

<b>Category</b> (科目区分)	Cluster Common Basic Subjects		
<b>Course Title</b> (授業科目名)	Technical practice of basic medicine "Principles and practice of cell culture and immunostaining"		
<b>Instructors</b> (担当者名)	Ysufumi Omori	<b>Academic Year</b> (配当年次)	Years 1 and 2
<b>Required Course / Elective Course</b> (必修/選択)	Elective Course	<b>Credits</b> (単位数)	1
<b>Class Format</b> (授業形態)	Experimental practice		
<b>Schedule</b> (開講期間)	Informed individually by E-mail after registration		
<b>Class Date/Period</b> (開講曜日・時間)	Informed individually by E-mail after registration		
<b>Course Outline/ Course Objectives</b> (授業の概要・到達目標)			
<p>Aims: To learn the methods to establish and maintain immortalized cell lines derived from tumor and non-tumor tissues, to understand the principles of immunohistochemistry and immunofluorescence, and to practice these techniques.</p> <p>Objectives: To acquire experimental techniques including aseptic manipulation, choice of culture media, cell passaging, microscopic observation, and immunostaining.</p> <p>Outline: The practice consists of intermittent procedures which need a total of 45 hours within one month. Therefore, the program is arranged individually for each trainee.</p> <ol style="list-style-type: none"> <li>Choice of and preparation for culture media</li> <li>Training of aseptic manipulation</li> <li>Observation of cultured cells under an inverted microscope and a phase contrast microscope</li> <li>Techniques for passaging, freezing, and thawing cells</li> <li>Cell cloning</li> <li>Quantification of cell proliferation and cell death</li> <li>Merit and demerit of immunohistochemistry and immunofluorescence</li> <li>Strategy to visualize proteins inside cells and at cell membrane</li> </ol>			
<b>Course Planning</b> (授業計画)			
	<b>Course Outline/ Course Objectives</b> (授業の概要及び到達目標) (Contents of Class) (授業内容)	<b>Instructor</b> (担当教員名)	<b>Department</b> (講座名) <b>Class Room</b> [実施場所]
1	Choice of and preparation for culture media	Professor Yasufumi Omori, Assistant Professor Yuko Hiroshima, Assistant Professor Maya Suzuki	Department of Molecular and Tumor Pathology [ laboratory ]
2	Training of aseptic manipulation		
3	Observation of cultured cells under an inverted microscope and a phase contrast microscope		
4	Techniques for passaging, freezing, and thawing cells		
5	Cell cloning		
6	Quantification of cell proliferation and cell death		
7	Merit and demerit of immunohistochemistry and immunofluorescence		
8	Strategy to visualize proteins inside cells and at cell membrane		
<b>Grading Criteria</b> (成績評価の基準と方法)			
A credit is given for 30 hours of practice and 15 hours of self-learning. The grades are determined by the frequency of presence at sessions, oral examination, and the quality of reports.			
<b>Contact Information</b> (問い合わせ先(氏名, メールアドレス等))			
Name: Yasufumi Omori / E-mail: yasu@med.akita-u.ac.jp			
<b>Comment</b> (その他特記事項)			
<p>Remarks: Working students, due to their duties, may not be allowed to be present at our scheduled session. We will thus be pleased to arrange a schedule flexibly in their favor.</p> <p>Textbooks and reference literatures: When necessary, our handouts will be provided. Helpful reference literatures will be suggested.</p> <p>Subjects for self-learning: Students are expected to prepare for each session according to the course outline and objectives.</p>			