

Artigo Destaque_SPN2009

Molecular and Cellular Neuroscience

Motor protein–dependent transport of AMPA receptors into spines during long-term potentiation

Correia S.S., Bassani, S., Brown, T.C., Lisé, M.F., Backos, D.S., Hussein, .H., Passafaro, M. and Esteban J.A. (2008) Nature Neurosci. 11(4):457-66.



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Susana Correia, Ph.D. is currently a postdoctoral research fellow at M.I.T. in Cambridge, Massachusetts, USA. She obtained a B.S. in Biochemistry and Ph.D. in Molecular Biology, at the University of Coimbra, Portugal and was previously a postdoctoral fellow at the University of Michigan, Ann Arbor, USA. During her PhD, Susana became interested in Neuroscience and began focusing her research on the cellular and molecular signals that regulate the dynamic changes occurring at synapses, known as synaptic plasticity. Synaptic plasticity is critical for sensory processing and learning and memory, and alterations in synaptic plasticity have been linked to many neurological diseases. Her Ph.D. research was conducted under the supervision of Drs. Ana Luisa Carvalho and Carlos Duarte at the Center for Neurosciences and Cell Biology. After completion of her Ph.D., Susana moved to the laboratory of Dr. José Esteban, in the Department of Pharmacology, at the University of Michigan. In Dr. Esteban's laboratory she continued to examine the biochemical changes at synapses and expanded her research expertise by monitoring synaptic changes in living brain cells using electrophysiology recordings and advanced microscopy techniques. To further understand the contribution of acute synaptic changes to long-term changes in neural networks, Susana moved to the laboratories of Drs. Ki Goosens and Ann Graybiel at the McGovern Institute for Brain Research at M.I.T. Her training in Cellular Biology, is now being combined with behavioral analysis and in vivo electrophysiology in awake, behaving animals to examine neural circuits. Susana's research has led to presentations at several international meetings and multiple peer-reviewed publications, including articles in JBC, Journal of Neuroscience, and most recently, Nature Neuroscience. She was the recipient of a postdoctoral fellowship from Fundação para a Ciência e Tecnologia (Portugal) and multiple travel awards to participate in international meetings. Upon completion of her work at M.I.T., Susana hopes to continue her research career in academia to further dissect the precise molecular, cellular, and network alterations that guide behaviour and to gain a better understanding of how these processes change with aging and disease.