Microtubule dynamics is regulated by protein partners in the pre-microtubules composition is altered will be used. In this project, the student will prepare synaptosomes from wild type and transgenic mice (TTL and r TCPs mice) to analyze the presence of modified α-tubulin (tyrosinated, de-tyrosinated) and of specific molecular partners in the pre- and post-synaptic compartments. He/her will analyze the distribution of modified microtubules and partners in the axon, dendrites and dendritic spines of mature neurons in culture. In a next step, depending on the results obtained, he/her will perform rescue experiments by the expression of wild type or mutated versions of TTL or TCPs in the mature KO neurons.

Methods (up to 3 lines):
Techniques used will include cellular biology (primary neuronal cultures, neuron transfection, virus infection, immunofluorescence and confocal microscopy) and biochemistry (brain dissection, subcellular fractionation, western-blot analysis).

Up to 3 relevant publications of the team:

Requested domains of expertise (up to 5 keywords): Cell biology, neurobiology, microscopy, biochemistry