Tikrit University
College of Veterinary Medicine

Dept. of. Microbiology and parasitology

Class : 3rd stage
Subject: Immunology

Questions Bank

Immunology

Q1: Mark with T (true) or F (false):

1-Innate immunity is able to learn and remember

2-Innate immunity is resistance that is pre-existing and is not acquired through contact with an **antigen**.

3-Passive immunity characterized by short life span of these antibodies and possible hypersensitivity reactions if antibodies from another species are administered.

4-The advantage of active immunity is the prompt availability of large amounts of antibody.

5-The phagocytes of the human body are of two types: The neutrophils and basophils.

6-The cells of Innate and Acquired immunity are all derived from a common, self-renewing, pluripotential stem cell.

7- B-lymphocytes are responsible from cell mediated immunity

8- After differentiation into B and T cells they leave their primary site of differentiation and emigrates to the central lymphoid organs

9-Themammalian thymus is the site of both hemopoiesis and initial differentiation of stem cells to T-cells.

10-Primary (central) lymphoid organs include bursa of fabricius, bone marrow, and thymus.

Q2:The normal flora of the skin and in the gastrointestinal tract can prevent the colonization of pathogenic bacteria by

A-secreting toxic substances or.

B-bycompeting with pathogenic bacteria for nutrients or attachment to cell surfaces.

Q3:Active immunity is induced after contact with foreign antigens (microorganisms or their products). Describe the types of these contacts.

Q4: What are the main advantages and disadvantages of ACTIVE and PASSIVE immunity?

Q5: Describe the role of mechanical factors in innate immunity.

Q6: Describe the role of chemical factors in innate immunity.

Q7: Discuss the process of phagocytosis?

Q8: Explain The toxic substances and enzymes in phagocytes?

Q9: Mention the cells that are differentiated from Myeloid progenitor cells?

Q10:Mark with T or F and correct the false sentences without changing the underlined words:

1-T-cell receptors on T-lymphocyte recognize antigenic determinant on intact antigen, while B-lymphocyte receptors (antibodies) cannot.

2- The immune system is tolerant to self-MHC-self-peptide complex and no T-cell response is elicited by such complexes in normal individuals.

3- Class I MHC molecules composed of two polypeptide chains, α and β chains.

4- In Class I MHC molecules the binding site for peptides derived from processed antigen is formed by the α1 and β-2m domain.

5- In class II MHC molecules both chain traverse the membrane.

6- Class II bind to peptides derived from exogenous antigen.

7- Only a few cell types express MHC class II molecules and act as APCs for endogenous antigen.

8- T- lymphocyte precursors originate in the thymus.

9- TCR α β heterodimer transduce the signal inside the cell when the TCR is triggered by its specific peptide-MHC complex.

10- C2 is central to both the classical and alternative pathways

Q11: Fill in the blanks:

1- Helper T cells express a molecule called _____ on their cell surface, while cytotoxic T lymphocytes express a molecule called _____.

2- T cell receptors composed of _____ and ____ chain, while T cell receptor complex composed of _____, _____, and _____ chain.

3-In complement sustem an overbar indicates an _____, while lower case letters indicates a _____.

4- The complement system can be activated via three distinct pathways; _____, _____, and _____.

Q12: Write short note about MHC molecules and draw a schematic representation for such molecules

Q13: Explain why all nucleated cells express MHC class I molecules and therefore, can act as APCs for processed antigen?

Q14: list the cell types which express MHC class II molecules and act as APCs for antigen?

Q15:Explain why **Display of foreign peptides complexed with MHC class II versus MHC class I may mean the difference between life and death for a host cell.?**

Q16: What are the similarities between lectin pathway (MBL, MASP-1, and MASP-2) and classical pathway (C1q, C1r, and C1s)?

Q17: Tcell receptors differing from B cell receptors (antibodies) in a number of aspects. Mention these differences.

Q18: Write short note about T cell receptors (TCRs) and draw a schematic representation for such receptor.

Q19: Draw a schematic representation of interaction of the TCR with antigen/ class I MHC.

Q20: Discuss the Activation of B cells by clonal selection.

Q21: Mention the function of Th1, Th2, and cytotoxic t lymphocytes?

Q22: Discuss the activation of B cells (T-dependent Antigen).

Q23: What are the functions of complement system.

Q24: Mention the main function(s) of the following complement components C1q, C1r, C1s, C3b, C5b, C8, C9, and C4a.

Q25: How can each type of complement pathway initiated?

Q26: Complement cascade can be activated by 3 pathway. List these pathways and describe one of them.

Q27: Explain the regulation of complement cascade?

Q28 Differentiation between Ag immunogen and hapten super Antigen .

Q29 Write briefly about factor influenza immunogenicity that related with immunogen .

Q30 Defined T independent Ag and enumerate its characteristics

Q31 Define Ab and enumerate briefly its function .

Q32 Enumerate basic structures of Ab and draw it .

Q33 Differentiation between interchain and antra chain .