NeuConnect  \\ NOVEL STRATEGIES FOR THE TREATMENT OF SCHIZOPHRENIA
BASED ON GENETIC VARIATION OF THE NEURAL CELL ADHESION MOLECULE
NCAM AND ENZYMES INVOLVED IN ITS POSTTRANSLATIONAL MODIFICATIONS

Schizophrenia is a devastating psychiatric disease characterized by substantially disturbed
cognition and emotion, affecting the most fundamental human features: language, thought,
affect, perception, and sense of self. Even though medication is available to improve the
symptoms of schizophrenia, not all patients benefit from these drugs. Current research revealed
that the susceptibility to schizophrenia may be caused by disturbed brain development and
maturation. A relevant molecule in this context is the neural cell adhesion molecule NCAM.
The appearance of NCAM during brain development is subject to complex genetic and enzymatic
control. The structures affecting the modulation of these control systems represent promising
targets for innovative therapeutics for schizophrenia. The NeuConnect consortium will use a
unique patient database to identify disease-related variations of NCAM and translate them
into animal models. Investigations on the molecular causes and consequences of dysregulated
NCAM in animal and cell models will be used to generate and test novel pharmaceuticals for
their capacity to restore brain function and to improve clinical symptoms of schizophrenia.
The interdisciplinary group of involved scientists and clinicians is perfectly suited to combine
expert knowledge on genetic, molecular, neurobiological, and clinical aspects in order to
establish new treatment strategies for schizophrenic patients.