



SAHLGRENKA AKADEMIN INSTITUTIONEN FÖR BIOMEDICIN

Utlysning

Project Title: Molecular mechanisms of synapse formation – circuit effects of CA10/11

Project duration and dates: 4 weeks, 2026-07-06 -- 2026-08-02

Application deadline: 2026-06-08

Amount: 3000 SEK/week

Supervisor; Fredrik Sterky

Project summary:

Our everyday thoughts and actions are mediated by the flow of information across synaptic connections. The formation and maturation of synapses depend on interactions between adhesion proteins on contacting pre- and postsynaptic neurons. A well-known example is presynaptic neurexins and their interactions with diverse postsynaptic ligands; mutations in the Neurexin-1 gene have repeatedly been associated with risk for autism and schizophrenia. However, the exact role of neurexins at the synapse and the mechanism whereby their dysfunction can cause human disease are not well understood. We have identified two conserved brain-specific proteins, CA10 and CA11, as novel neurexin ligands. Mice lacking CA10/11 have gait defects but how and if these proteins may impair circuits involved in motor control is not well understood. The current project serves to investigate structural changes in the brain, using immunocytochemistry and microscopy.

Applicant:

We invite applications from enthusiastic and motivated students, preferably medical students, with an interest to learn more about molecular biology and experimental laboratory work. Some prior experience from the relevant techniques will be required.

Application:

Applications should be emailed to Fredrik.sterky@gu.se. The application should include; Motivation letter, CV including contact info.