



SEMINARIO PRESENCIAL

Viernes, 22 de abril de 2022

12:30 h. Instituto Cajal (CSIC) Madrid

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Understanding postnatal neurogenesis – where are we?

Abstract

Neurogenesis comprises three intricately regulated steps, namely generation, migration and integration of new neurons. After birth, neurogenesis remains restricted mainly to two germinal zones in the rodent forebrain, the ventricular-subventricular zone (V-SVZ) located adjacent to the walls of the lateral ventricles, and the dentate gyrus of the hippocampus. In the vertebrate brain, the majority of neurons undergo generation and differentiation in distinct locations. Therefore, correct migration and integration of newborn neurons are essential steps for shaping brain function.

In this talk, I will present two mechanisms that control neuroblast migration towards different forebrain structures. First, I will show how serotonergic axons conspicuously aligned with neuroblasts regulate their migration. Second, I will present that newborn medium spiny neurons migrate from the V-SVZ following long glial processes and integrate into the nucleus accumbens. Finally, I will introduce a new mechanism that controls cell identity specification of postnatally-generated interneurons.

Affiliation and short bio

Education

2007–2012: PhD in Neurosciences, *Universidad Autónoma de Madrid (UAM)*.

Supervisor: Fernando de Castro, *Hospital Nacional de Parapléjicos*, Toledo.

Main project: Development of the olfactory system.

Research Experience

2022–2026: Miguel Servet Fellow at IBiS, Spain.

Brain plasticity during development and psychiatric disorders.

2018–2021: Postdoctoral senior researcher in Konstantin Khodosevich's Lab.

Biotech Research and Innovation Center (BRIC), University of Copenhagen.

Main project: Cell identity specification of interneurons in development and psychiatric disorders.

2013–2018: Postdoctoral researcher in Hannah Monyer's Department.

German Cancer Research Center and University of Heidelberg.

Main project: Mechanisms regulating neurogenesis and neuroblast migration.

Related publications with the topic:

García-González *et al*, *Mol Psychiatry*, 2020. PMID: [32612250](#).

García-González *et al*, *Neuron*, 2017. PMID: [28472655](#).



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