**Immunology - Clinical Immunology**

**2 Dentistry**

STUDY QUESTIONS

1. Structure of the MHC I molecule. On what cells is it expressed? What antigens does it present? In what cellular compartment does the formation of complexes of antigenic peptides with MHC I take place? What genes encode the formation of this molecule?
2. Structure of the MHC II molecule. On what cells is it expressed? What antigens does it present? In what cellular compartment does the formation of complexes of antigenic peptides with MHC II take place? What genes encode the formation of this molecule?
3. Cytotoxic type of cellular immune response. What antigens is it formed on, what cells are involved in its implementation? What are the pathogen elimination mechanisms?
4. Inflammatory type of cellular immune response. What antigens is it formed on, what cells are involved in its implementation? What are the pathogen elimination mechanisms?
5. Humoral immune response. What antigens is it formed on, what cells are involved in its implementation? What are the pathogen elimination mechanisms?

MULTIPLE-CHOICE STUDY QUESTIONS

1. The functions of the immune system include:

**Answer 1:** all of the following;

**Answer 2:** elimination and disposal of necrotizing tissue structures;

**Answer 3:** rejection of the donor graft;

**Answer 4:** protection against pathogens of infectious diseases;

**Answer 5:** anti-tumor protection.

2. Immune responses to antigens that have infiltrated the skin or mucous membranes develop in:

**Answer 1:** the thymus;

**Answer 2:** bone marrow;

**Answer 3:** lymph nodes;

**Answer 4:** the liver;

**Answer 5:** the spleen.

3. The B-zone of the lymph node is:

**Answer 1:** capsule;

**Answer 2:** cortical zone;

**Answer 3:** paracortical zone;

**Answer 4:** medullar zone;

**Answer 5:** the lymph node gate.

4. The peripheral organs of the immune system include all but:

**Answer 1:** lymph nodes;

**Answer 2:** Peyer's patches;

**Answer 3:** appendicular process;

**Answer 4:** peripheral blood;

**Answer 5:** bone marrow.

5. Which organ is not encapsulated lymphoid organ?

**Answer 1:** Liver;

**Answer 2:** Lymph nodes;

**Answer 3:** Peyer's patches;

**Answer 4:** lymph node;

**Answer 5:** spleen.

6. The morphological substrate of the immune system is:

**Answer 1:** thymus;

**Answer 2:** bone marrow;

**Answer 3:** lymph node;

**Answer 4:** liver;

**Answer 5:** lymphoid tissue.

7. The peripheral organs of the immune system include the following, except:

**Answer 1:** spleen;

**Answer 2:** lymph nodes;

**Answer 3:** thymus;

**Answer 4:** Peyer's patches;

**Answer 5:** BALT.

8. What is the characteristic of the immune system in children of the first years of life?

**Answer 1:** natural hyperfunction of the humoral link;

**Answer 2:** natural humoral immunodeficiency;

**Answer 3:** natural phagocytic link deficiency;

**Answer 4**: normal level of complement components;

**Answer 5:** increased levels of complement components;

9. The synthesis of native IgG begins approximately at:

**Answer 1:** 1 month;

**Answer 2**: 2 months;

**Answer 3:** 6 months;

**Answer 4:** 1 year;

**Answer 5:** 2 years;

10. A decrease in the mass of lymphoid organs is observed from the age of:

**Answer 1:** 1 month;

**Answer 2:** 1 year;

**Answer 3:** 6 years;

**Answer 4**: 7 years;

**Answer 5:** puberty;

11. B-cells recognize:

**Answer 1:** An epitope embedded in the composition of MHC molecules;

**Answer 2:** PAMP;

**Answer 3:** DAMP;

**Answer 4**: native antigen;

**Answer 5:** stress molecules.

12. Coreceptor molecule for MHC-II class is:

**Answer 1:** CD3;

**Answer 2:** CD4;

**Answer 3**: CD8;

**Answer 4:** CD16;

**Answer 5:** CD56.

13. The epitope presented as a part of specialized molecules of the major histocompatibility complex is recognized by:

**Answer 1:** T-lymphocytes with the αβTCR receptor;

**Answer 2:** T-lymphocytes with the γδTCR receptor;

**Answer 3:** B-lymphocytes;

**Answer 4:** NK-cells;

**Answer 5:** Macrophages.

14. What are the phases of the immune response?

**Answer 1:** cellular and humoral;

**Answer 2:** antigen-independent and antigen-dependent;

**Answer 3:** inductive and effector;

**Answer 4:** helper and suppressor;

**Answer 5:** primary and secondary.

15. The similarity of innate and adaptive immunity is in:

**Answer 1:** destroying pathogens or infected cells;

**Answer 2:** PAMP recognition;

**Answer 3:** DAMP recognition;

**Answer 4:** antigen recognition;

**Answer 5:** formation of immunological memory.

16. MHC-II molecules are expressed on:

**Answer 1:** eosinophils;

**Answer 2:** red blood cells;

**Answer 3:** lymphocytes;

**Answer 4:** antigen-presenting cells;

**Answer 5:** all nucleated cells.

17. Opsonization is:

**Answer 1**: coating cells with molecules that facilitate their recognition and phagocytosis;

**Answer 2:** formation of a membrane-attacking complex;

**Answer 3:** killing pathogens;

**Answer 4:** the process of elimination of destruction products;

**Answer 5:** destroying of infected cells.

18. Coreceptor molecule for MHC-I class is:

**Answer 1:** CD3;

**Answer 2:** CD4;

**Answer 3:** CD8;

**Answer 4:** CD16;

**Answer 5:** CD56.

19. Factors of innate immunity include:

**Answer 1:** primary receptors for pathogens;

**Answer 2:** the complement system;

**Answer 3:** phagocytosis;

**Answer 4:** endogenous peptides-antibiotics;

**Answer 5:** all of the above.

20. Activation of the complement system along the classical pathway is triggered by:

**Answer 1:** the antigen-antibody complex;

**Answer 2:** complex of mannose-binding lectin with carbohydrates of the surface structures of microbial cells;

**Answer 3:** lipopolysaccharide of bacterial cell wall;

**Answer 4:** G - bacteria endotoxin;

**Answer 5**: zymosan.

21.WHAT ARE THE MAIN CYTOKINES SECRETED BY MACROPHAGES?

**Answer 1:**IL-2, IFNγ;

**Answer 2** IL-1, TNFα;

**Answer 3:**IL-4, IL-5**;**

**Answer 4:**IL-17;

**Answer 5:**TGFβ;

22.THE FUNCTION OF MONOCYTE/MACROPHAGE Fs-RECEPTORS IS

**Answer 1:**recognition of antibody-opsonized cells;

**Answer 2** facilitation of phagocytosis of antibody-opsonized cells;

**Answer 3:** destruction of antibody-opsonized cells by monocytes and macrophages;

**Answer 4:**recognition of the Fc-site of immunoglobulin molecules;

**Answer 5:**all of the above;

23.THE SPECIFICITY OF THE ANTIGEN IS DETERMINED BY

**Answer 1:**adjuvant;

**Answer 2:** hapten;

**Answer 3:**carrier**;**

**Answer 4:**all of the above;

**Answer 5:**none of the above;

24.CYTOKINE THAT REGULATES THE TRANSFORMATION OF A MONOCYTE INTO A MACROPHAGE IS

**Answer 1:**TNFα;

**Answer 2** IL-1;

**Answer 3:** IL-5**;**

**Answer 4:**TGFβ;

**Answer 5:**M-CSF;

25.T-CELLS RECOGNIZE

**Answer 1:**an epitope embedded in the composition of MHC molecule;

**Answer 2** PAMP;

**Answer 3:**DAMP**;**

**Answer 4:** native antigen;

**Answer 5:**stress molecules;

26.MONONUCLEAR PHAGOCYTE SYSTEM INCLUDES CELLS OTHER THAN:

**Answer 1:**Macrophages;

**Answer 2:**Langerhans cells;

**Answer 3:**T-lymphocytes;

**Answer 4:**Monocytes;

**Answer 5:**Dendritic cells;

27.THE IMMUNOGENICITY OF ANTIGENS IS

**Answer 1:**the signs of genetic foreignness;

**Answer 2:**developing of non-responsiveness;

**Answer 3:**ability to cause antibody production;

**Answer 4: t**he ability of an antigen to induce an immune response;

**Answer 5:**the feature by which the antigens differ from each other;

28.THE MAIN MARKER OF MONOCYTES AND MACROPHAGES

**Answer 1:**CD3 molecule;

**Answer 2:**CD4 molecule;

**Answer 3:** CD8 molecule**;**

**Answer 4:**CD14 molecule;

**Answer 5:**CD16 molecule;

29.IMMUNOGENICITY DEPENDS ON:

**Answer 1: t**he method of ingestion;

**Answer 2:**chemical properties;

**Answer 3:**molecular weight;

**Answer 4:**features of the body's reaction;

**Answer 5:**all of the above;

30.RESIDENT MACROPHAGES INCLUDE

**Answer 1:**Kupffer cells;

**Answer 2:** microglia;

**Answer 3:**osteoclasts;

**Answer 4:**alveolar macrophages;

**Answer 5:**all of the above;

31.MUCOSAL IMMUNOGLOBULIN IS

**Answer 1:**IgM;

**Answer 2:**IgG;

**Answer 3:**IgA;

**Answer 4:**IgD;

**Answer 5:**IgE

32.WHAT DETERMINE THE DIFFERENCES BETWEEN THE CLASSES OF IMMUNOGLOBULINS?

**Answer 1:**hypervariable sites;

**Answer 2:**L – light chains;

**Answer 3:**Н – heavy chains;

**Answer 4:**frame regions;

**Answer 5:**domains

33.AVIDITY IS

**Answer 1:**individual allelic variants within one isotype;

**Answer 2:**antigenic variants of immunoglobulins;

**Answer 3:**the force of the chemical bond of one antigenic epitope with one of the active centers of the immunoglobulin molecule;

**Answer 4:**classes and subclasses of immunoglobulins;

**Answer 5:**the binding force of an entire antibody molecule to all the antigenic epitopes it has managed to bind

34.THE IMMUNOGLOBULIN OF THE PRIMARY IMMUNE RESPONSE IS

**Answer 1:**IgM;

**Answer 2:**IgG;

**Answer 3:**IgA;

**Answer 4:**IgD

**Answer 5:**IgE

35.WHAT ARE THE ISOTYPES?

**Answer 1:**individual allelic variants;

**Answer 2:**specificity to a specific antigen;

**Answer 3:**antigenic variants of immunoglobulins;

**Answer 4:**classes and subclasses of immunoglobulins;

**Answer 5:**the binding forces of the whole antibody molecule with all the antigenic epitopes that it has managed to bind

36.IMMUNOGLOBULINS THAT ACTIVATE COMPLEMENT BY THE CLASSICAL PATHWAY ARE

**Answer 1:**IgM, IgG1, IgG2, IgG3,

**Answer 2:**IgG4,IgE;

**Answer 3:**IgA, IgD;

**Answer 4:**IgD, IgE;

**Answer 5:**IgE, IgA1, IgA2.

37.WHAT ARE THE FORMS OF IMMUNOGLOBULINS?

**Answer 1:**soluble;

**Answer 2:**transmembrane;

**Answer 3:**binding;

**Answer 4:** all of the above;

**Answer 5:**none of the above

38.IMMUNOGLOBULIN PASSING THROUGH THE PLACENTA IS

**Answer 1:**IgM;

**Answer 2:**IgG;

**Answer 3:**IgA;

**Answer 4:**IgD;

**Answer 5:**IgE

39.IMMUNOGLOBULIN, WHICH PLAYS A KEY ROLE IN IMMEDIATE ALLERGIC REACTIONS IS

**Answer 1:**IgM;

**Answer 2:**IgG;

**Answer 3:**IgA;

**Answer 4:**IgD;

**Answer 5:**IgE

40.IMMUNOGLOBULIN OF THE SECONDARY IMMUNE RESPONSE IS

**Answer 1:**IgM;

**Answer 2:**IgG;

**Answer 3:**IgA;

**Answer 4:**IgD

**Answer 5:**IgE

41.THE REACTION OF THE CELLULAR LINK OF THE IMMUNE SYSTEM TO THE INTRODUCTION OF VIRUSES INTO THE BODY IS:

**Answer 1:**inhibition of T-suppressors;

**Answer 2:**lysis by T-killer cells of the body cells that have viral determinants on them;

**Answer 3:**activation of T-helpers;

**Answer 4:**inhibition of T-helper cells;

**Answer 5:**activation of T-suppressors;

42.THE MAIN MEMBRANE MARKER OF T-LYMPHOCYTES IS:

**Answer 1:**CD3**;**

**Answer 2:**CD4;

**Answer 3:**CD8;

**Answer 4:**CD16;

**Answer 5:**CD56;

43.HYPERSENSITIVITY OF THE PATIENT TO VIRAL AND FUNGAL INFECTIONS IS OBSERVED WITH A DEFICIENCY OF:

**Answer 1:**macrophages;

**Answer 2:**В-cells;

**Answer 3:**Т-cells;

**Answer 4:**neutrophils;

**Answer 5:**complement system;

44.THE MAIN PURPOSE OF NK CELLS IS:

**Answer 1:**progenitors of effector, regulatory cells;

**Answer 2:**progenitors of antibody-secreting cells;

**Answer 3:**cytotoxic cells;

**Answer 4:**antibody-secreting cells;

**Answer 5:**helpers

45.TOLERANCE IS CHARACTERIZED BY EVERYTHING EXCEPT:

**Answer 1:**no reaction to the antigen from the T-lymphocytes;

**Answer 2:**specificity;

**Answer 3:**no reaction to the antigen from B-lymphocytes;

**Answer 4:**no reaction to the antigens of the body;

**Answer 5:**production of IgM and IgG;

46.A MARKER OF A MATURE NAIVE B-LYMPHOCYTE READY TO LEAVE THE BONE MARROW IS:

**Answer 1:**BCR –IgD expression;

**Answer 2:**BCR – IgM expression;

**Answer 3:**BCR-IgG expression;

**Answer 4:**simultaneous expression of 2 types of BCR-IgM and IgD;

**Answer 5:**BCR – IgA expression;

47.B-LYMPHOCYTE SUBPOPULATIONS ARE:

**Answer 1:**В1-cells;

**Answer 2:**В2-cells;

**Answer 3:**marginal zone B-cells**;**

**Answer 4:**all of the above;

**Answer 5:**none of the above;

48.THE MAIN MEMBRANE MARKER OF B-LYMPHOCYTES IS:

**Answer 1:**CD3**;**

**Answer 2:**CD4;

**Answer 3:**CD8;

**Answer 4:**CD19;

**Answer 5:**CD56;

49.MECHANISMS OF B-LYMPHOCYTE TOLERANCE ARE:

**Answer 1:**editing the receptor by antigen specificity**;**

**Answer 2:**anergy;

**Answer 3:**deletion of autoreactive clones and negative selection;

**Answer 4:**all of the above;

**Answer 5:**none of the above;

50.ONE OF THE MAIN FUNCTIONS OF THE CELLULAR LINK OF THE IMMUNE SYSTEM IS:

**Answer 1:**antigen-presenting;

**Answer 2:**antigen-binding;

**Answer 3:**regulatory;

**Answer 4:** activity;

**Answer 5:**object's opsonization;

51. THE MAJOR HISTOCOMPATIBILITY COMPLEX IS

**Answer 1**: a complex of genes encoding the synthesis of immunoglobulins;

**Answer 2:** the gene system that ensures the presence of ABO blood groups;

**Answer 3:** the gene system encoding the synthesis of acute phase proteins;

**Answer 4:** the gene system that codes for the synthesis of complement proteins;

**Answer 5:** a system of genes with high polymorphism that determines tissue incompatibility in allotransplantation of tissues;

52. THE FUNCTION OF HLA SYSTEM IS:

**Answer 1:** cytokine production;

**Answer 2**: Ig production;

**Answer 3:** presentation of peptide antigens to T-lymphocytes;

**Answer 4:** facilitating phagocytosis of antibody-opsonized cells;

**Answer 5**: cytotoxicity;

53. CO-DOMINANCE IS

**Answer 1: a** simultaneous expression of maternal and paternal chromosome genes;

**Answer 2: an** expression of paternal chromosome genes;

**Answer 3:** an expression of maternal chromosome genes;

**Answer 4: a** lack of gene expression and maternal and paternal chromosomes;

**Answer 5: a** lack of gene expression on the paternal chromosome only;

54. THE EPITOPE EMBEDDED IN THE COMPOSITION OF MHC MOLECULES IS RECOGNIZED BY

**Answer 1:** B-lymphocytes;

**Answer 2:** T-lymphocytes;

**Answer 3:** NK cells;

**Answer 4:** red blood cells;

**Answer 5:** neutrophils;

55. ANTIGEN-PRESENTING CELLS (APC) ARE

**Answer 1**: macrophages, dendritic cells, B-lymphocytes;

**Answer 2:** red blood cells, platelets;

**Answer 3:** NK-cells;

**Answer 4:** T-lymphocytes;

**Answer 5:** CD8+ T-lymphocytes;

56. THE PRESENCE IN THE POPULATION OF MANY ALLELIC VARIANTS OF THE SAME GENE IN DIFFERENT INDIVIDUALS IS CALLED

**Answer 1:** gene polymorphism;

**Answer 2:** co-dominance;

**Answer 3:** natural selection;

**Answer 4:** all of the above;

**Answer 5:** none of the above;

57. THE MHC CLASS II MOLECULE CONSISTS OF THE FOLLOWING GLYCOPROTEINS

**Answer 1:** α-chains and β2-microglobulin;

**Answer 2:** 2 transmembrane chains: α-and β-chains;

**Answer 3:** 2α-chains;

**Answer 4:** 3α-chains;

**Answer 5:** 2β-chains;

58. THE MHC CLASS I MOLECULE CONSISTS OF THE FOLLOWING GLYCOPROTEINS

**Answer 1:** α-chains and β2-microglobulin;

**Answer 2:** 2 transmembrane chains: α-and β-chains;

**Answer 3:** 2α-chains;

**Answer 4:** 3α-chains;

**Answer 5:** 2β-chains;

59. MHC CLASS I GENES INVOLVED IN ANTIGEN PRESENTATION ARE

**Answer 1:**A, B, C;

**Answer 2:**Е, F, G, Н;

**Answer 3:**DP, DQ и  DR;

**Answer 4:**DM, DO;

**Answer 5:**D**;**

60. WHICH GENE PRODUCTS ARE INVOLVED IN THE REJECTION OF INCOMPATIBLE GRAFTS AND THE PRESENTATION OF ANTIGEN TO T-CELLS

**Answer 1:** cytokine genes;

**Answer 2:** immunoglobulin genes;

**Answer 3:**MHCI and MHCII;

**Answer 4:**MHCIII;

**Answer 5:** non-classical genes**;**

61.WHAT ARE THE PHASES OF IMMUNE RESPONSE?

**Answer 1:** cellular and humoral;

**Answer 2:** antigen-independent and antigen-dependent;

**Answer 3:** inductive and effector;

**Answer 4:** helper and suppressor;

**Answer 5:** primary and secondary;

62.THE HUMORAL IMMUNE RESPONSE IS FORMED TO ALL AGENTS EXCEPT:

**Answer 1:** helminths;

**Answer 2:** bacteria;

**Answer 3:** bacterial toxins;

**Answer 4:** virus-infected cells;

**Answer 5:** allergens;

63.CELLULAR IMMUNITY DEFICIENCY IS MOST OFTEN MANIFESTED BY:

**Answer 1:** recurrent S. aureus infection;

**Answer 2:** chronic pyoderma;

**Answer 3:** persistence of viruses and other intracellular parasites;

**Answer 4:** dysbiosis of the gastrointestinal tract;

**Answer 5:** chronic upper respiratory tract infection;

64.THE MAIN CYTOKINE OF TH1-LYMPHOCYTES IS:

**Answer 1:** IL-3;

**Answer 2:** IL-4;

**Answer 3:** IL-5;

**Answer 4:** IFNγ;

**Answer 5:** TGFβ;

65.THE FUNCTIONS OF IFNγ ARE:

**Answer 1:** increased differentiation of Th2 cells;

**Answer 2:** suppression of virus replication;

**Answer 3:** stimulation of immunoglobulin E production

**Answer 4:** stimulation of IL-4 production;

**Answer 5:** neutralizing toxins;

66.THE STRENGTH AND DURATION OF THE HUMORAL IMMUNE RESPONSE ARE DETERMINED BY:

**Answer 1:** antigenic stimulation;

**Answer 2:** concentration of specific antibodies in the body;

**Answer 3:** activity of T- and B- regulators;

**Answer 4:** activity of T-helpers;

**Answer 5:** all of the above;

67.TH2-DEPENDENT DISEASES INCLUDE:

**Answer 1:** multiple sclerosis;

**Answer 2:** rheumatoid arthritis;

**Answer 3:** allergic diseases;

**Answer 4:** chronic hepatitis C;

**Answer 5:** diabetes mellitus type 1;

68.THE MAIN CYTOKINE OF TH2-LYMPHOCYTES IS:

**Answer 1:** IL-3;

**Answer 2:** IL-4;

**Answer 3:** IL-5;

**Answer 4:** IFNγ;

**Answer 5:** TGFβ;

69.EOSINOPHIL SURVIVAL AND DIFFERENTIATION FACTOR IS:

**Answer 1:** IL-3;

**Answer 2:** IL-4;

**Answer 3:** IL-5;

**Answer 4:** IFNγ;

**Answer 5:** TGFβ;

70.THE PRIMARY IMMUNE RESPONSE IS CHARACTERIZED BY:

**Answer 1:** occurs when the antigen re-enters the body;

**Answer 2:** the maximum level of antibodies is higher;

**Answer 3:** the antibody persistence period is longer;

**Answer 4:** the predominant production of immunoglobulins G;

**Answer 5:** the predominant production of immunoglobulins M;

71.THYMUS HORMONES INCLUDE ALL EXCEPT:

**Answer 1:** thyroxine;

**Answer 2:** thymopoietin;

**Answer 3:** thymulin;

**Answer 4:** thymosinα2;

**Answer 5:** thymosin β4;

72.TNFα IS:

**Answer 1:** antiviral cytokine;

**Answer 2:** pro-inflammatory cytokine;

**Answer 3:** anti-inflammatory cytokine;

**Answer 4:** immunoregulatory cytokine;

**Answer 5:** hematopoietic cytokine

73.ANTI-INFLAMMATORY CYTOKINES INCLUDE ALL EXCEPT:

**Answer 1:** IL-10;

**Answer 2:** TFRβ;

**Answer 3:** TNFα;

**Answer 4:** IL-13;

**Answer 5:** IL-4;

74.GM-CSF IS:

**Answer 1:** antiviral cytokine;

**Answer 2:** pro-inflammatory cytokine;

**Answer 3:** anti-inflammatory cytokine;

**Answer 4:** immunoregulatory cytokine;

**Answer 5:** hematopoietic cytokine;

75.WHAT ARE THE PROPERTIES OF INTERFERONS?

**Answer 1:** thermal stability;

**Answer 2:** antiviral activity;

**Answer 3:** non-specific to viruses;

**Answer 4:** the ability to inhibit the binding of viral RNA to the ribosomes of host cells;

**Answer 5:** all of the above;

76.THE MAIN EFFECT OF GLUCOCORTICOIDS ON PERIPHERAL LYMPHOCYTES IS:

**Answer 1:** increased lymphocyte proliferation;

**Answer 2**: induction of apoptosis of activated lymphocytes;

**Answer 3:** increased IL-2 secretion by T-lymphocytes;

**Answer 4:** stimulating cytokine production;

**Answer 5:** activation of lymphocytes;

77.FACTORS THAT STIMULATE THE FUNCTIONS OF THE IMMUNE SYSTEM INCLUDE:

**Answer 1:** insulin;

**Answer 2:** ACTH;

**Answer 3:** androgens;

**Answer 4:** estrogens;

**Answer 5:** norepinephrine;

78.THE WEAKENING OF THE THYMIC HORMONE PRODUCTION LEADS TO:

**Answer 1:** a decrease in the activity of NK cells;

**Answer 2:** a decrease in B-lymphocyte levels;

**Answer 3:** increased ability of T-lymphocytes to respond with proliferation to activating stimuli;

**Answer 4:** increased ability of T-lymphocytes to secrete IL-2;

**Answer 5:** reduced ability of T-lymphocytes to secrete IL-2;

79.WHAT IS THE EFFECT OF ANDROGENS AND ESTROGENS ON THE IMMUNE SYSTEM?

**Answer 1:** they reduce the number of lymphocytes and their response to antigens;

**Answer 2:** they increase the number of lymphocytes and their response to antigens;

**Answer 3:** they activate regulatory T-cells;

**Answer 4:** they increase the level of T-lymphocytes;

**Answer 5**: they increase the level of B-lymphocytes;

80.THE FUNCTIONS OF IFNγ ARE ALL EXCEPT:

**Answer 1:** increased cytotoxicity of NK cells and NKT cells;

**Answer 2:** suppression of virus replication;

**Answer 3:** increased synthesis of IL-12, IL-18 by macrophages and dendritic cells;

**Answer 4**: suppression of Th1 cell activity;

**Answer 5:** increased formation of reactive oxygen and nitrogen species by phagocytes;

81.THERE ARE THE FOLLOWING TYPES OF IMMUNOTHERAPY, EXCEPT:

**Answer 1**: substitutive;

**Answer 2:** immune-stimulating;

**Answer 3:** immunization;

**Answer 4:** immunocomplex;

**Answer 5:** immunosuppressive;

82.WHAT ARE THE INDICATIONS FOR THE USAGE OF IMMUNOSTIMULATING (IMMUNOMODULATING) DRUGS?

**Answer 1:** primary immunodeficiency;

**Answer 2:** secondary immunodeficiency;

**Answer 3:** allergic diseases;

**Answer 4:** autoimmune diseases;

**Answer 5:** cancer;

83.IN THE ELDERLY, THERE IS:

**Answer 1:** expansion of the memory T-cell compartment;

**Answer 2:** narrowing of the naive T cell compartment;

**Answer 3:** reduced antibody affinity;

**Answer 4:** increased serum IgG and IgA concentrations;

**Answer 5:** all of the above

84.THE CAUSE OF THE AGE-RELATED INCREASE IN CANCER RATE IS:

**Answer 1:** T-cell immunodeficiency;

**Answer 2:** B-cell immunodeficiency;

**Answer 3:** phagocyte link deficiency;

**Answer 4:** NK cell deficiency;

**Answer 5:** complement deficiency

85.HUMORAL PID IS:

**Answer 1:** Good syndrome

**Answer 2:** DiGeorge syndrome

**Answer 3:** X-linked agammaglobulinemia

**Answer 4:** Louis-Bar syndrome

**Answer 5:** Chediak-Higashi syndrome

86.WHAT CLINICAL SIGNS MAY INDICATE THE PRESENCE OF AN IMMUNE DEFICIENCY IN THE PATIENT:

**Answer 1:** atypical and long-term infectious diseases

**Answer 2:** frequent viral, bacterial, and fungal diseases

**Answer 3:** recurrent pustular skin lesions

**Answer 4:** recurrent long-term infectious diseases

**Answer 5:** all of the above

87.IF THERE IS A DELAY IN THE SPEECH AND PSYCHOMOTOR DEVELOPMENT, FACIAL SKELETAL ABNORMALITIES, CIRCULATORY SYSTEM DEFECTS, HYPOPLASIA OF THE THYMUS, PARATHYROID GLAND, WHAT SHOULD BE SUSPECTED:

**Answer 1:** selective IgA deficiency

**Answer 2:** hyper-IgE syndrome

**Answer 3:** Louis-Bar syndrome

**Answer 4:** Wiskott-Aldrich syndrome

**Answer 5:** Di-Georgi syndrome

88.THE BASIS OF CVID THERAPY IS:

**Answer 1: l**ifelong therapy with intravenous immunoglobulins

**Answer 2:** bone marrow transplant

**Answer 3:** lifelong preventive antibacterial therapy

**Answer 4:** monoclonal antibody therapy

**Answer 5:**thymic epithelial tissue transplantation

89.PID WITH A COMPLEMENT SYSTEM DEFECT IS:

**Answer 1:** Nijmegen syndrome

**Answer 2:** Di-Georgi syndrome

**Answer 3:** X-linked agammaglobulinemia

**Answer 4:** Hereditary angioedema

**Answer 5:**Chediak-Higashi syndrome

90.IMMUNE DISORDERS IN WISKOTT-ALDRICH SYNDROME INCLUDE ALL BUT:

**Answer 1:** lymphocytopenia;

**Answer 2:** thrombocytopenia;

**Answer 3:** high serum IgE levels;

**Answer 4:** decrease in serum IgM levels;

**Answer 5:** decreased proliferative activity of lymphocytes in response to antigenic stimulation;

91. Non-specific protection of the oral cavity is:

**Answer 1:** a set of processes aimed at destroying viruses;

**Answer 2:** a set of mechanical, chemical and physiological processes, the implementation of which does not depend on the recognition of the antigenic structure of the incoming microbes;

**Answer 3:** a complex of biological mechanisms aimed at maintaining the constancy of the internal environment of the body, with the help of which the recognition and elimination of all genetically alien occurs.

92. Specific (immunological) resistance of the oral cavity is:

**Answer 1:** a set of processes aimed at destroying viruses;

**Answer 2:** a set of mechanical, chemical and physiological processes, the implementation of which does not depend on the recognition of the antigenic structure of the incoming microbes;

**Answer 3:** a complex of biological mechanisms aimed at maintaining the constancy of the internal environment of the body, with the help of which the recognition and elimination of all genetically alien occurs.

93. Which of the structural components of the oral cavity are responsible for specific resistance:

**Answer 1:** lymphocytes;

**Answer 2:** oral mucosa;

**Answer 3:** enamel and dentin;

**Answer 4:** tooth pellicle;

**Answer 5**: oral fluid.

94. The humoral factor of specific protection in the oral cavity is (are):

**Answer 1:** lysozyme;

**Answer 2:** lactoferrin;

**Answer 3:** secretory Ig A;

**Answer 4:** complement proteins;

**Answer 5:** interferons.

95. The cells involved in the formation of nonspecific resistance of the oral cavity are:

**Answer 1:** monocytes, neutrophils;

**Answer 2:** red blood cells;

**Answer 3:** fibroblasts;

**Answer 4:** endothelial cells;

**Answer 5:** Kupffer cells.

96. The immune response on the surface of the mucous membranes of the oral cavity is mainly due to:

**Answer 1:**Ig М;

**Answer 2:**Ig G;

**Answer 3:**IgE;

**Answer 4:**sIg A;

**Answer 5:**Ig D.

97. The enzymes contained in the oral fluid are all except:

**Answer 1:** lysozyme;

**Answer 2:** interferon;

**Answer 3:** lactoferrin;

**Answer 4:** lactoperoxidase;

**Answer 5:** amylase.

98. Secretory Ig A:

**Answer 1:** is a dimer;

**Answer 2:** passes through the placenta;

**Answer 3:** has 2 antigen-binding sites;

**Answer 4**: is a monomer;

**Answer 5:** contains an additional CH4 heavy chain domain.

99. The main role in the specific protection of the oral cavity belongs to:

**Answer 1:** cellular immune mechanisms;

**Answer 2:** humoral immune mechanisms;

**Answer 3:** the interferon system;

**Answer 4:** the interleukin system;

**Answer 5:** macrophages.

100. The number of gram-positive microorganisms in the oral cavity is mainly controlled by:

**Answer 1:** the complement system;

**Answer 2:** lysozyme;

**Answer 3:** circulating immunoglobulins;

**Answer 4:** macrophages;

**Answer 5:** T-helpers