



**MASTER'S DEGREE IN BIOMEDICAL RESEARCH**

**Research Project Proposal**

Academic year 2024-2025

**Project Nº 40**

**Title:** Mechanisms of action of Immunotherapy with TLR3 agonists

**Department/ Laboratory** *Laboratory where the project will be carried out indicating Department, Area, Faculty, CUN, CIMA etc.*

Lab. 3.04 Immunology and Immunotherapy, CIMA

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**Summary** *Short summary of the project with a **maximum extension of 250 words**, including the goals and the methodology that will be used*

The master's thesis will focus on understanding the antitumor effect of intratumoral injection of the antitumor agent BO112, which is a double-stranded RNA analog currently in clinical trials. Our experimental work over the past few years has established the efficacy of this treatment in combination with other immunotherapy agents in animal models and in patients with metastatic melanoma. Recently, we have identified the cellular subtypes that express the receptor primarily stimulated by BO112, which is TLR3. Our current studies demonstrate that the expression of TLR3 in certain subpopulations of antigen-presenting cells is necessary for the antitumor therapeutic effect. We aim to understand the cellular and molecular mechanisms of action of BO112 in order to enhance them synergistically through combination therapies with non-overlapping mechanisms.

yes	
no	X (improbable)

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