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| Module title | | Abbreviation |
| Ion Channels | | 03-TN-IC-142-m01 |
| Module coordinator | | Module offered by |
| holder of the Chair of Clinical Neurobiology and holder of the Chair of Physiology | | 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 | | |
| Main topics: physiological properties of membranes, structure-function relationships of ligand-gated and voltage-gated ion channels, regulation and pharmacology of ion channels, anatomical expression profiles, developmental regulation, evolution of ion channels, sensory systems, ion channelopathies, cLabs/Neuron to simulate various electrophysiological conditions, whole cell patch clamp recordings to determine ion channel properties. | | |
| Intended learning outcomes | | |
| Students who successfully completed this module will have acquired distinct knowledge on various families of ion channels and their importance for brain physiology. Students will have learned in a bottom-up approach to put the molecular findings into the context of pathomechanisms in various kinds of channelopathies. They will have been trained in recording techniques to study ion channel properties on transfected/injected cell lines/oocytes as well as primary murine neurons. Additionally, they will have been trained to critically read, reflect and present scientific reports in the field of channel physiology. | | |
| Courses (type, number of weekly contact hours, language — if other than German) | | |
| V + S + P (no information on SWS (weekly contact hours) and course language available) | | |
| Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus) | | |
| methods of assessment: a) written examination (30 to 60 minutes, including multiple choice questions) or b) log (approx. 10 to 30 pages) or c) oral examination in groups of up to 3 candidates (approx. 30 to 60 minutes) or d) presentation (20 to 45 minutes); students will be informed about the method, length and scope of the assessment prior to the course | | |
| Allocation of places | | |
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| Additional information | | |
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| Workload | | |
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| Teaching cycle | | |
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| Referred to in LPO I (examination regulations for teaching-degree programmes) | | |
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| Module appears in | | |
| keinem Studiengang zugeordnet | | |