CH-710

Gene transfer and recombinant protein expression in animal cells

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Cursus	Sem.	Type
Chemistry and Chemical Engineering		Obl.

Language of teaching	English
Credits	2
Session	
Exam	Oral presentation
Workload	60h
Hours	**28**
Courses	28
Number of positions	**18**

Frequency

Every 2 years

Remark

Next time: Fall 2018

Summary

Recombinant proteins synthesized by animal cells are becoming increasingly important in the prevention and treatment of disease.- The objective of the course is to provide an overview of this process, from vector design strategies to industrial manufacturing of biopharmaceuticals.

Content

Animal cell biology : (i) Cell growth and division, (ii) Transcription and translation (iii) Protein processing.
Subjects discussed in class could include:
History of animal cell technology

- Animal cell lines for recombinant protein expression
- Plasmid and viral expression vectors
- DNA purification
- DNA transfection into animal cells
- Transient gene expression in animal cells
- Establishment of stable cel lines
- Process development with stable cell lines
- Protein detection and purification
- Government regulations on biologics

Other topics may be included as needed.

Note

Next sesssion Spring 2018

Keywords

recombinant protein, mammalian cells, cell culture, gene expression, transfection.

Learning Prerequisites

Recommended courses

Basic cell biology