

# **Characterization of excitatory and inhibitory neurons in the brain areas relevant for development of social behaviour in the autism-related model.**

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Abstract: The proposed project focuses on the identification and functional characterization of excitatory and inhibitory neuronal cell populations in the brain areas relevant for development of social behaviour in the autism-related model. The suggested research will examine the early stages of postnatal brain development with particular emphasis on hypothalamic, ventral midbrain and cortical neurons. Given the fact that alterations in the early stages of the hypothalamic oxytocin system are suspected in the etiology of neurodevelopmental disorders with autism symptomatology, we will apply our previous experience and expertise in oxytocin signaling to tighten the developmental approach with particular attention on cell-adhesion molecules and postsynaptic proteins involved in the formation of excitatory and inhibitory synapses. We will use the transgenic mouse model of autism, immunostaining for postsynaptic proteins, electrophysiological measurements, and behavioural evaluation for in-depth analysis of the mechanisms underlying neurodevelopmental disorders.

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