>Summary:</p> <p>Hypothermia has been proved to have a beneficial effect on several pathologies including stroke, neurodegeneration or traumatismos. Recent investigations have been trying to unravel the molecular mechanisms underlying the beneficial effects of hypothermia. CIRBP is one of the so termed cold-shock proteins involved in this process. Increasing levels of CIRBP may have broad clinical applications, including cancer and neuroinflammation. It has been shown that CIRBP binds to specific mRNAs involved in cell survival and anti-apoptotic cascades, being an important mediator in the beneficial effects of therapeutic hypothermia. In recent years, a small molecule has been developed that bind CIRBP and, by doing so, increase CIRBP protein expression. Therefore, this molecule is considered as hypothermia mimetic.</p> <p>The present study aims to investigate the biochemical effects of administering this small molecule hypothermia mimetic. The working hypothesis is that treatment with the new molecule would increase levels of CIRBP, and this would contribute to change the inflammatory profile. To test this hypothesis, an experimental model of low chronic inflammation, such as high fat diet, will be used.</p> <p>Therefore, in this project, the hypothermic mimetic will be chronically administered to high fat diet fed rats. By means of PCR and western blotting techniques, it will be checked markers of peripheral vs neuroinflammation and dysfunction of the blood-brain barrier.</p>		
yes	<input checked="" type="checkbox"/>	Does the project include the possibility of supervised animal manipulation to complete the training for animal manipulator?
no	<input type="checkbox"/>	