



## DEPARTMENT OF MEDICINE, HUDDINGE

### **H7F3072 Tissue-Specific Immunology, 1.5 credits (hec)**

Vävnadsspecifik immunologi, 1,5 högskolepoäng

*Third-cycle level / Forskarnivå*

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#### **Approval**

This syllabus is approved by the The Committee for Doctoral Education on 2023-11-23, and is valid from Spring semester 2024.

#### ***Responsible department***

Department of Medicine, Huddinge, Faculty of Medicine

#### **Prerequisite courses, or equivalent**

Basic knowledge in immunology corresponding to the KI doctoral education course Basic Immunology (3 hp) is required.

#### **Purpose & Intended learning outcomes**

##### **Purpose**

This course will introduce the students into the emerging research field of immunology in the context of tissues. This includes a focus on distinct human fetal and adult organs, tissue models, as well as immune cells with features of tissue-residency and/or relevance in tissue-specific pathological conditions. The clinical and biological importance of each topic will be emphasized and discussed.

##### **Intended learning outcomes**

After the course, the students should be able to describe certain differences of the innate and adaptive immune system in blood and various tissues. Furthermore, the students should be able to identify and discuss specific roles of the immune system in human fetal and adult tissues in health and disease but also discuss possibilities and caveats in today's research in tissue-specific immunology, e.g. ways to collect material and ethical considerations.

#### **Course content**

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The course will be given over one week (full time). Examples of topics that will be covered during the course: Development of the fetal immune system; immune system concepts in airways, skin, intestines, lymphatics, and at the fetal-maternal interface; tissue-resident immune cell types (e.g. MAIT cells, ILCs); tissue models; and tissue-associated pathologies (e.g. HIV, LCH, brain tumors).

## Forms of teaching and learning

At the first course day, the course organizers will provide a basic introduction to the course followed by student presentations. Each student is expected to give a brief presentation (10-15min) of their own (doctoral/post-doc) research project(s), which should indicate relevance for the course.

During the other course days, invited lecturers will present an overview over a specific tissue/cell-type/etc in combination with their own research results concerning tissue-specific immunology. Each student is expected to ask questions to the lecturers every course day in order to ensure active participation by all participants throughout the course.

At the end of each course day, there will be an interactive Question & Answer session to summarize the main points and to provide feedback both from the course leaders and from the course participants. These sessions may also include quizzes and group discussions.

Finally, the students will be asked to study one specific topic of tissue immunology in a group project work. The topic will be provided by the course leaders at the beginning of the course. An oral presentation is expected from all students at the end of the course.

### *Language of instruction*

The course is given in English.

## Grading scale

Pass (G) /Fail (U)

## Compulsory components & forms of assessment

### Compulsory components

Students are required to attend all course days, to actively participate during the course and in the group work, and to present 1) their own research project that indicates relevance for the course, and 2) a given topic in an oral presentation in order to pass the course. Absence can be compensated with an individually written report (topic to be decided by the course organizers).

### Forms of assessment

The course examination will be in the form of a group assignment that is presented orally on the last course day, with each student presenting. Every student will be evaluated and assessed individually. The group presentations are peer-reviewed by the course leaders and the other students. Each student has to show that all intended learning outcomes have been reached.

## Course literature

Janeway's Immunobiology edition 8 or 9 or equivalent is recommended but not required. For the group work, suggestions for relevant scientific articles will be provided by the course leaders.