

## Themen für eine Master Thesis

<b>Group</b>	<b>Cell Biology</b>	
<b>Activities and competencies</b>	Cell biology and biochemistry. Cultivate modified cell lines for the morphological analysis by immunofluorescence and potentially also by electron microscopy. The entire range of protein biochemistry in combination with cell biology to analyze the properties of an antigen presenting cell	
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<b>Project 01</b>	<b>Titel</b>	Characterization of the immunological properties of a HeLa cell line that was converted to an antigen presenting cell line
	<b>1. Supervising tutor</b>	Jack Rohrer
	2. tutors	Jenny Eggenschwiler, Leopold v. Balthasar
	<b>Abstract</b> (200 – 500 Zeichen)	In preparation for a potential CTI project we need a system that we can use to demonstrate if a protein is internalized, degraded and presented at the surface by an antigen presenting cell. Since normal human antigen presenting cell lines are relatively tricky to handle we are about to create a HeLa cell line which constitutively expresses a special transcription activator (CIITA). This transcription activator specifically induces the expression of several genes that ultimately lead to the transformation of the HeLa cells into an antigen presenting cell line.  Workflow: Characterization of the immunological properties of the new cell line using different techniques. First it will be analyzed if the cells contain a special organelle which is specific for antigen presenting cells, the MHC class II compartment. For this purpose confocal immunofluorescence (and maybe in addition electron microscopy) will be used as a method. Subsequently, the biochemical properties of the cell line with regard to internalization, degradation and surface presentation of antigen(s) will be examined.
	Duration and financing	1 ½ years, no additional funding
Candidate		

- **fett:** wird im Internet publiziert
- Dem Abstract können 1-2 Literaturstellen angefügt werden.