

Graduate Program in Molecular Cell Biology and Oncology:

Special Lecture/Course in: Affinity purification and mass spectrometry

Lecturer: Stasyk, Taras; Schmidt, Oliver

Number:

Type: VO ECTS: 1,5

Character:

Time/Date: tentatively scheduled November 4-8, 2019

Location: CCB, Cell biology

Limited number of places YES, number of places , registration necessary YES

For registration or questions please contact

MCBO@i-med.ac.at (registration); oliver.schmidt@i-med.ac.at (questions)

Aim:

Introduction into commonly applied methods for affinity purification of proteins/protein complexes from biological sources and protein mass spectrometry
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Description/contents:

<p>The course will give a broad overview on methods and applications for the affinity-based isolation of proteins/protein complexes from all kinds of biological sources for analytical and preparative purposes. Also Tagging strategies, choice of expression hosts, membrane protein isolation/detergents and multi-step purification strategies will be discussed. In addition the course offers an introduction into biologically relevant mass-spectrometry applications.</p>

<p>The participants will affinity-purify a recombinantly expressed protein, follow the purification procedure and estimate purity by SDS PAGE.</p>
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<p>In the second half of the course the resulting samples will be digested and the peptides will be analyzed by mass spectrometry.</p>
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<p>Applied techniques: Glutathion-S-transferase affinity purification, elution by thrombine cleavage, SDS PAGE, Bradford assay, FPLC/size exclusion chromatography, sample preparation and tryptic digestion for mass spectrometry; MALDI-TOF MS; Analysis of MS peptide spectra</p>
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Suggested reading:

Bioanalytics - Lottspeich (Ed.)
