

Category (科目区分)	Cluster of Inflammation and immune system			
Course Title (授業科目名)	Cancer immunology / practice			
Instructors (担当者名)	Masamitsu Tanaka	Academic Year (配当年次)	1	
Required Course / Elective Course (必修/選択)	Elective Course	Credits (単位数)	1	
Class Format (授業形態)	Lecture			
Schedule (開講期間)	Students will be notified by email after completing the course registration.			
Class Date/Period (開講曜日・時間)	Students will be notified by email after completing the course registration.			
Course Outline/ Course Objectives (授業の概要・到達目標)				
Purpose of class: Learn about the immune response of living organisms against tumors and the mechanism of immunosuppression by tumors.				
Achievement goal of class: To learn the basics related to tumor immunity and recent topics. To understand how macrophages and neutrophils are involved in tumor development.				
Class outline:				
1. To understand the polarity of macrophages and the formation of tumor associated macrophages.				
2. To understand the effects of tumor-associated macrophages on tumor immunity.				
3. To understand the biological characteristics of tumor-related neutrophils.				
4. To gain basic knowledge of immune checkpoints in tumors.				
5. To understand immunotherapy for lung cancer.				
6. To gain knowledge about how to use immune checkpoint inhibitors.				
Course Planning (授業計画)				
	Course Outline/ Course Objectives (授業の概要及び到達目標) (Contents of Class) ((授業内容))	Instructor (担当教員名)	Department (講座名) Class Room [実施場所]	
1	Characteristics of Tumor Macrophages (I)	Masamitsu Tanaka	Department of Molecular Biochemistry [laboratory]	
2	Characteristics of Tumor Macrophages (II)			
3	Characteristics of tumor-related neutrophils			
4	Basics of immune checkpoints			
5	Immuno-therapy for lung cancer (I)	Yoshihiro Minamiya	Department of Thoracic Surgery [Conference room]	
6	Immuno-therapy for lung cancer (II)			
7	Types and Uses of Immune Checkpoint Drugs	Kazuhiro Imai		
Grading Criteria (成績評価の基準と方法)				
30 hours of experimental training in the seminar room + 15 hours of self-study, 45 hours in total is counted as 1 credit, attendance status, the results of the oral and written examinations and the contents of the submitted report will be taken into consideration to evaluate.				
Contact Information (問い合わせ先(氏名, メールアドレス等))				
Name: Masamitsu Tanaka / E-mail: mastanak@med.akita-u.ac.jp				
Coment (その他特記事項)				
Information about the course: If you cannot attend the training due to work, we will adjust the schedule.				
Textbooks / References: Distribute materials as needed. Alternatively, specify the document.				
Self-study content during self-study time: It is desirable to carry out preparatory learning according to the goals to be achieved and the content of the lesson.				