

## **“Cell fractionation and organelle isolation”**

PIs: Ralph Böttcher, Julia von Blume

Eukaryotic cells are composed of different compartments that comprise all the closed parts within the cytosol surrounded by a single or double lipid layer membrane. These include mitochondria, peroxisomes, endosomes, lysosomes, the endoplasmic reticulum, the nucleus and the Golgi apparatus. The major role of these compartments is to establish physical borders for biological processes that enable the cell to carry out different metabolic activities at the same time.

In our course we want to teach how cellular compartmentalization can be observed by different techniques. First we will visualize different cellular compartments using immunofluorescence techniques with compartment specific antibodies. To gain an insight into the dynamics of these organelles we will perform live cell imaging of secretory proteins and focal adhesion markers fused to GFP. Finally we will biochemically isolate Golgi membranes and endosomes by sucrose density gradient fractionation. Thus this course will provide a basis of classical biochemical and cell biology approaches.

### Literature:

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