EPFL

BIO-671   **Practical - Meylan Lab**

Meylan Etienne

Cursus	Sem.	Type
Molecular Life Sciences		Obl.

Language of teaching	English
Credits	1
Session	
Exam	Oral
Workload	30h
Hours	**24**
Courses	3
Exercises	3
TP	18
Number of positions	**4**

Frequency

Every year

Remark

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

Summary

To comprehend the function of several signaling pathways during lung tumor development, to become familiar with some techniques to detect and manipulate pathway activities, to make a critical analysis of primary research papers in the field of lung tumor biology, to learn about the recent developme

Content

The objectives are:
1- To comprehend the function of several signaling pathways during lung tumor development.
2- To become familiar with some techniques to detect and manipulate pathway activities.
3- To make a critical analysis of primary research papers in the field of lung tumor biology.
4- To learn about the recent developments and uses of genetically-engineered mouse models of lung cancer.
5- To perform analyses of lung tumor volumes from micro-computed tomography.
Theoretical part:
- Lecture and discussion on a selection of signaling pathways that contribute to the progression of lung cancer.
- Discussion and critical analysis of primary research publications.

Practical:
- Preparation of human lung tumor cell lines, transient transfection to modulate a selected pathway. Cell harvesting, followed by pathway activity measurement using real-time PCR, luciferase assay or Western blotting.
- Site-directed mutagenesis to create mutant cDNA.
- Lung tumor growth monitoring by micro-computed tomography.
- Immunohistochemistry from lung tumor sections.

Note

Note that while the course is open to all first and second year EPFL doctoral students, priority will be given to 1st & 2nd-year EDMS students, given that they are mandated to take three EDMS practicals modules.
Note also that doctoral students from the Meylan laboratory cannot take this course.
Access is limited to 4 students. Takes place every year in January.

Keywords

Lung cancer, mouse models of cancer, signaling pathways.

Learning Prerequisites

Recommended courses
None

Resources

Websites

- http://meylan-lab.epfl.ch/