Bt302 current solved

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Do right it, If u recognize any mistake

1.what type of Immune Response is Elicited by alloatigens? 2

Ans: • Alloantigens elicit both cell-mediated and humoral immune responses.

2. write 2 diseases for which inactive bacterial cell or viral particles are used for vaccines ? 2

Ans: inactivated bacterial cell

1-Anthrax 2-cholera 3-plague

Viral particle

1-hepatitus A 2-influenza 3-polio

3. Write Disease for which live attenuated vaccines are are uses.3

Ans: tuberculosis, typhoid, measles, polio, rotavirus, chickenpox, yellow fever.

4. write 6 symptoms of GVHR ? 3

Ans: ✓ Skin rash ✓ Emaciation (becoming thin) ✓ Retarded growth ✓ Diarrhoea ✓ Hepatomegaly ✓ Splenomegaly ✓ Increase in bilirubin production ✓ Bileducts are damaged ✓ anaemia

5. how a capsular antigen serves as vaccine, which cell are activated by these antigens give example ? 5

Ans: Capsular polysaccharides

• The virulence of some pathogenic bacteria depends primarily on the anti phagocytic properties of their hydrophilic polysaccharide capsule.

• Coating of the capsule with antibodies and or complement greatly increases the ability of macrophages and neutrophils to phagocytose such pathogens.

• The current vaccine for Streptococcus pneumoniae, which causes pneumococcal pneumonia, consists of 23 antigenically different capsular polysaccharides.

6. what is cytokines and its types? 5

Ans: • Cytokines are a diverse group of non-antibody proteins released by cells that act as intercellular mediators, especially in immune processes

• Low molecular weight soluble proteins (polypeptides) (Less than 30kD)

• produced in response to microbes and other antigens

Types

1. Monokines - produced by mononuclear phagocytes (monocytes)

2. Lymphokines - produced by activated T cells, primarily helper T cells

3. Interleukins - cytokines made by one leukocyte and acting on other leukocytes

4.Chemokines-cytokines with chemotactic activities

7. what are the type of Hypersensitivity? 5

Ans: • Type I

• Type II

• Type III

• Type IV

• _____

• Type I, II and III Antibody Mediated

• Type IV Cell Mediated (details in topic 47)

8. Explain Function, mode of action and properties of cytokines? 10

Ans: **function**

Cytokines classified according to their biologic actions into

three groups:

1) Mediators and regulators of innate immunity

- Produced by activated microphages and NK cells

in response to microbial infection
- they act mainly on endothelial cells and
leukocytes to stimulate the early inflammatory
response to microbes
2) Mediators and regulators of acquired immunity
- Produced mainly by T lymphocytes in response to
specific recognition of foreign antigens
- They include IL-2, IL-4, IL-5,, IL-13, IFN,
Transforming growth factor-β (TGF-β) and
lymphotoxin (TNF- β)
3) Stimulators of haematopoiesis
- Produced by bon marrow, leukocytes
- Stimulate growth and differentiation of leukocytes
- Stem cell factors, IL-3, IL-7, GM-CSF

Mode of action

1. autocrine
– act on the same cell that has secreted cytokine
1. Paracrine
–act on a nearby cell
1. Endocrine
–act on a distant cell reached through the circulation

Properties

1.Produced by cells involved in both natural andspecific immunity
2. Mediate and regulate immune andinflammatory responses
3. Secretion is brief and limited
Not stored as pre-formed molecules
Synthesis is initiated by new short-lived gene transcription

4. Pleiotropic -different cell types to secrete the same cytokine or for a single cytokine to act on several different cell types

5. Redundancy -similar functions can be stimulated by different cytokines.

Receptors for cytokines are heterodimers (sometimes heterotrimers) that can be grouped into families in which one subunit is common to all members of a given family

6. Often influence the synthesis of other

cytokines

They can produce cascades, or enhance or suppress production of other cytokines

They exert positive or negative regulatory mechanisms for immune inflammatory responses

7. Often influence the action of other cytokines.

antagonistic -cytokines causing opposing activities

Additive/synergistic -two or more cytokines acting together

8. Bind to specific receptors on target cells with high affinity..

9. Cellular responses to cytokines are generally slow (hours), require new mRNA and protein synthesis

9. what is ADCC?

Ans: Antibody-Dependent Cell-Mediated Cytotoxicity (ADCC)

• Cells Capable of Cytotoxicity Express Fc Receptors

• Antibody Binds Target Cell, Cytotoxic Cells Bind Fc Portion Of Ab

• Antibody Provides The Specificity

• Examples Of Cells Capable Of ADCC

• Macrophages, NK, Neutrophils, eosinophils

10. mechanism of hypersensitivity type III?

Ans: Mechanism of Type III Hypersensitivity

• Antigens combines with antibody within circulation and form immune complex

• Wherever in the body they deposited

• They activate compliment system

• Polymorphonuclear cells are attracted to the site

• Result in inflammation and tissue injury

11. antibody and antigen?

Ans: antibody is known as immunoglobin, is a large, y-shaped protein produced mainly by plasma cells that is used by the immune system to neutralize pathogen such as pathogenic bacteria.

A toxin or the foreign substance which induces an immune response in the body especially the production of antibodies.

12. cell mediated responses name?

Ans: Note: this answer is not conformed

• Primary Function Of Cell Mediated Response

• Eliminate Intracellular Pathogens

• Eliminate Tumor Cells

• Both Antigen Specific And Non-specific cells Are Involved

• Ag Specific: Both Cytotoxic and Helper T cells • Non-specific: Macrophages (M□), Neutrophils, NK

• Both Specific And Non-specific responses Require Cytokines