

BIO-611

Practical - Constam Lab

Constam Daniel

Cursus	Sem.	Type
Molecular Life Sciences		Obl.

Language of teaching	English
Credits	1
Session	
Exam	Written
Workload	30h
Hours	27
Lecture	7
Practical work	20
Number of positions	2

Frequency

Every year

Remark

3-day Block course, every year in January. To register, contact EDMS Administration

Summary

During development, cell fates are governed by multiple microenvironmental cues and their integration by specific signal transduction pathways. This course focuses on imaging of mechanosensory cilia or of molecules implicated in specific signal transduction events during mammalian embryogenesis.

Content**Analysis of RNA-protein interactions by EMSA assays**

- **Preparation, handling and characterization of RNA in vitro:**
 - PCR amplification and purification of a template DNA for *in vitro* transcription
 - *In vitro* transcription and purification of RNAs
 - Spectrophotometric analysis of purified RNAs
- **Characterization of recombinant protein-RNA complexes in vitro:**
 - Electrophoretic Mobility Shift Assay (EMSA) using fluorescently labelled RNA probes
 - Determination of binding affinities by calculation of dissociation constant (Kd)

Note

Please note that you are not allowed to inscribe in your own group!

Note that 3 practical courses are mandatory for all EDMS students and that they have the priority; each course has between 2 to 4 possible slots.

Therefore, please do not register by yourself to this course, this will be done by the EDMS program administrator!

Keywords

Embryogenesis, cancer, proteases, TGF β signaling, primary cilia, imaging

Learning Prerequisites**Recommended courses**

Basics of molecular and cell biology.

Assessment methods

Quiz (multiple choice questions)

Resources

Websites

- <https://www.epfl.ch/labs/constam-lab/>