| 科目ナンバリング | U-LAS14 20072 LE68 | | | | |
|---|---|---|---|---|---|
| 授業科目名<英訳> | Introduction to Immunology-E2 :The body's defense system<br>Introduction to Immunology-E2 :The body's defense system | 担当者所属職名・氏名 | 医学研究科　准教授　KIM, Minsoo | | |
| 群 | 自然科学科目群 | 分野(分類) | 生物学(各論) | 使用言語 | 英語 |
| 旧群 | B群 | 単位数 | 2単位 | 週コマ数 | 1コマ | 授業形態 | 講義（対面授業科目） |
| 開講年度・開講期 | 2026・後期 | 曜時限 | 木3 | 配当学年 | 主として1・2回生 | 対象学生 | 全学向 |

**[授業の概要・目的]**

Our body is constantly exposed to foreign microbes, many of which cause infectious diseases. However, our body has an intricate immune system that defends against such infections. Understanding this host immune system gives us greater insights into human diseases and enables us to develop novel therapeutic tools. This course, therefore, focuses on the immune system at the molecular, cellular, and whole-organism levels. Topics include: cells and tissues of the immune system, lymphocyte development, structure and function of antigens and antibodies, cell biology of antigen processing and presentation, pathogenesis of immunologically-mediated diseases, and disease control. The first four lectures provide a simple introduction to immunology, and subsequent lectures focus on specialized topics that will give a detailed understanding of the immune system.

**[到達目標]**

To understand the basic concepts of immune cells and organs.
To understand how our body responds to foreign antigens and self-derived threats.
To become familiar with various research topics in immunology.

**[授業計画と内容]**

1. Introduction to immunology: the body’s defense
2. Elements of the immune system and their roles in defense
3. Introduction to innate immunity: the first lines of defense
4. Overview of adaptive immunity
5. Cells and tissues of the immune system
6. Antibodies and antigens
7. Inflammation and tissue repair
8. Recognition of self and non-self by the innate immune system
9. B cell development and antibody mediated immunity
10. Antigen presentation by T lymphocytes
11. Immunological memory and vaccination
12. Failures of the body’s defenses-Immunodeficiency
13. Disorders in the immune system-Autoimmunity, Allergy
14. Immunity to Tumors

≪Final examination≫

15. Feedback

Introduction to Immunology-E2 :The body's defense system(2)へ続く↓↓↓

Introduction to Immunology-E2 :The body's defense system(2)

**[履修要件]**

The course is open to all students, although a background in cell biology is highly recommended.

**[成績評価の方法・観点]**

Evaluation will be based on class attendance and participation (40%), homework (20%), and Final exam (40%).

**[教科書]**

Abul K. Abbas, Andrew H. Lichtman, Shiv Pillai 『Cellular and Molecular immunology 10th edition』（Elsevier,2022）ISBN:9780323757485
Kenneth Murphy et al. 『Janeway’s Immunology』（WW Norton）ISBN:9780393884890

**[参考書等]**

**（参考書）**

Jenni Punt et al. 『Kuby Immunology』（WH Freeman）ISBN:978-1319114701
Peter Parham 『The Immune System 5th edition』（WW Norton）ISBN:978-0-393-53335-4
Bruce Alberts et al. 『Molecular Biology of the Cell』（WW Norton）ISBN:978-0393884852
Introduced during class

**[授業外学修（予習・復習）等]**

To achieve the course goals, students read the recommended textbooks before the class and review the course handouts.

**[その他（オフィスアワー等）]**

Please feel free to come to my office at any time.

**[主要授業科目（学部・学科名）]**