

Course Description for Postgraduates, School of Basic Medicine

Course Title: Basic Immunology		Course Code: 510.512		
Course category: <input checked="" type="checkbox"/> High-level course <input type="checkbox"/> International course <input type="checkbox"/> Advanced international courses <input type="checkbox"/> Common course				
Course Type: <input type="checkbox"/> 1st-level discipline basic courses <input checked="" type="checkbox"/> 2nd-level discipline basic courses <input type="checkbox"/> Optional professional courses				
The Methods of Assessment: Closed-book examination				
Teaching Method: Lecture		Applicable Educational Level: Master <input checked="" type="checkbox"/> Doctor <input type="checkbox"/>		
The Beginning of the Term: the first semester	Total Hours/Teaching Hours: 36		Credits: 2	
Applicable Specialty: clinic and basic medicine				
Name of the Teachers of the Course Group	Professional Title	Major	Age	Academic Direction
Xionwen Wu	Professor	immunology	55	Genetic Immunology
Fang Zheng	Professor	immunology	45	Innate Immunology
Junyan Han	Professor	Immunology	45	Cellular Immunology
Ping Lei	Associate Professor	immunology	44	Tumor Immunology
Jing Wang	Associate Professor	immunology	50	Molecular Immunology
Xiufang Weng	Associate Professor	immunology	40	Metabolic Immunology
Zheng Tan	Lecturer	immunology	46	Transplantation immunology
Course Outline: 1. Introduction of immune system 4h 1-1 Infection and immunity, brief history of immunology 1-2 Object of immune recognition: damage signaling and antigen				

2. Innate immune system and its immune system 6h

2-1 Complement system

2-2 Monocyte/Macrophage

2-3 Innate immune response

3. Antigen recognition (MHC、TCR、BCR) 6h

3-1 MHC

3-2 Antigen presentation

3-3 Antibody and its gene rearrangement

3-4 TCR and its gene rearrangement

4. Development of T/B cells and its surface maker 6h

4-1 T cells development

4-2 B cells development

4-3 NK cell and NKT cell development

4-4 Surface marker and CD molecule

5. Immune response mediated by T cells 4h

5-1 Initial activation of T cells

5-2 Activation, proliferation and differentiation of T cell

5-3 Affection of T cell response

6.Cytokine and its receptor 3h

6-1 The general features of cytokines

6-2 Classification and naming of cytokines and their receptors

6-3 cytokines produced by the innate immune cells

6-3 Cytokines produced by Th1, Th2, Th17 and Treg cells

6-4 Growth factor and chemokine

6-5 Cytokine network, cytokine and clinic

7. Immune response mediated by B cells 3h

7-1The general rule of the humoral immune response

7-2 Activation, proliferation and differentiation of B cell

7-3Interaction of antigen and antibody

7-3 Effect of the humoral immune response

8. Immune tolerance and immune regulation 2h

8-1 Natural immune tolerance and acquired immune tolerance

8-2 The mechanism of immune tolerance

8-3 The regulation of the adaptive immune response

10. Allergic reactions and autoimmune diseases 4h

10-1 I type hypersensitivity

10-2 II type hypersensitivity and associated disease

10-3 III type hypersensitivity and associated disease

10-4 IV type hypersensitivity and associated disease

Guide Books:

1. Gong Fei, editor-in-chief, *medical immunology* (science publishing house, 2014)
2. Xiao-ming Gao, editor-in-chief, *immunology tutorial* (higher education publishing house, 2006)

Main Reference Books:

1. Janeway's *Immunology Biology* (Kenneth Murphy, 8th ed)
2. *Cellular and Molecular Immunology* (Abul K. Abbas, 7th ed)