

Physiology of the adult carotid body stem cell niche (CBSCs)

Resumen: This project pretends the characterization of a novel adult neurogenic niche described recently by our group in a peripheral chemosensory organ, the carotid body. We intend to highlight the special cellular crosstalk taking place between neural stem cells and niche cells regulating the biology of the progenitors.

Objetivos: This project pretends the characterization of a novel adult neurogenic niche described recently by our group in a peripheral chemosensory organ, the carotid body. We intend to highlight the special cellular crosstalk taking place between neural stem cells and niche cells regulating the biology of the progenitors.

Objetivos contribución: The achievement of all the project objectives depends on our group.

Entregables: At least 5 or 6 papers in high profile journals are expected, and about 4 more in low profile journals, and probably one patent. In general, results from this project will allow us to contribute to the understanding of adult neurogenic niches, which will improve our ability to control neural stem cells both in vitro and in vivo for therapeutic purposes. Moreover, our results will also help to the comprehension of the pathophysiology of certain nervous system tumors.

Impacto: Stem cell research is transforming biomedicine worldwide and offering new and exciting opportunities for the design of novel therapeutic treatments. However, there is a clear gap between the number and quality of research groups working in the stem cell field between the United States and Europe. Our European continent is clearly behind on novelty and impact of its stem cell research. The ERC project assigned to our group falls into the trend of changing this discrepancy. We pretend to contribute to the understanding of the biology of tissue-specific stem cells, which might in turn have an important impact on the global stem cell research picture. It is already very important to have obtained an ERC Starting Grant for the Stem Cell field in the south of Europe.

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Presupuesto: 1,476,000.00

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