

IMMUNOLOGY

First exam questions

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42 questions ... from Ch 1 to Ch 12

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1 . Which of the following is not considered as a phagocyte ?

- a) macrophage
- b) neutrophil
- c) eosinophil
- d) basophil
- e) lymphocyte

2 . Which of the following is not true when comparing innate to adaptive immunity ?

- a) innate responds quickly and adaptive responds slowly
- b) innate has immunologic memory and adaptive does not
- c) innate response is nonspecific and adaptive is very specific
- d) innate doesn't show response improvements over time and adaptive does
- e) innate has few pathogens (non – self) recognition mechanisms and adaptive has many

3 . Which of the following involves the release of histamine ?

- a) neutrophil
- b) eosinophil
- c) macrophage
- d) tissue mast cell
- e) natural killer cell

4 . Adaptive immune response typically takes how long ?

- a) 12 hours
- b) a day
- c) one week
- d) more than 2 weeks

5 . An individual was bitten by a dog with rabies and begins to develop Abs against the rabies , these Abs harvested and transferred to unimmunized individual to confer protection more quickly for this individuals . This is an example of :

- a) innate immunity
- b) passive immunity
- c) adaptive immunity
- d) active immunity

6 . Which of thee following is not a major feature of the adaptive immune system ?

- a) specificity
- b) diversity
- c) memory
- d) improvement
- e) speed

7 . The genes encoding _____ can undergo hypermutation to create receptors that are an even better fit for foreign Ags ?

- a) BCRs
- b) TCRs
- c) MHCs
- d) BCRs and TCRs
- e) BCRs , TCRs and MHCs

8 . What types of cells are class II MHC found on ?

- a) B cells
- b) macrophages
- c) dentritic cells
- d) essentially in all cells
- e) mainly in B cells , macrophages and dentritic cells

9 . Which of the following differentiate an Ag from an immunogen ?

- a) an Ag is a foreign molecule
- b) an Ag can cause a production of Abs
- c) an Ag doesn't always elicits an immune response
- d) Ags are usually proteins or polysaccharides
- e) Ags are capable of being bound by immunologic receptor

10 . Which of the following best describes a hapten ?

- a) large in size and can induce an immune response alone
- b) large in size and needs to be coupled to induce an immune response
- c) small in size and can induce an immune response alone
- d) small in size and needs to be coupled to induce an immune response

11 . Which of the following doesn't involve in Ag-Ab interactions ?

- a) electrostatic interaction
- b) hydrophobic interaction
- c) Van der Waals interaction
- d) hydrogen bond
- e) peptide bond

12 . Which of the following is not true about heavy chain ?

Answer : there is a combination of V & J in variable chain without D
or something like that :\

13 . Which of the following is used to enumerate and or separate live cells that express an antigen , sorted by applying an electric charge to the stained cells ?

- a) ELISA
- b) Fluorescent Ab
- c) FACS (fluorescent activated cell sorting)
- d) Western blotting

14 . Which of the following uses the enzyme HRP ?

- a) ELISA
- b) Fluorescent Ab
- c) FACS (fluorescent activated cell sorting)
- d) Western blotting

15 . Which of the following is used extensively to detect antigens in cells or tissue sections , as well as to screen for anti-Abs to cell or tissue antigen ?

- a) ELISA
- b) Fluorescent Ab
- c) FACS (fluorescent activated cell sorting)
- d) Western blotting

16 . Deficiencies in _____ lead to SCID ?

- a) RAG 1
- b) RAG 2
- c) RAG 1 or RAG 2
- d) RAG 1 and RAG 2

17 . Allelic exclusion occurs generally in which of the following ?

- a) B cells and TCR β chain , but not in α
- b) B cells and TCR α chain , but not in β
- c) TCR β chain , but not in α or B cells
- d) TCR α chain , but not in β or B cells
- e) TCR β , α chain and B cells

18 . What is the nature of genetic expression of MHC genes?

- a) Dominant
- b) Recessive
- c) Codominant
- d) Mitochondrial inheritance

19 . IL – 7 → T cell maturation

20 . About processing and presenting of endogenous Ag by MHC-1 , which of the followings are false ?

- a) the peptides get inside the E.R. by diffusion
- b) MHC-1 are expressed in all nucleated cells
- c) RBCs don't expresse MHC-1
- d) The peptides are transported to the E.R. by TAP

21 . Synthesized proteins from intracellular pathogens are broken down by ?

- a) HCL
- b) TAP
- c) proteasom

22 . An Ag processed and presented by B cell , what of the following happened first ?

- a) B cell has to divide into plasma cell and memory cell
- b) B cell has to bind to CD4 in T helper cell
- c) Secret Ab

23 . A viral vaccine against SARS virus is being developed using proteins from the viral particle. One of the proteins isolated from the virus has loop A, helix B, beta pleated sheet C, and loop D in its structure. Immunization of the protein produced antibody against loop A that seems to be protective on viral infection. Loop A would be best classified as a:

- a) Epitope
- b) Hypervariable region
- c) Hapten
- d) Superantigen
- e) Mitogen

24 . Which of the following is responsible about signal transduction in BCR :

- a) H chain
- b) $Ig\alpha+Ig\beta$
- c) CD3
- d) mIgG

25 . Which of the following is responsible about Ca^{++} elevation :

- a) DAG
- b) Protein kinase c
- c) IP3
- d) PIP2

26 . A viruse causes a tumer in a certain kind of mouses ,which don't have thymus . but not in normal mouses. Which of the following is the best exeplanation ?

Answer : cytotoxic T lymphocyte plays the major role in killing the viruse

27 . G-CSF is responsible about :

- a) T cell maturation
- b) Monocyte production
- c) neutrophil formation stimulation

28 . Which of the following is not true about IgG :

- a) Fix complement
- b) Cross placenta
- c) secreted in the early response
- d) Account for 80% of all Abs

29 . Which of the following is the best desecription of cross reactivity:

Answer :the same Ab can bind to more than one Ag

30 . About monoclonal Ab which of the following is false :

Answer : fused and unfused myloma cells stay alive

31 . About ELISA which of the following is true :

Answer : Ag / serum / Ab-enzyme / substrate

32 . A virally infected cell presents the viral antigen on the surface of the cell on MHC class I molecules. If a specific pharmaceutical agent were to be developed that would affect the MHC class I peptide presentation pathway, the drug would mostly affect:

- a) TAP complex
- b) HLA-DR
- c) Invariant chain
- d) Endocytosis

33 . Super Ag :

- a) staph.enterotoxin
- b) Rubella
- c) Staph.aureus

34 . Which of the following is responsible about signal transduction in TCR :

- a) CD3
- b) TAP

35 . Westren blotting is used to characterize :

- a) Sugar
- b) Lipide
- c) protien

36 . Bacteria such as M.T. have acquired the capacity to inhibit phagosome-lysosome fusion . what is the consequence of this :

Answer : reduce likelihood that peptides will be expressed at the cell surface

37 . Which of the following is least likely to be called as a professional Ag-presenting cell :

- a) B cell
- b) T cell
- c) Macrophage
- d) Denteric cell
- e) Macrophage

38 . Recognition of Ag represents :

- a) Activation phase
- b) cognitive phase
- c) Effector phase
- d) Adaptive immunity

39 . Which of the following is the correct order for a lymphocyte to be activated ?

- a) Recognition of antigen , active`tion of tyrosine kinases , clustering of receptors , phosphorylation .
- b) Recognition of antigen , clustering of receptors , activation of tyrosine kinases , phosphorylation
- c) Recognition of antigen , activation of tyrosine kinases , phosphorylation , clustering of receptors

40 . Digestion of an immunoglobulin with pepsin yields F(ab')₂ fragments. Several clinical trials using F(ab')₂ fragments are being conducted for their use as blocking molecules. What is the immune phenomenon that is most likely to be seen with an F(ab')₂ fragment?

- a) Complement fixation
- b) Opsonization
- c) Antigen neutralization
- d) Immunoglobulin polymerization

41 . During screening, a 5-year-old child is found to have almost no levels of IgA in his saliva and bronchial secretions. Apart from a slightly higher than normal incidence of upper respiratory tract infections, he seems normal, and his serum immunoglobulins all are within normal limits. If genetic locus testing were to be conducted on this child to seek out the defective gene, what would be the most likely gene to be defective?

- a) Kappa chain locus
- b) Lambda chain locus
- c) Alpha heavy locus
- d) J/secretory piece locus

42 . Ab class switching happens in:

Answer : constant region of the H chain على الأغلب

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