Studies of glutamatergic neurotransmission i specific neuronal circuits of relevance to schizophrenia and Parkinson's disease

Glutamate is the most common neurotransmitter i the adult central nervous system and is used by most, if not all, neuronal circuits. Dysfunctional glutamatergic neurotransmission i believed to be an important contributor to several diseases of the nervous system, including schizophrenia and Parkinson's disease. In order to get an increased molecular understanding of glutamate signaling in specific neuronal circuits involved in neurological disorder, we have generated a genetic mouse model, a so called conditional knockout mouse. Using this model,we are able to specifically target selected neuronal circuits, for example circuitry involved in emotional and cognitive behaviour, involved in schizophrenia, and circuitry of voluntary movement, involved in Parkinson's disease.

The project is highly interesting and is likely to increase our understanding of brain circuitry.

Students interested in neurobiology are welcome to apply for a project/exam work! We encourage students with laboratory practice in molecular biology and interest in neurobiology to contact us as soon as possible. Techniques we use include PCR, Western blots, in situ hybridization and immunohistochemistry.

Proposed project start is January 2008.

Supervisor: Åsa Mackenzie, Unit of Developmental Genetics, Department of Neuroscience, BMC. E-mail: asa.mackenzie@neuro.uu.se, phone 018-471 4519.