English Summary

Nerve cells in the brains talk to each other through synapses. They do this via neurotransmitters. The most important neurotransmitter in the brains is glutamate, which binds to glutamate receptors. These receptors are activated after the binding of glutamate. We have discovered in recent years that the glutamate receptors not stand alone but together with other proteins in the synapse. They form complexes of proteins.

In the thesis by Nikhil Pandya, the focus is on the unraveling of the glutamate receptor complexes and the understanding of the cooperation of various proteins and the glutamate receptor. To this end, methods were first developed which make it possible to unravel the protein partners interact with each other in one receptor complex. The investigation has shown that glutamate receptors exist in many different compositions, mostly depending on the location in the cell. From one of the proteins, Noelin, it was examined how the interaction with the glutamate receptor means functional. In addition, it was found that Noelin the movement of the glutamate receptor in the membrane of the affected cell. This affects the signal in the synapse. This work gives us new opportunities in the future to develop drugs that can alter the signal in the brains.