

醫學/中醫 免疫學期末考 考古題

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Single Choice

- The development of B lymphocytes in bone marrow does **NOT** require
(A) antigen stimulation (B)IL-7 (C)RAG1/RAG2 enzyme (D) stromal cells
- The most abundant immunoglobulin in human body is
(A) IgA (B)IgE (C) IgG (D)IgM
- Which of the following statement is **NOT** correct for the surface B-cell co-receptor?
(A) is composed with CD19, CD21, and CD81
(B) the cooperation between B-cell receptor and co-receptor increases the sensitivity to antigen
(C) the cytoplasmic tail of CD21 is phosphorylated by the tyrosine kinases associated with the B-cell receptor
(D) CD21 is also the receptor of iC3b and C3d
- Which of the following item can efficiently active complement?
(A) IgG with Ag (B) IgA with Ag (C) IgA without Ag (D) IgM without Ag
- Which of the following cells are directly involved in ADCC (antibody-dependent cell-mediated cytotoxicity)? (參考 103 年醫師國考)
(A) B lymphocytes (B) Mast cells (C)Natural killer (NK) cells (D) T lymphocytes
- The most important cytokine that elicitates type IV hypersensitivity is
(A) IL-4 (B) IL-5 (C) IFN- γ (D) TGF- β
- T-independent antigens activate B cells and mainly induce the production of (參考 99 年醫師國考)
(A) IgA (B)IgE (C) IgG (D)IgM
- Which of the following statement is correct? (參考 100 年醫師國考)
(A) Although few neutrophils exit in the intestinal mucus of healthy individuals, they can migrate into the inflammatory intestines.
(B) CD8⁺ T cells are more dominant than CD4⁺ T cells in lamina propria.
(C) Dendritic cells appear only in the lamina propria. They do not directly contact bacterial in intestine.
(D) NK cells are dominant in the intestinal epithelium.
- Which of the following statement is correct? (參考 99 年醫師國考)
(A) Dendritic cells uptake commensal bacteria and tends to induce the differentiation of Th1 cells.
(B) Epithelial cells secrete IL-10 to induce the activation of B cells and IgA production that neutralizes commensal bacteria.
(C) Epithelial cells secrete TGF- β and PGE2 to modulate the immune responses induced by commensal bacteria.
(D) Since epithelial cells do not express TLR4 and CD14, the LPS of commensal bacteria does not induce any inflammatory responses.
- What are the two kinds of antibodies that can effectively inhibit the infectivity viruses?
(A) IgA + IgE (B) IgA + IgG (C)IgG + IgM (D) IgM + IgE
- Which of the following description is correct for type III hypersensitivity?
(A) Ab-Ag immune complex initiates the reaction.
(B) Th2 cells play important roles.

- (C) In addition to immediate reaction, the late-phase reaction occurs between 24-48 hours after antigen challenge.
- (D) There is a chance to form granuloma.
12. Which of the following mechanism is **NOT** involved in the induction of mucosal tolerance?
- (A) deletion of Ag-specific T cells
- (B) the defect of *NOD2* gene
- (C) driven by commensal bacteria and food Ags
- (D) Treg cells (T_H3)-TGF- β -producing cells
13. Which of the following is a characteristic of follicular dendritic cells in the primary follicles of secondary lymphoid tissues?
- (A) They provide a stable depository of intact antigens able to bind to B-cell receptors.
- (B) They internalize immune complexes through CR2 receptor cross-linking.
- (C) They bear bundles of immune complexes called iccosomes that are passed on to all B cells.
- (D) They produce cytokines that induce B cells to proliferate and become centroblasts.
14. Regarding to the treatment of type I hypersensitive diseases with desensitization immunotherapy,
- (A) it can be applied to all extrinsic allergic patients.
- (B) you have to inject patients with allergen protein.
- (C) it requires only one dose.
- (D) you have to inject patients through intravenous (IV) route.
15. Which of the following statement is correct?
- (A) There are few species of bacteria that colonize in each healthy large intestine.
- (B) The compositions of the commensal microbiota at different mucosal surfaces are similar.
- (C) Low serum IgG levels can be detected if the mice are kept at the germ-free environment.
- (D) Severely reduced Th1 and Th2 responses in germ-free animals.
16. Which of the following description is **NOT** correct for contact dermatitis reactions to poison ivy? (參考 93 年醫師國考)
- (A) the antigen can complex with the skin proteins
- (B) related to Th2 responses
- (C) caused by lipid soluble compounds on leaves
- (D) Langerhans cells are the major APC
17. Which of the following is **NOT** one of the functions of IgG? (參考 103 年醫師國考)
- (A) activate complement (B) neutralization (C) kill intracellular pathogens (D) promote opsonization
18. You have isolated a protein form a plant that some of your patients might be allergic to its leaves. Which of the following character would confirm that this protein is an allergen?
- (A) has protease activity (B) high solubility (C) positive on skin test (D) small molecular weight
19. An immunodeficiency called hyper IgM syndrome is characterized by the lack of
- (A) CD40 expression on B cells. (B) CD40L expression on B cells.
- (C) CD40 expression on T cells. (D) CD40L expression on T cells.
20. Mary, a 50 years old woman, has been diagnosed with was rheumatoid arthritis. She suffers swollen joints and the titer of her serum rheumatoid factor is high. Rheumatoid factor is
- (A) anti-C3 antibody (B) anti-allergen antibody (C) anti-DNA antibody (D) anti-IgG antibody

Short assays:

1. What is meant by the term linked recognition? What are the advantages of this process for immune tolerance? (參考課本問題)
2. Please define affinity maturation and give the most critical key step.
3. Describe how commensal bacterial can prevent inflammatory responses in the intestine.
4. Describe the molecular basis of immune recognition of gluten in celiac disease.
5. In the germinal center reaction, B cells (centroblasts and centrocytes) cycle between the light and dark zones. What factors regulate this movement and localization? (參考課本問題)
6. Describe the CD8 molecules and effector function of type a and type b intraepithelial lymphocytes (IEL).
7. Indicate which type of hypersensitive reactions (I-IV) contribute to the following clinical manifestations.
 - a. Allergic rhinitis
 - b. Contact hypersensitivity
 - c. Serum sickness

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True / False

1. Tumor can avoid immune recognition in a variety of ways and can escape rejection.
2. Graft-versus-host disease (GVHD) is due to recipient's antibodies against the graft.
3. Myasthenia gravis is an autoimmune disease and caused by anti-TSHR autoantibodies.
4. Donors and the recipients for blood transfusion must be matched for the ABO and the Rhesus D erythrocyte antigens.

Single choice

1. _____ are universal recipients who can receive blood from any donor, but can donate only to individuals with their blood type. (A) AB RhD+ (B) AB RhD- (C) O RhD+ (D) O RhD-
2. Monoclonal antibodies are used in cancer treatment because of their ability to _____ (A) enhance the DNA mutation (B) enhance the expression of tumor-specific antigens (C) target tumor cells for immune responses such as ADCC (D) activate regulatory cells
3. All of the following are examples of how tumors or the microenvironment in which they develop suppress immune responses expect _____ (A) induction of T-cell anergy (B) peptide splicing of self proteins (C) cleavage of MIC proteins form tumor-cell surfaces (D) release of TGF-beta and IL-10
4. _____ is a systemic autoimmune disease. (A) multiple sclerosis (B) type 1 diabetes (C) Graves' disease (D) rheumatoid arthritis