

Core Facility Imaging & Computational Bioanalytics

How to perform and analyze cell-based assays?

A variety of cell-based assays are available to characterize physiological reactions (e.g. viability, apoptosis, necrosis, organelle function, proliferation of cells). The course introduces into selection of the right assay, correct performance, troubleshooting and appropriate statistical evaluation of the results. Practical work includes cell culturing, treatment, analysis by plate reader and practical computer based exercises for correct data analysis.

The hands-on workshop contains:

- Part 1
 - Seeding of cells, planning of plate layout, positive and negative controls, treatment of adherent and suspension cells
 - Performance of lactate dehydrogenase detection, cellular dehydrogenase measurement and ATP content assays
 - Readout by absorbance, fluorescence and luminescence reader dependent on the assay
- Part 2
 - Introduction and analysis of the generated data including: basic principles of statistics (outlier detection, statistical hypothesis testing, Gaussian statistics, Statistical key concepts including p-values)
 - Descriptive statistics (mean, SD, percentiles, coefficient of variation, confidence interval)
 - Statistical tests (Gaussian vs. non-Gaussian methods, one-tailed or two tailed tests)
 - Group comparisons and repeated measurements (paired and unpaired studies), multivariate data analysis and data visualization
 - Calculation of IC-50 or/and EC-50

Languages of instruction: English or German

Target audience: PhD students, technicians and researchers

Entrance qualifications: experience in cell culture

Costs: 350 Euro (University)/ 500 Euro (Company)

Registration: zmf-sekretariat@medunigraz.at (deadline: May, 18th 2018)

As the number of participants is limited (min. 4 and max. 12), please register early to confirm your seat!

June 5th & 6th 2018 (9 am - 5 pm)

ZMF seminar room 3rd floor 03-012

Contact: zmf-sekretariat@medunigraz.at
Tel: +43 (0)316 385-73001

Center for Medical Research (ZMF)
Stiftingtalstrasse 24, A-8010 Graz
<https://zmf.medunigraz.at>