

IMMUNOLOGY - QUESTIONS FOR ORAL EXAM

1. Adaptive immunity
2. Innate immune responses.
3. Phagocytes function
4. Natural killer cells.
5. Complement system.
6. Antigen recognition by T lymphocytes
7. Antigen presenting cells
8. MHC complex: inheritance pattern, expression, polymorphism.
9. Antigen processing by MHC I complex.
10. Antigen processing by MHC II complex.
11. Antigen receptor complex on B cells. B cell activation.
12. Antigen receptor complex on T cells. T cell activation.
13. The structure and the function of antibodies.
14. T and B cell education.
15. Antibody class switching. Affinity maturation.
16. V(D)J recombination. Allelic exclusion.
17. Activation of CD8⁺ T cells.
18. Activation and differentiation of CD4⁺ T cells.
19. Subtypes of Th cells.
20. Migration of lymphocytes.
21. Effector functions of CD4⁺ T cells.
22. Effector functions of CD8⁺ T cells.
23. Evading of cell-mediated immunity by pathogenic microbes.
24. Phases of humoral immune responses.
25. The role of helper T lymphocytes in humoral immune responses.
26. Cytokines in class-switching. Antibody feedback mechanism.
27. Neutralization, opsonization and phagocytosis mediated by antibodies. ADCC.
28. Mucosal and neonatal immunity. Evasion of humoral immunity by microbes.
29. Vaccines types. Adjuvans.
30. Immunological tolerance
31. Central T and B lymphocyte tolerance
32. Peripheral T and B lymphocyte tolerance
33. Autoimmunity
34. Immune system and tumor antigens
35. Tumors evading of immune responses. Immunological approaches to cancer therapy

36. Transplant rejection reactions
37. Transplantation antigens. Prevention of transplant rejection.
38. Type I hypersensitivity
39. Type II, III and IV hypersensitivity
40. Defects in T and B lymphocyte function. Defects in innate immunity
41. HIV infection. AIDS development.
42. Inflammasome. IL-2
43. Microbiome. IL-6
44. Innate immunity cellular receptors. TGF- β
45. Cytokines: function, receptors, effects
46. TNF α , IL-1 and IL-12
47. Interferons. Chemokines.
48. The production of monoclonal and polyclonal antibodies
49. Flow cytometry. ELISA assay.
50. WBC differential blood count. Leukocyte count diagnostic tests. Referent values