

Module title		Abbreviation
Cellular Neurobiology		03-TN-CN-152-m01
Module coordinator		Module offered by
Institute of Clinical Neurobiology		Faculty of Medicine
ECTS	Method of grading	Only after succ. compl. of module(s)
5	numerical grade	--
Duration	Module level	Other prerequisites
1 semester	graduate	--
Contents		
<p>Students will get a theoretical introduction and amplification of topics in cellular neurobiology. The following topics will be discussed: structure, function, and molecular functional components of the peripheral nerves of the nervous system including its neuronal and non-neuronal cells as well as the neuromuscular endplate, motor behavioral tests in mouse models for motoneuron diseases; functional and morphological analysis of motoneurons and motor endplates, anatomical, cellular/neuronal plasticity at selected brain structures, e.g. hippocampus and cerebellum, molecular and cellular pathomechanisms of neuromotor disorders, optogenetic approaches and their use to understand circuit biology, immunohistochemistry /immunofluorescence in hippocampal/cerebellar slices, confocal microscopy, primary neuron preparations of dorsal root ganglia and hippocampal neurons, mouse perfusion, whole cell patch clamp recordings to determine ion channel properties.</p>		
Intended learning outcomes		
<p>Students who successfully completed this module are able to understand and dispose current experimental approaches in neurobiology. They are trained in preparations and recording techniques to study the function and pathomechanisms of neural model systems. The students are able to evaluate clinical aspects of neurobiology with a focus on the molecular, cellular and physiological mechanisms. Additionally, they are able to document, evaluate, and classify their own data that were collected during the lab course. Furthermore, the students can critically reflect their data in the context of the experimental methods used.</p>		
Courses (type, number of weekly contact hours, language – if other than German)		
V (0) + P (2)		
Method of assessment (type, scope, language – if other than German, examination offered – if not every semester, information on whether module is creditable for bonus)		
Log (approx. 10 to 30 pages)		
Allocation of places		
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Additional information		
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Workload		
150 h		
Teaching cycle		
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Referred to in LPO I (examination regulations for teaching-degree programmes)		
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Module appears in		
<p>Master's degree (1 major) Translational Neuroscience (2015) Master's degree (1 major) Translational Neuroscience (2017) Master's degree (1 major) Translational Neuroscience (2018) Supplementary course Translational Neuroscience (2018) Master's degree (1 major) Translational Neuroscience (2022) Supplementary course Translational Neuroscience (2022)</p>		

