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Diplom Biochemist, University of Tübingen 1996
Dr. rer nat Biochemistry, Neurobiology University of Tübingen, Max
Planck Institute for Neurobiology Munich 2000
Postdoc Molecular Neurobiology, Medical Research council,
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Keywords

Neuronal polarity – neuronal development – migration – Stem cells

Science

Our main question is how neurons establish their polarity in an environment, which provides the right extrinsic cues during their migration towards the cortical plate. I am currently working on this topic using a combined approach of studying the development of neuronal polarity in vivo, in isolated migrating neurons and neurons developing on patterned substrates.

In addition we study how much of the devastating later defects occurring in several neurodegenerative diseases and autism could be laid out in early development mainly using in utero electroporation and mouse models of the respective disease.

Awards:

2000 Otto-Hahn-Medal of the Max-Planck-Society

Selected Publications

Shariati S. Ali M, Lau P., Hassan B.A., Müller U., Dotti C.G.*, De Strooper B.* and **Gärtner A***. APLP2 regulates neuronal stem cell differentiation during cortical development J Cell Sci. January 23, 2013, doi:10.1242/jcs.122440

Gärtner A.*, Fornasiero E.F. (Equal contribution of first two authors), Munck S., Vennekens K., Seuntjens E., Huttner B.W., Valtorta F. and Dotti C.G.* N-Cadherin specifies first asymmetry in developing neurons, EMBO J, 2012 Feb 21;31(8):1893-903. doi: 10.1038/emboj.2012.41

Gärtner A.*, Calderon de Anda F. (Equal contribution of first two authors), Tsai L.H. and Dotti C.G.* Pyramidal neuron polarity axis is defined at the bipolar stage. Journal of Cell Science. 121 (2) 178-185

Gärtner A.* Huang X. and Hall A. (2006) Neuronal polarity is regulated by glycogen synthase kinase-3 independently of AktPKB serine phosphorylation. Journal of Cell Science. 119 (19) 3927-3924

Gärtner A., Polnau D.G. (Equal contribution of first two authors), Staiger V., Sciarretta C., Minichiello L., Thoenen H., Bonhoeffer T. and Korte M.* Hippocampal Long-Term

Potentiation Is Supported by Presynaptic and Postsynaptic Tyrosine Receptor Kinase B-Mediated PhospholipaseCgamma Signaling. (2006). Journal of Neuroscience, 26(13):3496-3504

Gärtner A.* and Staiger V. Neurotrophin-secretion from hippocampal neurons evoked by long-term potentiation-inducing electrical stimulation patterns. (2002). PNAS, 99, 6386- 6391

Chapouton, P., **Gärtner A.**, and Götz M.* The role of Pax6 in restricting cell migration between developing cortex and basal ganglia. (1999) Development, 126, 5569-5579