

Rapid screening methods to detect and study recombinant proteins in plant cells

Transient expression allows the characterisation of newly generated chimeric genes within days rather than months required to generate transgenic plants. Analysis of protein synthesis, folding, stability and targeting to subcellular compartments has been shown to be reliable and reproducible. The ability to co-express multiple genes also allows dose-response analysis of potentially toxic dominant negative mutants. This has helped to dissect complex cellular pathways *in vivo*, using manipulations that would be lethal in transgenic plants.

The primary aim of this course is to introduce scientists from academia and industry to these techniques and their various applications. Participants are encouraged to bring their own samples to test during the course. The course also aims to assist those who are already using these techniques to optimise the methods, troubleshoot and identify tricks and traps. This 5-day course is limited to 25 participants and early registration is highly recommended.

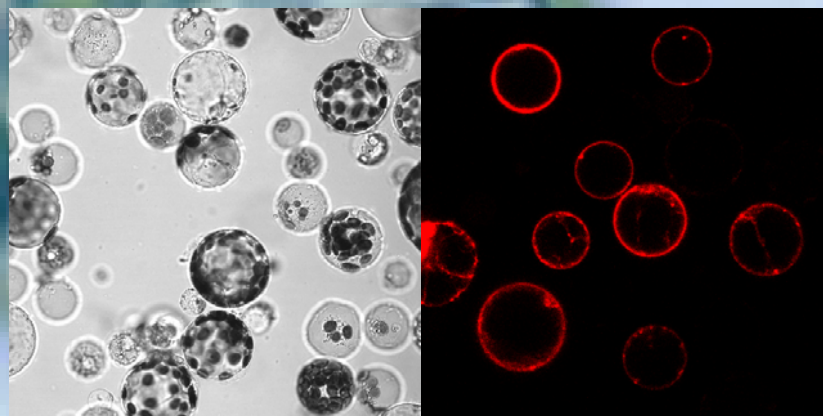
Tutors and invited speakers:

Jurgen Denecke: Protoplasts and secretion assays
(University of Leeds)

Chris Hawes: Live bio-imaging
(Oxford Brookes University)

Alison Baker: Organelle fractionation
(University of Leeds)

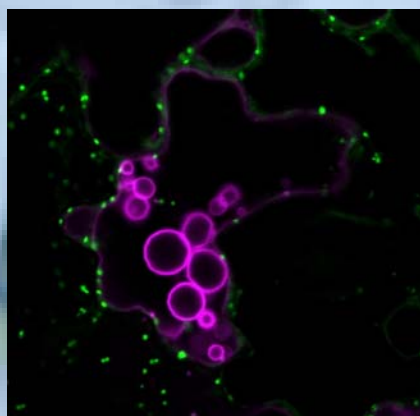
Lorenzo Frigerio: Protein-protein interactions
(University of Warwick)



Course highlights:

Common transfection methods

- Preparation of protoplasts from plant cells
- Naked DNA transfer via electroporation or chemical methods
- Agrobacterium-mediated tobacco leaf infiltration.

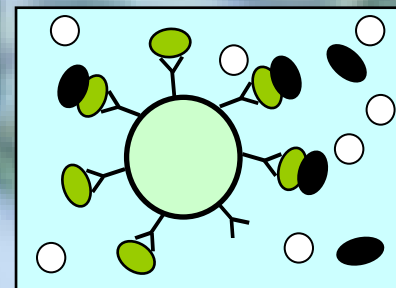
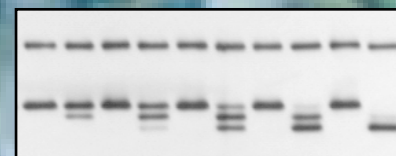


Popular reporter assays

- Enzymatic analysis (GUS, Amylase, luciferase)
- Confocal laser scanning microscopy (GFP, YFP, RFP)

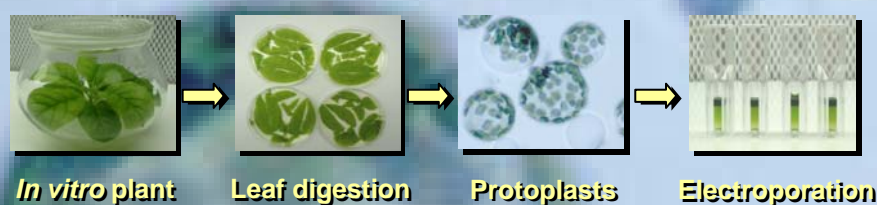
Introduction to functional protein analysis

- Cell fractionation and secretion assays
- co-precipitation and pull-down assays
- co-expression analysis using dominant mutants



Individual technical support:

Participants who provide their own test-samples will be given the opportunity to try the most suitable expression method during the course and are requested to propose the particulars of the experiment during registration.



To apply, visit

<http://www.plants.leeds.ac.uk/courses.html>:

The course is limited to 25 participants and the application deadline is the 20st of July 2008