

Proyecto: Molecular mechanisms of Neurovascular communication

Departamento: BZH - University of Heidelberg

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Puesto: Postdoc

Perfil: We are looking for a postdoctoral candidate with experience in Biochemistry, Molecular Biology and Apoptosis techniques. Experience in working with mice will be an asset.

Candidate should have completed his/her PhD and have at least one publication as first author. Applicant should be willing to apply for his/her own fellowship funding.

Applications should include a detailed CV as well as emails of two contact reference persons. Applications should be addressed to: carmen.ruizdealmodovar@bzh.uni-heidelberg.de

Categoría: Beca

Duración: 3 years

Descripción: Despite their distinct functions, the nervous and vascular systems regulate each other function and share many more similarities and common principles than previously expected. For example, at the tip of a growing vessel there is a specialized endothelial cell called endothelial tip cell, which senses the cues in the environment and leads the sprouting vessel to its final destination. Similarly, at the leading edge of a growing axon there is a specialized structure termed the growth cone, responsible for sensing and responding to the guidance cues that will guide the axon to its final target. Interestingly, typical axon guidance cues are also known to regulate blood vessel guidance. Conversely, for example, the key angiogenic factor, vascular endothelial growth factor (VEGF), and its receptors, are expressed in neuronal cells and participate in processes such as neuronal migration and axon guidance. Despite these initial findings, still little is known about the biology of angiogenic factors in neurons, the signaling pathways that they activate and their functional role in neurodevelopment.

In our lab, we are interested in understanding (i) the signaling pathways and cellular mechanisms that angiogenic molecules exert in neuronal cells and (ii) the communication between the vascular and nervous systems during development. For this, we are using a combination of mouse genetics, organotypic cultures, cell biology, biochemistry and molecular biology approaches.

We are currently looking for a highly motivated postdoc interested in working in a multidisciplinary approach project and in a young international environment.