

A Master Course	Class Style	Lecture	FB : Elective 2 credits AM : Free elective 2 credits GM : Elective 2 credits	Fiscal year	2020
Course Title	Molecular Pharmacology Drug Discovery	Numbering code	FB : GMDMFB1010 AM : GMDMAM1013 GM : GMDMGM1010		
Objectives					
Semester	Second half of the 1st year				
Location	Online (Zoom)				
Couse Director	Atsuro Miyata (amiyata@m3.kufm.kagoshima-u.ac.jp)				
G I O	1	Understand the molecular mechanism of the interaction between drug and human body.			
	2	Be able to explain a series of process and method from searching to development of drugs.			
S B O	1	Be able to explain fundamental concept of molecular mechanism of drug action			
	2	Be able to explain the search of target molecule for drug discovery			
	3	Be able to explain the current status of gene therapy and regenerative medicine and their mechanism			
	4	Be able to explain the action mechanism and side effect of anticancer drug			
	5	Be able to explain the molecular mechanism of tolerance of anticancer drug			
	6	Be able to explain drug design based on the property of target molecule			
	7	Be able to explain the adverse effect and pharmacodynamics of drugs			
	8	Be able to describe the features of antibody medicine as a molecule-targeting and biological drug.			
Outline (90 minutes x 15 lectures)				Instructor	
1	Drug action and biological signaling			Atsuro Miyata	
2	Molecular mechanism of drug action (I): synthetic enzyme and catalytic enzyme			Atsuro Miyata	
3	Molecular mechanism of drug action (II): Ion Channel			Takashi Kurihara	
4	Molecular mechanism of drug action (III): Intracellular signaling			Yuki Kambe	
5	Molecular mechanism of drug action (IV): Structure and function of receptor			Atsuro Miyata	
6	Anticancer drug and molecular targeting drug (I)			Koichi Kawahara	
7	Anticancer drug and molecular targeting drug (II)			Tatsuhiko Furukawa	
8	Molecular targeting drug and antibody drug			Yuji Ito	
9	Gene-based therapeutics			Ken-ichiro Kosai	
10	Research outline of drug discovery science			Sudoh Masayuki	
11	Antiviral Drug Development			Okamoto Mika	
12	Intellectual property of drugs			Sudoh Masayuki	
13	Translational research from non-clinical trials to clinical trials			Sudoh Masayuki	
14	Introduction to clinical research for drug development			Kondo Tomoko	
15	Summary			Atsuro Miyata	
Teaching Materials	They will be introduced during practical training				
Grading Methods	Active participation by report and presentation: 80%; contents of questions and answers: 20%				
Contact	Office hours	Contact the medical department/section in charge.			
	E-mail	amiyata@m3.kufm.kagoshima-u.ac.jp			
	After lecture	Contact the medical department/section in charge.			
Others	Nothing in particular				