

## **Addressing the specificity and function of NG2 cell-neuron synaptic contacts: NG2 cells as modulators of the neuronal network?**

**Speaker:**

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**Funding period:**

from 2014 to 2018

**Project description:**

In this project we will focus on the potential role of NG2 cells in modulating the neuronal network. This will be by examining gene products made by NG2 cells with neuroregulatory function and elucidating their temporal and spatial heterogeneity of expression in this cell population. We will utilise information we already have in hand as well as new candidates isolated by deep sequencing of neuronal-NG2 cell synaptosomes to identify locally translated mRNA. Furthermore, we will examine whether the activity-dependent cleavage of NG2 that we have recently discovered, which releases the ectodomain into the brain extracellular matrix, is a general phenomenon or shows regional variation in the NG2 cell population. We will examine how this affects the neuronal network by electrophysiological analysis of neurons in the somatosensory cortex and hippocampus. In a second complementary part we will identify the origin of synaptic contacts onto NG2 glia by the surrounding neuronal network using a rabies-virus based tracing method and examine its regional and temporal heterogeneity and whether this pattern is modulated by physiological stimuli.

Quelle:

<https://gepris.dfg.de/gepris/projekt/255070194?language=en>