Virtual University of Pakistan

BT302

Immunology

Midterms Past Papers

Email address

BT302@vu.edu.pk

Course Instructor

Rabia Bibi

Created By Zareen Fatima

Group of VU Biologists

www.facebook.com/vubiologists

www.facebook.com/groups/vubiologists

Bt302 What are interferons (2) What are effector helper T cells (3) Write names and functions of mhc proteins (3) write funtions of spleen (3) How b cells form igm antibody (5) Write the steps when mast cells are activated and leukocytes enter the site of injury (5)

Bt302 What are antigens? Define humoral and cellular immunity? Function of effector b cells? Function of spellen? What are the activation of cytotoxic T cells?

B cell and t cell structure
AIS activation?
Cells of immune system
MHC k about types etc
Cyctotoxic T Cell ?
Lymph node function ?

BT302 Midterm
Difference between B Cells and at Cells under electron Microscope. 2
What is the function of Fc antibody in IgM 2
MHC Genes are represented for? Which cells are included in it and which protiens encode the MHC. 3
Functions of Thymus 3
Write about IgM Immunoglobulin 5
Functions of Lymph Nodes 5

Bt302:-
Total Q 26 (40 marks)
20 MCQs
Write the name of chamicels that produce to attract the phygocytes? (2 marks)
What is proto-oncogenes? (2 marks)
Write types of granular and aganular white blood cells? (3 marks)
MHC protein type, what it represent and which cells have MHC protein? (3 marks)
What are the activation of cytotoxic T cells? 5 marks
Write the function of Dendritic cells, Neurophils cells and explain? 5 marks

Bt302:-
What is mast cell?
What is proto-oncogenes?
What is the three types of proto-oncogenes? or be kch tha sath
What are the activation of cytotoxic T cells?
How b cells form lgM antibody (5)

Bt302

40 MCQs

10 questions

FC receptor on antibody .

What is meant of hypersensitivity?

Cell-mediated hypersensitivity?

Hypersensitivity type IV?

Function of thymus ?

Clinical symptoms of GVHR ?

Three types of cytokine action?

Mechanism of GVHR?

Bki yd nh ....

Bt302:-

What is the function of Spleen?
What is MHC Protein?
How does MYC by MYC transfered to csncer cells?
What are antibodies?Name 5 antibodies in mammals.

Bt302 10 30am yesterday
1 Neotransmitance by acquired envirnmental conditions write 4 steps (5)
2 Function of lymph nodes(5)
3 Memory cell and natural killer(3)
4 Function of proto oncogene (3)
5 Proto Oncogene (2)
6 Cytokinesis first 2 released factors i guess the question was like that i dont remeber exactly (2)

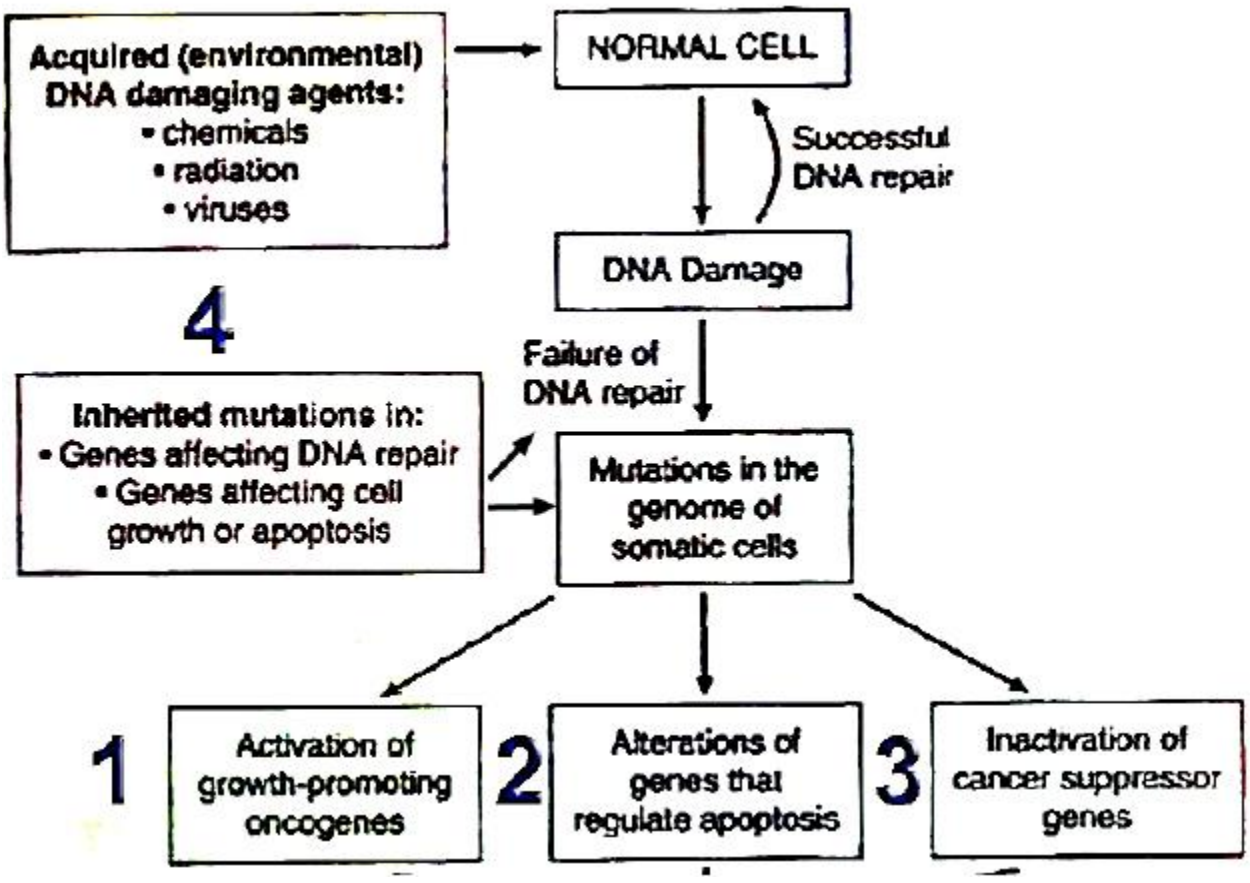
solved paper

If u see any mistake plz correct it
solved by ***Zareen Fatima***

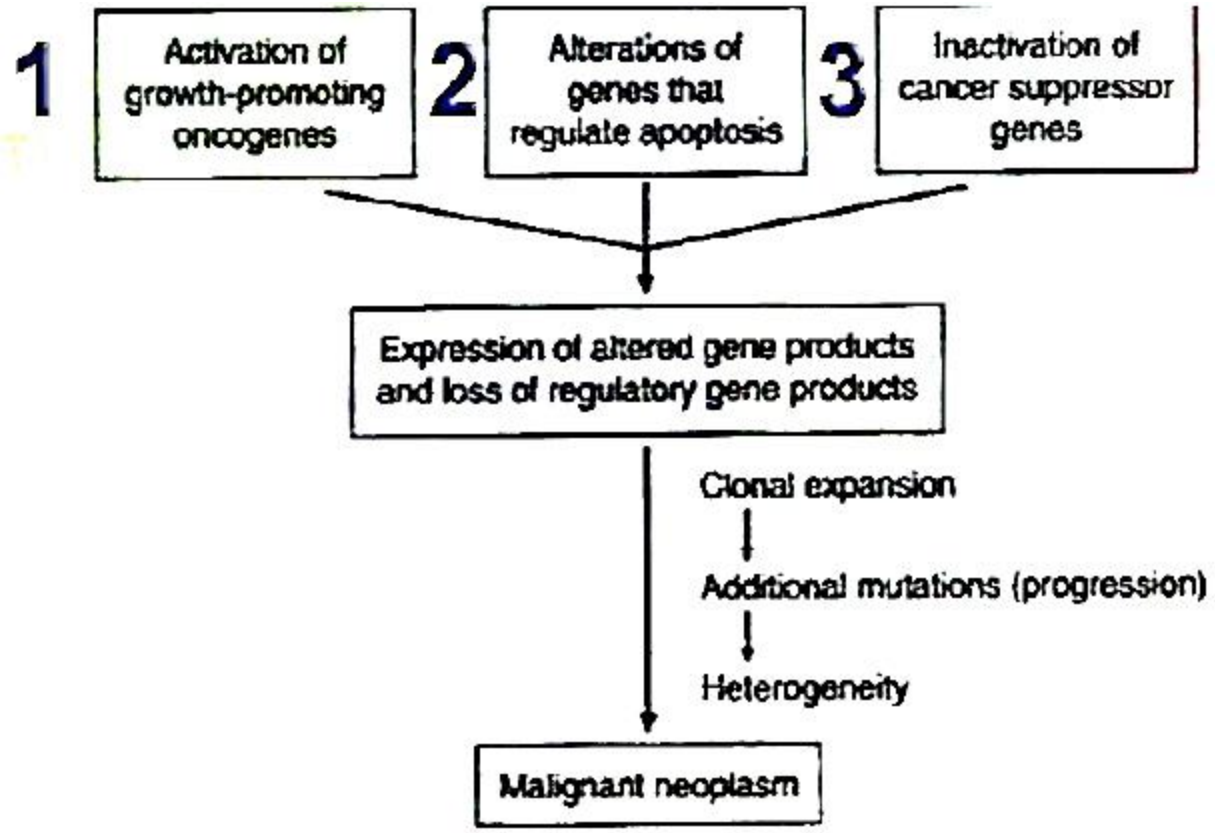
1 Neotransmitance by acquired envirnmental conditions write 4 steps (5)

Ans:if the DNA is damged by the any acquired environmental condition such as chemical radiation virsus then mutation in the gene will b observed. there are three kind of situation

- Activation of growth promoting oncogenes
- Alteration of gene that regulate apoptosis
- Inactivation of cancer suppressor gene



All these conditions leads to the expression of altered gene product and loss of regulatory gene product . so formation of malignant neoplasm happens.



2 Function of lymph nodes(5)

Ans: Function • 1st line of response to antigens • Secondary follicle (Germinal center) is site of B cell proliferation, mutation, differentiation

• Specificity is high • >90% of B cells die through apoptosis • After Ag stimualtion lymphocyte numbers up by 50X in efferent lymphatic vessel • Lympadenopathy

3 Memory cell and natural killer(3)

Ans: memory cells

When naïve lymphocytes are stimulated by their specific antigen, they proliferate and differentiate. Most become effector cells which function & then die, while others become long-lived memory cells.

NK cells

Natural killer cells (also known as NK cells, K cells, andkiller cells) are a type of lymphocyte (a white blood cell) and a component of innate immune system. NK cells play a major role in the host-rejection of both tumours and virally infected cells.

4 Function of proto oncogene (3)

A proto-oncogene is a normal gene that can become an oncogene, either after mutation or increased expression.

Proto-oncogenes code for proteins that help to regulate cell growth and differentiation.

Proto-oncogenes are often involved in signal transduction and execution of mitogenic signals, usually through their protein products.

Upon activation, a proto-oncogene (or its product) becomes a tumor inducing agent, an oncogene.

Some oncogenes, usually involved in early stages of cancer development, increase the chance that a normal cell develops into a tumor cell, possibly resulting in cancer

5 Proto Oncogene (2)

Ans:

A proto-oncogene is a normal gene that can become an oncogene, either after mutation or increased expression.

Proto-oncogenes code for proteins that help to regulate cell growth and differentiation

What are interferons?

Ans: Interferon – chemical that interferes with the ability to viruses to attack other body cells

Dendritic Cells (DC) (IFN-alfa), fibroblasts (IFN-beta)

What are effector helper T cells?

Ans: those cells which stimulate the responses of other cells phagocitic macrophages, B cells, and cytotoxic T cells are called effctor helper T cells.

Write names and functions of mhc proteins (3)

Ans: 2 main structurally & functionally distinct classes of MHC proteins: class I MHC proteins, present foreign peptides to cytotoxic T cells, & class II present foreign peptides to helper T cells.

MHC groove can accommodate an extended peptide about 8–10 amino acids long.

In extended conformation terminal amino group binds to an invariant pocket at one end of the groove and its terminal carboxyl group bound to an invariant pocket at the other end of the groove.

Pockets recognize peptide backbone features common to all peptides, each class I MHC protein can bind a peptides of diverse sequence.

Class II can accommodate longer peptides, which are usually 13–17 amino acids.

Peptide not bound by ends.

It is held in the groove by parts of its peptide backbone that bind to invariant pockets formed by conserved amino acids that line all class II MHC peptide-binding grooves

write funtions of spleen (3)

Ans: Function

- Filters out older RBCs
- Responds to Ag in circulatory system
- Produces activated B cells

How b cells form igm antibody (5)

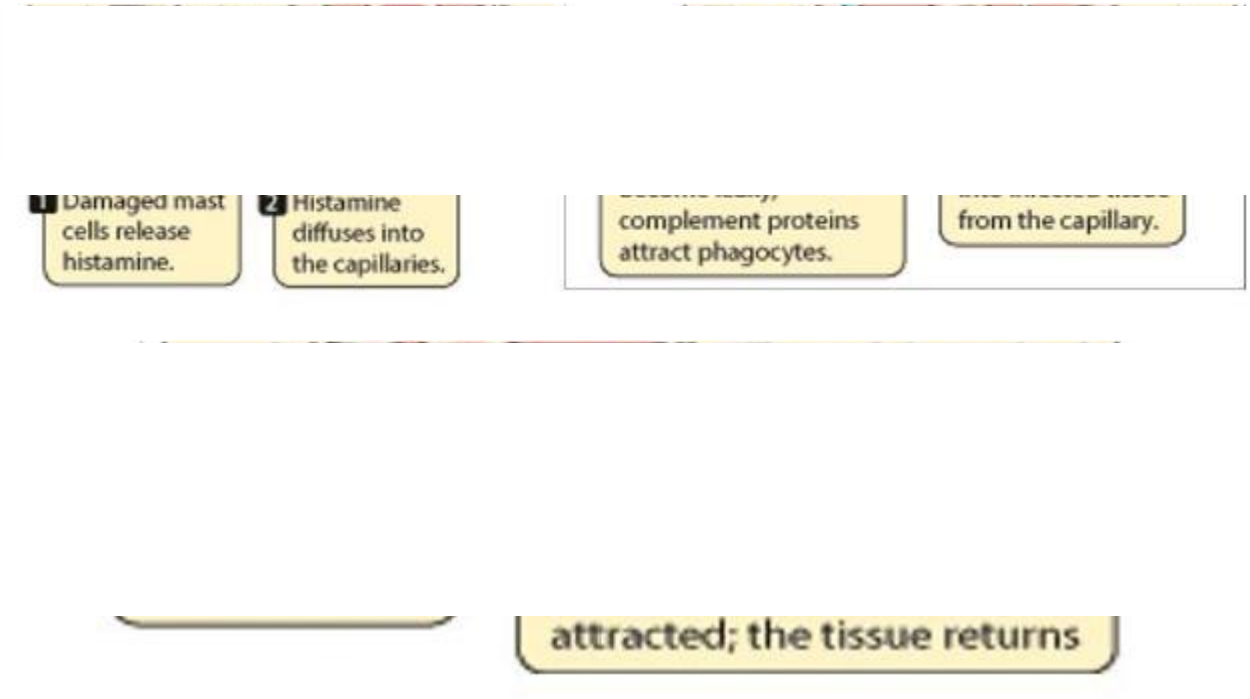
Ans: IgM first class of antibody to appear on the surface of a developing B cell.

The major class secreted in the early stages of a primary antibody response.

Secreted form, IgM is a pentamer, J chain is required for pentamer formation.

The binding of an antigen to a single secreted pentameric IgM molecule can activate the complement system, wich can either mark the pathogen for phagocytosis or kill it directly

Write the steps when mast cells are activated and leukocytes enter the site of injury (5)



1. Expansion of capillaries to increase blood flow (seen as blushing or a rash)

2. Increase in the permeability of the microvasculature structure to allow escape of fluid, plasma proteins, and leukocytes from the circulation edema

3. Exit of leukocytes from the capillaries and their accumulation at the site of injury

What are antigens?

Ans: a toxin or other foreign substance which induces an immune response in the body, especially the production of antibodies.

Define humoral and cellular immunity?

Ans: • Humoral (activation of B-lymhocytes) • Cellular (by activation of Tlymphocytes)

Function of effector b cells?

Ans: Plasma cells, also called plasma B cells, plasmocytes, plasmacytes, or effector B cells, are white blood cellsthat secrete large volumes of antibodies. They are transported by the blood plasma and the lymphatic system. Effector cells are the relatively short-lived activated cells that defend the body in an immune response.

What are the activation of cytotoxic T cells?

Cytotoxic T cells provide protection against intracellular pathogens such as viruses and some bacteria and parasites that multiply in the host-cell cytoplasm, where they are sheltered from attack by antibodies.

B cell and t cell structure?

Ans: T cells develop in the thymus, and B cells, in mammals, develop in the bone marrow

Most lymphocytes die in central lymphoid organ Antibody Structure

It is composed of four polypeptide chains 2 identical heavy chains & 2 identical light chains.

Tail (Fc) & hinge region are formed by the two heavy chains.

2 identical Binding Sites.

Flexible hinge region improves efficiency of antigen binding and cross-linking.

T cells and B cells. T cells (thymus cells) and B cells(bone marrow- or bursa-derived cells) are the major cellular components of the adaptive immune response. T cells are involved in cell-mediated immunity, whereas B cells are primarily responsible for humoral immunity (relating to antibodies). An important difference between T-cells and B-cells is that B-cells can connect to antigens right on the surface of the invading virus or bacteria. This is different fromT-cells, which can only connect to virus antigens on the outside of infected cells.

AIS activation?

Cells of immune system?

Ans: Basophils Release histaie Eosiophils Kill atiod-oated parasites Neutrophils Phagotose atiod-oated pathoge Mast ells Release histaie he daaged Mootes Deelop ito arophages Marophages Egulf ad digest iroorgaiss Dedriti ells Preset atiges to T ells B ells Differetiate for atiod-

produig ells ad eor ells Plasa ells Serete atiodies T ells Kill irus-ifeted ells; regulate atiities of other hite lood ells Natural killer lse irus-ifeted/aerous ells

What is the function of Fc antibody in IgM 2

Ans: IgG only Ab that can pass from mother to fetus

placenta cells that are in contact with mothers blood have Fc receptors that are use to grab IgG and pass it to the fetus.

Functions of Thymus?

Ans: Function • Takes in immature T cells and puts out mature (immunocompetent) T cells • Increased diversity of T cells • T cell selection

Write about IgM Immunoglobulin 5

Ans: IgM first class of antibody to appear on the surface of a developing B cell.

The major class secreted in the early stages of a primary antibody response.

Secreted form, IgM is a pentamer, J chain is required for pentamer formation.

The binding of an antigen to a single secreted pentameric IgM molecule can activate the complement system, wich can either mark the pathogen for phagocytosis or kill it directly.

Write the name of chamicels that produce to attract the phygocytes? (2 marks)

Ans: serine protease and perforin molecules

Cells involve in immune system?

Cells Involved in Immunity

• Macrophages • B cells • T cells

Mast cells?

They are one kind of cells that involve in immune system their role is to release histamine.

Eman Akhter

21 February

Bt302 - Immunology

1- What is antigen?

2- Name two diseases that are caused by bacterial or viral infection used as vaccine?

3- Name types of receptors of cytokines?

4- Write the function of spleen?

5- Clinical symptoms of graft versus host reaction?

6- Mechanism of graft versus host reaction?

7- What is allergic contact dermetitis?

8- Write the function of lymph nodes?

VU Bio Mates

Admin ·

20 February

Bt302

1.Functional Categories of cytokines?

2. signal of cell mediated recepter?

3. Three names of vaccines which are live attenuated?

4. Explain the structure of B cell and T cell under microscope?

5.Mechanism of GVHR?

6. Define antibodies ?and five antibody classis in mammals?

7. Hypersensitivity?

8. Memmory cell and Nk cell

Chilli Milli

19 February

Bt302

1.Functional Categories of cytokines?

2. signal of cell mediated recepter?

3. Three names of vaccines which are live attenuated?

4. Explain the structure of B cell and T cell under microscope?
5.Mechanism of GVHR?
6. Define antibodies ?and five antibody classis in mammals?
7. Hypersensitivity?
8. Memmory cell and Nk cell

Ammara Mahmood

21 February

Bt302
Cytokines and its types 5 mark
Cytotixix t cells 3 marks
cytokines function, mode of action and recrptore types 10 mark
Three names of dissease from aulleated vaccine 3 mark
Name of oxygen independent antibiotics 3
What are t cells and two classes of t cells 2 mark
Hypersensitive reaction type1 5 mark
Baki yad ni MCqs b ajeeb sy thy

Mahzala Khan

26 June

Bt302 10 30am yesterday
1 Neotransmitance by acquired envirnmental conditions write 4 steps (5)
2 Function of lymph nodes(5)
3 Memory cell and natural killer(3)
4 Function of proto oncogene (3)
5 Proto Oncogene (2)
6 Cytokinesis first 2 released factors i guess the question was like that i dont remeber exactly (2)

QuRat Ul Ain

Admin ·

1 September

Bt302

Mcqs was very easy

1.what type of Immune Response is Elicited by alloatigens ? 2
2. write 2 diseases for which inactived bacterial cell or viral particles are use for vaccines ? 2
3. Write Disease for which live attenuated vaccines are are uses.3
4. write 6 symptoms of GVHR ? 3
5. how a capsular antigent serces as vaccine, which cell are activated by these antigens give example ? 5
what is cytokinases ? 5
what are the type of Hypersensitivity ? 5
Explain Function, mode of action and properties of cytokines ? 10

Zennia Khan

Admin ·

12 December 2017

Bt302:-
What is the function of Spleen?
What is MHC Protein?
How does MYC by MYC transfered to csncer cells?
What are antibodies?Name 5 antibodies in mammals.

Zennia Khan

Admin ·

13 December 2017

Bt302:-
What is mast cell?
What is proto-oncogenes?
What is the three types of proto-oncogenes? or be kch tha sath
What are the activation of cytotoxic T cells?
How b cells form lgM antibody (5)
or ek yd nhi

Areha Maham

18 December 2017

My todays paper of BT302 Immunology ...
cells k nam thy r likha tha un k functions btny hn strt ma jo hn cells
dndrtic cell basophls mast cell nutrophls

Define humoral and cellular immunity?
What are antigens?
What are the activation of cytotoxic T cells? 5 mrks frst wla b 5 mrks ka ha
or ak question ACP k accrdng tha

Rania Ch

9 September

BT 302 Final term 11:00am 9 Sep, 2018
1. Three names of vaccines which are live attenuated? 2 marks
2. Name two diseases that are caused by bacterial or viral infection used as vaccine? 2 marks
3. Name types of receptors of cytokines? 3 marks
4. Six Clinical symptoms of GVHR. 5 marks
5. What term is used for type III hypersensitivity? 2 marks
6. Which 2 machanism involved in Cytotixix t cells induced apoptosis? 3 marks
7. Interferon family. 3 marks
8. Hypersensitivity mechanism. 5 marks
9. How a capsular antigen serve as vaccine, which cells are activated by these vaccines, give 1 example. 5 marks
10. Cytokines function, mode of action and receptors types. 10 marks

Naila Fatima

20 February

Today's paper of BT 302(8:00am)
Define proto oncogene.
Define hypersensitivity.
Mechanism of hypersensitivity?
What you know about hypersensitivity type3.
Innate and adaptive immunity.
Define antibody and five types of antibody.
Cytokinase types .
Vaccines wala tha aik . baki yad nahi

Areha Maham

22 February

BT302 current solved papers JO file mny upload ki ha us ma ak mistake ha ..IS question ka ans wrong ha kindly ya ans note kr lijy

3- Name types of receptors of cytokines?
Divided into several families based on their structure and activities
• Hematopoietin family
• Interferon family
• Tumor Necrosis Factor family
• Chemokine family

Adm Malik

Admin ·

8 June 2017

Bt302

Function of thymus...2
How antigen are bound to antibodies... 2
3 names of cells... 3 is k answer me helper 3 cells,, effecter,, cytotoxic t cell
Function of eosnphill wagera...5
How recognition occurs by t cells...? 5

Hooria Saher

15 December 2017

Bt302:-
Total Q 26 (40 marks)
20 MCQs
Write the name of chamicels that produce to attract the phygocytes? (2 marks)
What is proto-oncogenes? (2 marks)
Write types of granular and aganular white blood cells? (3 marks)
MHC protein type, what it represent and which cells have MHC protein? (3 marks)
What are the activation of cytotoxic T cells? 5 marks
Write the function of Dendritic cells, Neurophils cells and explain? 5 marks

Noman Shaikh

15 August 2017

BT302 Immunology today's paper:
Q1: write down two diseases for which inactivated bacterial cells or viral particles are used as vaccines? (2) Marks'
Q2: What is a proto-oncogene? (2 marks)
Q3: how does the production of MYC by MYC pathway promote cancer? (2 marks)
Q4: how do the proto-oncogenes work after activation? Write down three types of proto-oncogenes? (3 marks)
Q5: write down the 6 clinical symptoms of GVHR? (3 marks)
Q6: write down that how the capsular antigens can serve as vaccines? Which cells can be activated by these antigens? Give one example. (5 marks)
Q7: how do the acquired environmental conditions bring neoplastic transformation? Write down the four steps. (5 marks)
Q8: what are vaccines? Write down their type and mechanism by which the whole organism vaccines and inactivated exotoxins (toxoid) induce immunity in the living system? (10 marks)
Q9: what is autoimmunity? Name the causes of autoimmunity and write down the types of autoimmunity in detail? (10 marks)

Adm Malik

Admin ·

8 June 2017

Bt302

1.Funtions of bone marrow..2 marks
2.Function of hinge reginion of antibody....2 marks
3.Write about IgG antibody....3 marks
4.Name the oxygen-independent of antibacterial,,,,,,Phagolysosome II....3 marks
5.write the recognition by T cells..... 5 marks
6.Write structure of antibody...? 5 marks

Adm Malik

Admin ·

6 June 2017

Bt302

What are antigens?
Define humoral and cellular immunity?
Function of effector b cells?
Function of spellen?
What are the activation of cytotoxic T cells?

Adm Malik

Admin ·

8 June 2017

Bt302

Lumph nodes.
Cytotoxic t cells.
Spleen function.
Name 3 cells used as an antigen presenting cells.
Proinflammantory cytokinises..... Immune cells.
How ig transported from epithelial cells.

Husnain Aziz

23 June

Bt 302(4-pm)
Qno 1:Receptors of innate immunity for PAMPS?2
Qno 2:Two signals of Antigen Presenting Cells?2
Qno 3:What do you know about IgG antibody?3
Qno 4:How proto oncogens act after activation & name their 3 types?3
Qno 5:Write note on T cell receptors?5
Qno 6:Name 5 different types of PAMPS & also write the sites where these are found/present?5

Adm Malik

Admin ·

4 June 2017

Bt302

What are interferons (2)
What are effector helperT cells (3)
Write names and functions of mhc proteins (3)
write funtions of spleen (3)
How b cells form igm antibody (5)
Write the steps when mast cells are activated and leukocytes enter the site of injury (5)

Scor Pain

22 February

Bt302 at 10:30am 22-Feb-18

1. Function, mode of action and recrptore types and ……. Cytokines. 10 mark
2. Mechanism of GVHR? 5
3. Cell mediated types of the immune response? 5
4. The antibodies produced by the humans forming the unlimited number of the light and heavy chains? 5
5. What is cytokinase? 3
6. Write the 3 signals used to activate the cytotoxic T cells? 3
7. Write down the 6 clinical symptoms of GVHR? 3
8. Write about the IgM antibody? 2
9. How IgA transferred from the epithelial cells? 2
10. What type of immune response is elicited by alloantigens? 2

And tough 40 Mcqs…

Adm Malik

Admin ·

15 August 2017

Bt302

immunology.. what is protogene(2)
what type of immune reponse is elicited by alloantigen(2)
how myc produced by myc mechanism promote cancers(2)
what is proto oncogene, write 3 types(3)
write 6 symptoms of vhdr(3)
neoplastic transformation and its 4 steps(5)
how capsular antigen serve as vaccine, which cells are activated by this antigen, give one example(5)
what are vaccines, write types how does whole organism and exotoxin vaccine iduce immune response(10)
what is auto immunity,write the causes,describe its type in details(10)

Emaan AhmEd

25 February

bt302

time:2:00pm

1-funcation ,catagories, mode of action and type of cytokines
2-capulAr antigen and its activation (10 marks)
3-activation of must cell
4-CTL mechanism
5-funcation of thymus
6-cell medaited immune response
7-type111

Hooria Saher

18 February

My today paper of BT201
Total Q 45 (77 marks)
34 mcqs
3 short Q 2 marks
1. What intermediate hypothesis suggests?
2. What is optimal theory?
3. Write four resons behind the fossils history uncomplete?
4 short Q 3 marks
1. Specie richness and diversity richness?
2. How the exicot predetrs distrub the food web?
3. Evoloitnry history of human?
4. What is hybrd weinberg principle?
Long Q 4
How mustulim took place and write human mulusim wth other species 10 marks
Why Lallys theory failed explain 5 marks
Write phyla of ameboid protozon and write mode of locomotion? 5 marks
Write significance of genetic life tree? 5 marks

Virtual University of Pakistan

BT302

Immunology

Midterms Past Papers

Email address

BT302@vu.edu.pk

Course Instructor

Rabia Bibi

Created By Zareen Fatima

Group of VU Biologists

www.facebook.com/vubiologists

www.facebook.com/groups/vubiologists

Bt302 What are interferons (2) What are effector helper T cells (3) Write names and functions of mhc proteins (3) write funtions of spleen (3) How b cells form igm antibody (5) Write the steps when mast cells are activated and leukocytes enter the site of injury (5)

Bt302 What are antigens? Define humoral and cellular immunity? Function of effector b cells? Function of spellen? What are the activation of cytotoxic T cells?

B cell and t cell structure
AIS activation?
Cells of immune system
MHC k about types etc
Cyctotoxic T Cell ?
Lymph node function ?

BT302 Midterm
Difference between B Cells and at Cells under electron Microscope. 2
What is the function of Fc antibody in IgM 2
MHC Genes are represented for? Which cells are included in it and which protiens encode the MHC. 3
Functions of Thymus 3
Write about IgM Immunoglobulin 5
Functions of Lymph Nodes 5

Bt302:-
Total Q 26 (40 marks)
20 MCQs
Write the name of chamicels that produce to attract the phygocytes? (2 marks)
What is proto-oncogenes? (2 marks)
Write types of granular and aganular white blood cells? (3 marks)
MHC protein type, what it represent and which cells have MHC protein? (3 marks)
What are the activation of cytotoxic T cells? 5 marks
Write the function of Dendritic cells, Neurophils cells and explain? 5 marks

Bt302:-
What is mast cell?
What is proto-oncogenes?
What is the three types of proto-oncogenes? or be kch tha sath
What are the activation of cytotoxic T cells?
How b cells form lgM antibody (5)

Bt302

40 MCQs

10 questions

FC receptor on antibody .

What is meant of hypersensitivity?

Cell-mediated hypersensitivity?

Hypersensitivity type IV?

Function of thymus ?

Clinical symptoms of GVHR ?

Three types of cytokine action?

Mechanism of GVHR?

Bki yd nh ....

Bt302:-

What is the function of Spleen?
What is MHC Protein?
How does MYC by MYC transfered to csncer cells?
What are antibodies?Name 5 antibodies in mammals.

Bt302 10 30am yesterday
1 Neotransmitance by acquired envirnmental conditions write 4 steps (5)
2 Function of lymph nodes(5)
3 Memory cell and natural killer(3)
4 Function of proto oncogene (3)
5 Proto Oncogene (2)
6 Cytokinesis first 2 released factors i guess the question was like that i dont remeber exactly (2)

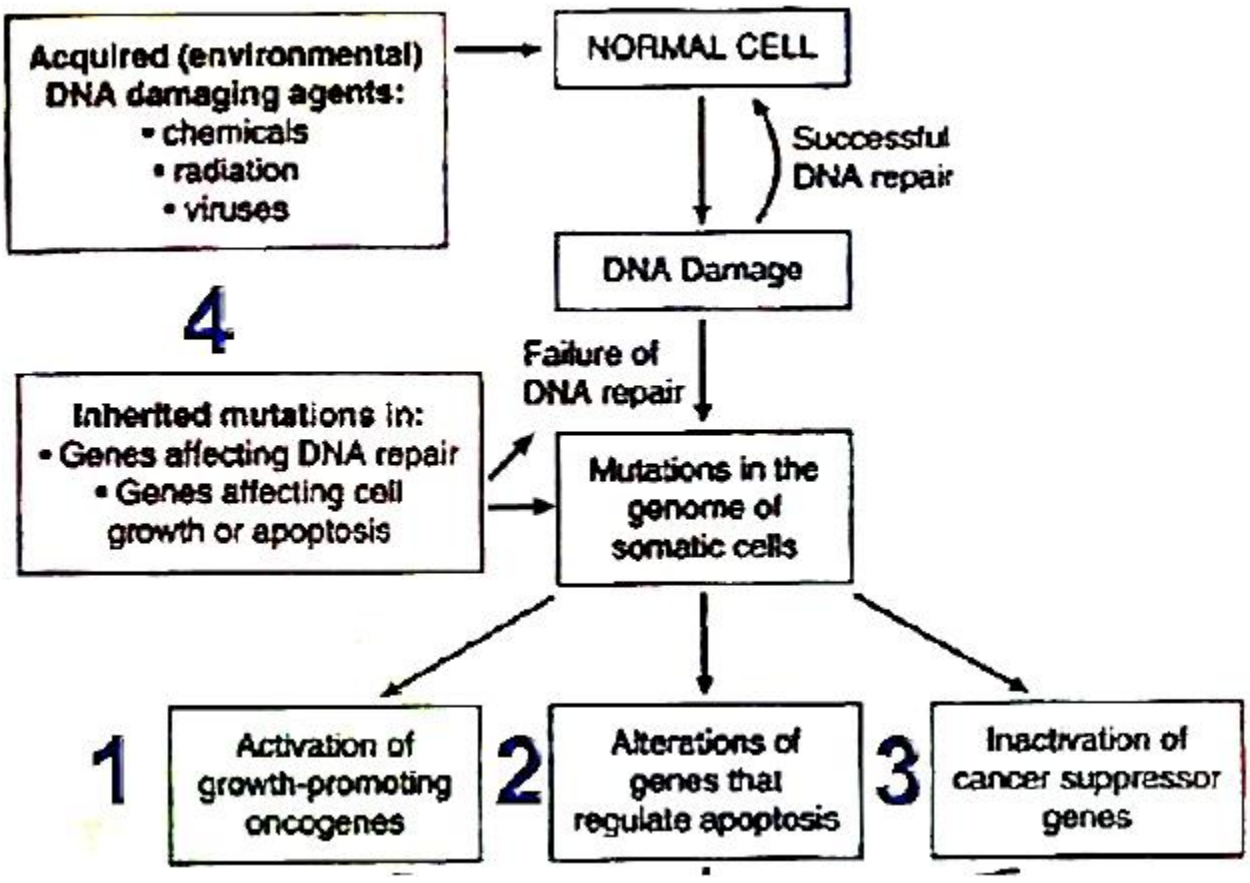
solved paper

If u see any mistake plz correct it
solved by ***Zareen Fatima***

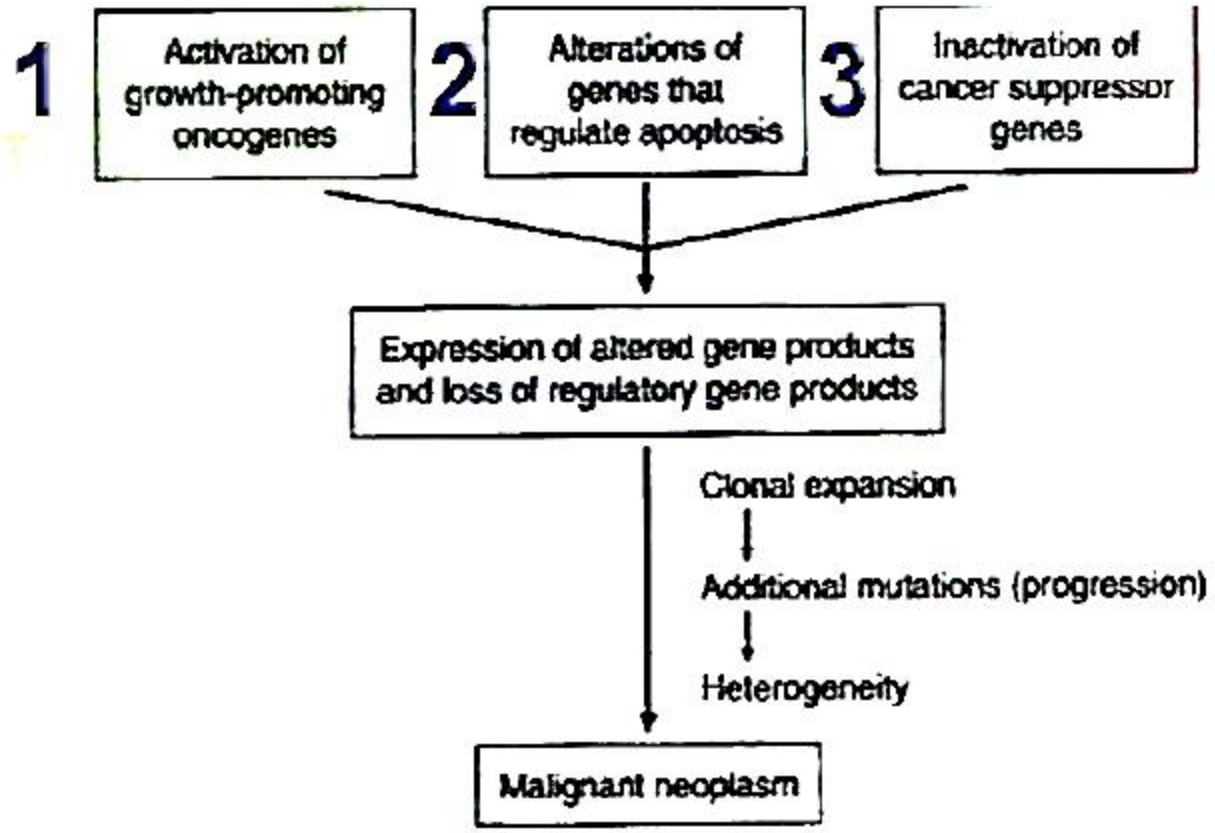
1 Neotransmitance by acquired envirnmental conditions write 4 steps (5)

Ans:if the DNA is damged by the any acquired environmental condition such as chemical radiation virsus then mutation in the gene will b observed. there are three kind of situation

- Activation of growth promoting oncogenes
- Alteration of gene that regulate apoptosis
- Inactivation of cancer suppressor gene



All these conditions leads to the expression of altered gene product and loss of regulatory gene product . so formation of malignant neoplasm happens.



2 Function of lymph nodes(5)

Ans: Function • 1st line of response to antigens • Secondary follicle (Germinal center) is site of B cell proliferation, mutation, differentiation

• Specificity is high • >90% of B cells die through apoptosis • After Ag stimualtion lymphocyte numbers up by 50X in efferent lymphatic vessel • Lympadenopathy

3 Memory cell and natural killer(3)

Ans: memory cells

When naïve lymphocytes are stimulated by their specific antigen, they proliferate and differentiate. Most become effector cells which function & then die, while others become long-lived memory cells.

NK cells

Natural killer cells (also known as NK cells, K cells, andkiller cells) are a type of lymphocyte (a white blood cell) and a component of innate immune system. NK cells play a major role in the host-rejection of both tumours and virally infected cells.

4 Function of proto oncogene (3)

A proto-oncogene is a normal gene that can become an oncogene, either after mutation or increased expression.

Proto-oncogenes code for proteins that help to regulate cell growth and differentiation.

Proto-oncogenes are often involved in signal transduction and execution of mitogenic signals, usually through their protein products.

Upon activation, a proto-oncogene (or its product) becomes a tumor inducing agent, an oncogene.

Some oncogenes, usually involved in early stages of cancer development, increase the chance that a normal cell develops into a tumor cell, possibly resulting in cancer

5 Proto Oncogene (2)

Ans:

A proto-oncogene is a normal gene that can become an oncogene, either after mutation or increased expression.

Proto-oncogenes code for proteins that help to regulate cell growth and differentiation

What are interferons?

Ans: Interferon – chemical that interferes with the ability to viruses to attack other body cells

Dendritic Cells (DC) (IFN-alfa), fibroblasts (IFN-beta)

What are effector helper T cells?

Ans: those cells which stimulate the responses of other cells phagocitic macrophages, B cells, and cytotoxic T cells are called effctor helper T cells.

Write names and functions of mhc proteins (3)

Ans: 2 main structurally & functionally distinct classes of MHC proteins: class I MHC proteins, present foreign peptides to cytotoxic T cells, & class II present foreign peptides to helper T cells.

MHC groove can accommodate an extended peptide about 8–10 amino acids long.

In extended conformation terminal amino group binds to an invariant pocket at one end of the groove and its terminal carboxyl group bound to an invariant pocket at the other end of the groove.

Pockets recognize peptide backbone features common to all peptides, each class I MHC protein can bind a peptides of diverse sequence.

Class II can accommodate longer peptides, which are usually 13–17 amino acids.

Peptide not bound by ends.

It is held in the groove by parts of its peptide backbone that bind to invariant pockets formed by conserved amino acids that line all class II MHC peptide-binding grooves

write funtions of spleen (3)

Ans: Function

- Filters out older RBCs
- Responds to Ag in circulatory system
- Produces activated B cells

How b cells form igm antibody (5)

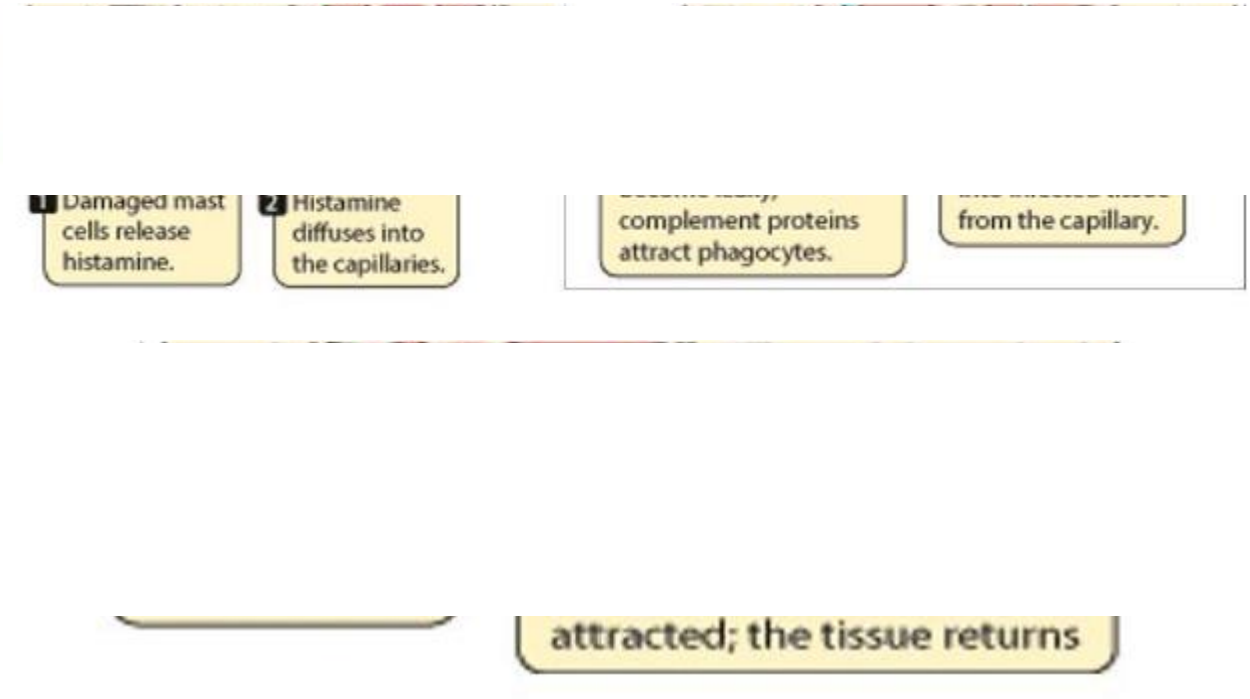
Ans: IgM first class of antibody to appear on the surface of a developing B cell.

The major class secreted in the early stages of a primary antibody response.

Secreted form, IgM is a pentamer, J chain is required for pentamer formation.

The binding of an antigen to a single secreted pentameric IgM molecule can activate the complement system, wich can either mark the pathogen for phagocytosis or kill it directly

Write the steps when mast cells are activated and leukocytes enter the site of injury (5)



1. Expansion of capillaries to increase blood flow (seen as blushing or a rash)

2. Increase in the permeability of the microvasculature structure to allow escape of fluid, plasma proteins, and leukocytes from the circulation edema

3. Exit of leukocytes from the capillaries and their accumulation at the site of injury

What are antigens?

Ans: a toxin or other foreign substance which induces an immune response in the body, especially the production of antibodies.

Define humoral and cellular immunity?

Ans: • Humoral (activation of B-lymhocytes) • Cellular (by activation of Tlymphocytes)

Function of effector b cells?

Ans: Plasma cells, also called plasma B cells, plasmocytes, plasmacytes, or effector B cells, are white blood cellsthat secrete large volumes of antibodies. They are transported by the blood plasma and the lymphatic system. Effector cells are the relatively short-lived activated cells that defend the body in an immune response.

What are the activation of cytotoxic T cells?

Cytotoxic T cells provide protection against intracellular pathogens such as viruses and some bacteria and parasites that multiply in the host-cell cytoplasm, where they are sheltered from attack by antibodies.

B cell and t cell structure?

Ans: T cells develop in the thymus, and B cells, in mammals, develop in the bone marrow

Most lymphocytes die in central lymphoid organ Antibody Structure

It is composed of four polypeptide chains 2 identical heavy chains & 2 identical light chains.

Tail (Fc) & hinge region are formed by the two heavy chains.

2 identical Binding Sites.

Flexible hinge region improves efficiency of antigen binding and cross-linking.

T cells and B cells. T cells (thymus cells) and B cells(bone marrow- or bursa-derived cells) are the major cellular components of the adaptive immune response. T cells are involved in cell-mediated immunity, whereas B cells are primarily responsible for humoral immunity (relating to antibodies). An important difference between T-cells and B-cells is that B-cells can connect to antigens right on the surface of the invading virus or bacteria. This is different fromT-cells, which can only connect to virus antigens on the outside of infected cells.

AIS activation?

Cells of immune system?

Ans: Basophils Release histaie Eosiophils Kill atiod-oated parasites Neutrophils Phagotose atiod-oated pathoge Mast ells Release histaie he daaged Mootes Deelop ito arophages Marophages Egulf ad digest iroorgaiss Dedriti ells Preset atiges to T ells B ells Differetiate for atiod-

produig ells ad eor ells Plasa ells Serete atiodies T ells Kill irus-ifeted ells; regulate atiities of other hite lood ells Natural killer lse irus-ifeted/aerous ells

What is the function of Fc antibody in IgM 2

Ans: IgG only Ab that can pass from mother to fetus

placenta cells that are in contact with mothers blood have Fc receptors that are use to grab IgG and pass it to the fetus.

Functions of Thymus?

Ans: Function • Takes in immature T cells and puts out mature (immunocompetent) T cells • Increased diversity of T cells • T cell selection

Write about IgM Immunoglobulin 5

Ans: IgM first class of antibody to appear on the surface of a developing B cell.

The major class secreted in the early stages of a primary antibody response.

Secreted form, IgM is a pentamer, J chain is required for pentamer formation.

The binding of an antigen to a single secreted pentameric IgM molecule can activate the complement system, wich can either mark the pathogen for phagocytosis or kill it directly.

Write the name of chamicels that produce to attract the phygocytes? (2 marks)

Ans: serine protease and perforin molecules

Cells involve in immune system?

Cells Involved in Immunity

• Macrophages • B cells • T cells

Mast cells?

They are one kind of cells that involve in immune system their role is to release histamine.

Eman Akhter
21 February
Bt302 - Immunology
1- What is antigen?
2- Name two diseases that are caused by bacterial or viral infection used as vaccine?
3- Name types of receptors of cytokines?
4- Write the function of spleen?
5- Clinical symptoms of graft versus host reaction?
6- Mechanism of graft versus host reaction?
7- What is allergic contact dermetitis?
8- Write the function of lymph nodes?

VU Bio Mates
Admin ·
20 February
Bt302
1.Functional Categories of cytokines?
2. signal of cell mediated recepter?
3. Three names of vaccines which are live attenuated?
4. Explain the structure of B cell and T cell under microscope?
5.Mechanism of GVHR?
6. Define antibodies ?and five antibody classis in mammals?
7. Hypersensitivity?
8. Memmory cell and Nk cell

Chilli Milli
19 February
Bt302
1.Functional Categories of cytokines?
2. signal of cell mediated recepter?
3. Three names of vaccines which are live attenuated?
4. Explain the structure of B cell and T cell under microscope?
5.Mechanism of GVHR?
6. Define antibodies ?and five antibody classis in mammals?
7. Hypersensitivity?
8. Memmory cell and Nk cell

Ammara Mahmood
21 February
Bt302
Cytokines and its types 5 mark
Cytotixix t cells 3 marks
cytokines function, mode of action and recrptore types 10 mark
Three names of dissease from aulleated vaccine 3 mark
Name of oxygen independent antibiotics 3
What are t cells and two classes of t cells 2 mark
Hypersensitive reaction type1 5 mark
Baki yad ni MCqs b ajeeb sy thy

Mahzala Khan
26 June
Bt302 10 30am yesterday
1 Neotransmitance by acquired envirnmental conditions write 4 steps (5)
2 Function of lymph nodes(5)
3 Memory cell and natural killer(3)
4 Function of proto oncogene (3)
5 Proto Oncogene (2)
6 Cytokinesis first 2 released factors i guess the question was like that i dont remeber exactly (2)

QuRat Ul Ain
Admin ·
1 September
Bt302

Mcqs was very easy

1.what type of Immune Response is Elicited by alloatigens ? 2
2. write 2 diseases for which inactived bacterial cell or viral particles are use for vaccines ? 2
3. Write Disease for which live attenuated vaccines are are uses.3
4. write 6 symptoms of GVHR ? 3
5. how a capsular antigent serces as vaccine, which cell are activated by these antigens give example ? 5
what is cytokinases ? 5
what are the type of Hypersensitivity ? 5
Explain Function, mode of action and properties of cytokines ? 10

Zennia Khan
Admin ·
12 December 2017
Bt302:-
What is the function of Spleen?
What is MHC Protein?
How does MYC by MYC transfered to csncer cells?
What are antibodies?Name 5 antibodies in mammals.

Zennia Khan
Admin ·
13 December 2017
Bt302:-
What is mast cell?
What is proto-oncogenes?
What is the three types of proto-oncogenes? or be kch tha sath
What are the activation of cytotoxic T cells?
How b cells form lgM antibody (5)
or ek yd nhi

Areha Maham
18 December 2017
My todays paper of BT302 Immunology ...
cells k nam thy r likha tha un k functions btny hn strt ma jo hn cells
dndrtic cell basophls mast cell nutrophls
Define humoral and cellular immunity?
What are antigens?
What are the activation of cytotoxic T cells? 5 mrks frst wla b 5 mrks ka ha
or ak question ACP k accrdng tha

Rania Ch
9 September
BT 302 Final term 11:00am 9 Sep, 2018
1. Three names of vaccines which are live attenuated? 2 marks
2. Name two diseases that are caused by bacterial or viral infection used as vaccine? 2 marks
3. Name types of receptors of cytokines? 3 marks
4. Six Clinical symptoms of GVHR. 5 marks
5. What term is used for type III hypersensitivity? 2 marks
6. Which 2 machanism involved in Cytotixix t cells induced apoptosis? 3 marks
7. Interferon family. 3 marks
8. Hypersensitivity mechanism. 5 marks

9. How a capsular antigen serve as vaccine, which cells are activated by these vaccines, give 1 example. 5 marks
10. Cytokines function, mode of action and receptors types. 10 marks

Naila Fatima
20 February
Today's paper of BT 302(8:00am)
Define proto oncogene.
Define hypersensitivity.
Mechanism of hypersensitivity?
What you know about hypersensitivity type3.
Innate and adaptive immunity.
Define antibody and five types of antibody.
Cytokinase types .
Vaccines wala tha aik . baki yad nahi

Areha Maham
22 February
BT302 current solved papers JO file mny upload ki ha us ma ak mistake ha ..IS question ka ans wrong ha kindly ya ans note kr lijy

3- Name types of receptors of cytokines?
Divided into several families based on their structure and activities
• Hematopoietin family
• Interferon family
• Tumor Necrosis Factor family
• Chemokine family

Adm Malik
Admin ·
8 June 2017
Bt302

Function of thymus...2
How antigen are bound to antibodies... 2
3 names of cells... 3 is k answer me helper 3 cells,, effecter,, cytotoxic t cell
Function of eosnphill wagera...5
How recognition occurs by t cells...? 5

Hooria Saher
15 December 2017
Bt302:-
Total Q 26 (40 marks)
20 MCQs
Write the name of chamicels that produce to attract the phygocytes? (2 marks)
What is proto-oncogenes? (2 marks)
Write types of granular and aganular white blood cells? (3 marks)
MHC protein type, what it represent and which cells have MHC protein? (3 marks)
What are the activation of cytotoxic T cells? 5 marks
Write the function of Dendritic cells, Neurophils cells and explain? 5 marks

Noman Shaikh
15 August 2017
BT302 Immunology today's paper:
Q1: write down two diseases for which inactivated bacterial cells or viral particles are used as vaccines? (2) Marks'
Q2: What is a proto-oncogene? (2 marks)
Q3: how does the production of MYC by MYC pathway promote cancer? (2 marks)
Q4: how do the proto-oncogenes work after activation? Write down three types of proto-oncogenes? (3 marks)
Q5: write down the 6 clinical symptoms of GVHR? (3 marks)
Q6: write down that how the capsular antigens can serve as vaccines? Which cells can be activated by these antigens? Give one example. (5 marks)
Q7: how do the acquired environmental conditions bring neoplastic transformation? Write down the four steps. (5 marks)
Q8: what are vaccines? Write down their type and mechanism by which the whole organism vaccines and inactivated exotoxins (toxoid) induce immunity in the living system? (10 marks)
Q9: what is autoimmunity? Name the causes of autoimmunity and write down the types of autoimmunity in detail? (10 marks)

Adm Malik
Admin ·
8 June 2017
Bt302

1.Funtions of bone marrow..2 marks
2.Function of hinge reginion of antibody....2 marks
3.Write about IgG antibody....3 marks
4.Name the oxygen-independent of antibacterial,,,,,,Phagolysosome II....3 marks
5.write the recognition by T cells..... 5 marks
6.Write structure of antibody...? 5 marks

Adm Malik
Admin ·
6 June 2017
Bt302

What are antigens?
Define humoral and cellular immunity?
Function of effector b cells?
Function of spellen?
What are the activation of cytotoxic T cells?

Adm Malik
Admin ·
8 June 2017
Bt302

Lumph nodes.
Cytotoxic t cells.
Spleen function.
Name 3 cells used as an antigen presenting cells.
Proinflammantory cytokinises..... Immune cells.
How ig transported from epithelial cells.

Husnain Aziz
23 June
Bt 302(4-pm)
Qno 1:Receptors of innate immunity for PAMPS?2
Qno 2:Two signals of Antigen Presenting Cells?2
Qno 3:What do you know about IgG antibody?3
Qno 4:How proto oncogens act after activation & name their 3 types?3
Qno 5:Write note on T cell receptors?5
Qno 6:Name 5 different types of PAMPS & also write the sites where these are found/present?5

Adm Malik
Admin ·
4 June 2017
Bt302

What are interferons (2)
What are effector helperT cells (3)
Write names and functions of mhc proteins (3)
write funtions of spleen (3)
How b cells form igm antibody (5)
Write the steps when mast cells are activated and leukocytes enter the site of injury (5)

Scor Pain
22 February
Bt302 at 10:30am 22-Feb-18
1. Function, mode of action and recrptore types and ……. Cytokines. 10 mark
2. Mechanism of GVHR? 5
3. Cell mediated types of the immune response? 5
4. The antibodies produced by the humans forming the unlimited number of the light and heavy chains? 5
5. What is cytokinase? 3
6. Write the 3 signals used to activate the cytotoxic T cells? 3
7. Write down the 6 clinical symptoms of GVHR? 3
8. Write about the IgM antibody? 2
9. How IgA transferred from the epithelial cells? 2
10. What type of immune response is elicited by alloantigens? 2
And tough 40 Mcqs…

Adm Malik
Admin ·
15 August 2017
Bt302

immunology.. what is protogene(2)
what type of immune reponse is elicited by alloantigen(2)
how myc produced by myc mechanism promote cancers(2)
what is proto oncogene, write 3 types(3)
write 6 symptoms of vhdr(3)
neoplastic transformation and its 4 steps(5)
how capsular antigen serve as vaccine, which cells are activated by this antigen, give one example(5)
what are vaccines, write types how does whole organism and exotoxin vaccine iduce immune response(10)
what is auto immunity,write the causes,describe its type in details(10)

Emaan AhmEd
25 February
bt302
time:2:00pm

1-funcation ,catagories, mode of action and type of cytokines
2-capulAr antigen and its activation (10 marks)
3-activation of must cell
4-CTL mechanism
5-funcation of thymus
6-cell medaited immune response
7-type111

Hooria Saher
18 February
My today paper of BT201
Total Q 45 (77 marks)
34 mcqs
3 short Q 2 marks
1. What intermediate hypothesis suggests?
2. What is optimal theory?
3. Write four resons behind the fossils history uncomplete?
4 short Q 3 marks
1. Specie richness and diversity richness?
2. How the exicot predetrs distrub the food web?
3. Evoloitnry history of human?
4. What is hybrd weinberg principle?
Long Q 4
How mustulim took place and write human mulusim wth other species 10 marks
Why Lallys theory failed explain 5 marks
Write phyla of ameboid protozon and write mode of locomotion? 5 marks
Write significance of genetic life tree? 5 marks

Today's paper of BT 302(8:00am)
Define proto oncogene.

A proto-oncogene is a normal gene that can become an oncogene, either after mutation or increased expression.
Proto-oncogenes code for proteins that help to regulate cell growth and differentiation.
Proto-oncogenes are often involved in signal transduction and execution of mitogenic signals, usually through their protein products.
Upon activation, a proto-oncogene (or its product) becomes a tumor inducing agent, an oncogene.

Define hypersensitivity.

- Hypersensitivity (Immunological reaction)

refers to undesirable immune reactions produced by the normal immune system.

- Hypersensitivity reactions: When an immune response result in exaggerated OR in appropriate reactions harmful to the host, the term hypersensitivity OR allergy used.
- Hypersensitivity reactions: four types; based on the

mechanisms involved and time taken for the reaction, a

particular clinical condition (disease) may involve more than one type of reaction.

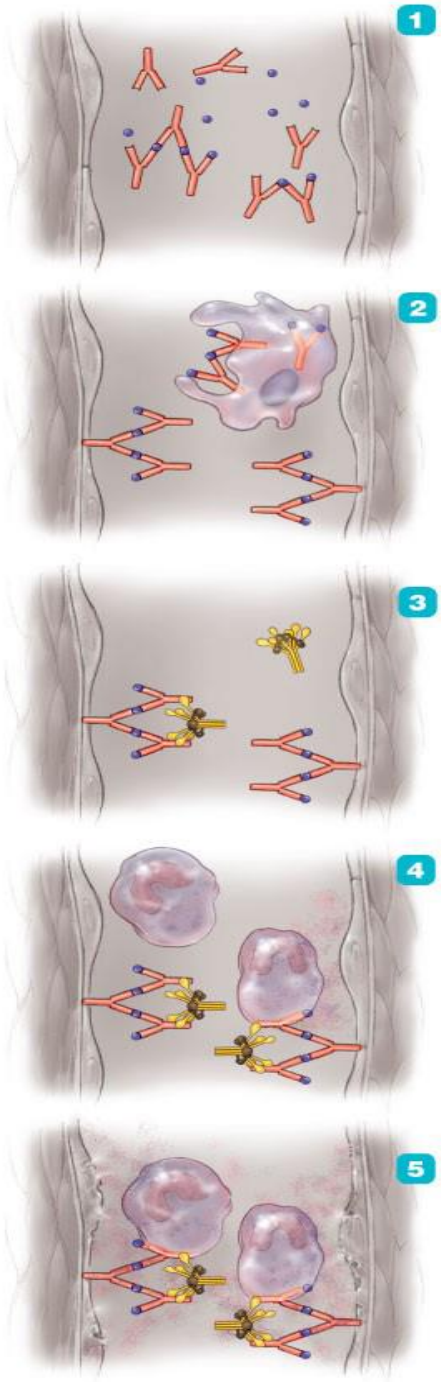
Mechanism of hypersensitivity?

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



Overview

Of the mechanism of type III (immune-complex mediated hypersensitivity

What you know about hypersensitivity type3.

- 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

Innate and adaptive immunity.

Inborn or innate immunity: It is present at birth; This is our First Line Of Defense.

Innate immunity
• If any invader penetrate the body's first line of defense mechanism is the innate immune system
• Components of innate immunity
• Epithelial barriers
• Cellular mechanisms
• Humoral mechanisms
• Role of innate immunity in stimulating adaptive immune response

Adaptive Immune System (AIS)
AIS has two components.
Humoral immunity is mediated by soluble antibody proteins produced by B lymphocytes that neutralize and kill pathogens/toxins (20%-30%).
Cellular immunity is mediated by T lymphocytes which target cells infected by a pathogen (60%-70%)

Define antibody and five types of antibody.

Cytokinase types .

Cytokines:

- 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

Functional Categories of Cytokines:

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

•

Vaccines wala tha aik . baki yad nahi

Bt302

1.Functional Categories of cytokines?

2. signal of cell mediated recepter?

Cell signaling is part of any communication process that governs basic activities of **cells** and coordinates all **cell** actions. The ability of **cells** to perceive and correctly respond to their microenvironment is the basis of development, tissue repair, and immunity, as well as normal tissue homeostasis. Proteins responsible for detecting stimuli are generally termed receptors, although in some cases the term sensor is used.[1] The changes elicited by ligand binding (or signal sensing) in a receptor give rise to a **signaling cascade**, which is a chain of biochemical events along a signaling pathway. When signaling pathways interact with one another they form networks, which allow cellular responses to be coordinated, often by combinatorial signaling events.[2] At the molecular level, such responses include changes in the transcription or translation of genes, and post-translational and conformational changes in proteins, as well as changes in their location.

3. Three names of vaccines which are live attenuated?

Tuberculosis

Typhoid

Rotavirus

Varicella zoster (chickenpox)

Yellow fever

4. Explain the structure of B cell and T cell under microscope?

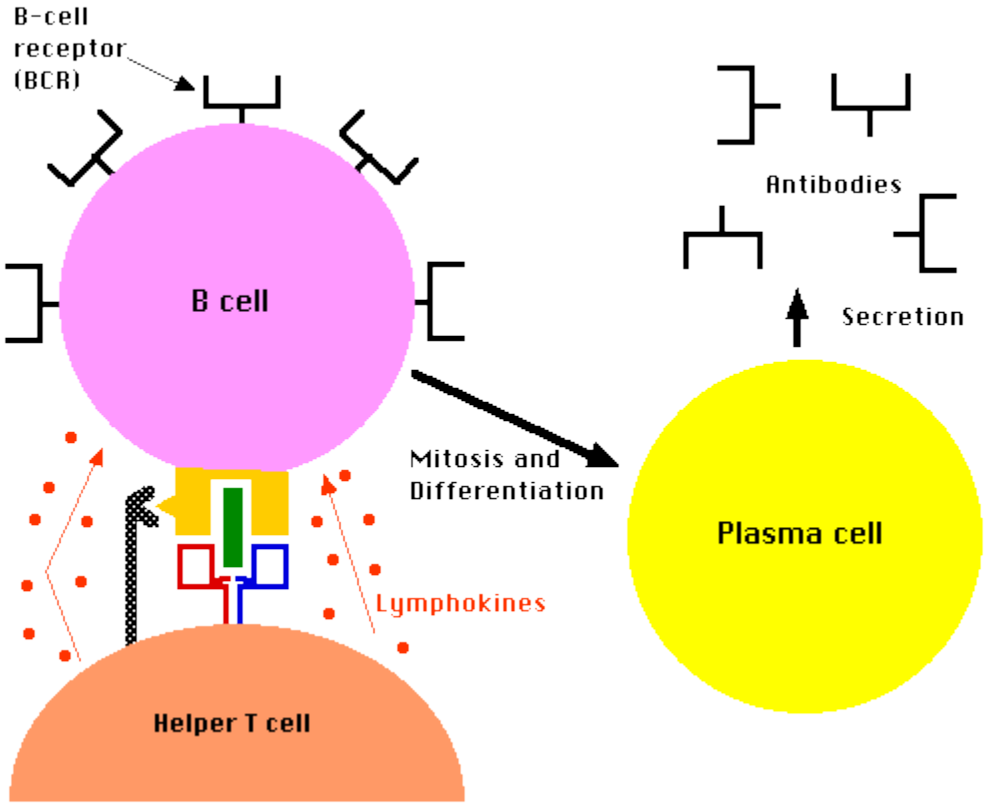
B Cells

- BCRs bind intact antigens (like diphtheria toxoid, the protein introduced into your body in the DTP vaccine). These may be
    - soluble molecules present in the extracellular fluid;

    - intact molecules that the B cell plucks from the surface of antigen-presenting cells like macrophages and dendritic cells.
- The bound antigen molecules are engulfed into the B cell by receptor-mediated endocytosis.
- The antigen is digested into fragments
- which are then displayed at the cell surface nestled inside a class II histocompatibility molecule.
- Helper T cells specific for this structure (i.e., with complementary TCRs) bind the B cell and
- secrete **lymphokines** that:
    - stimulate the B cell to enter the cell cycle and develop, by repeated mitosis, into a **clone** of cells with identical BCRs;

Link to discussion of clonal selection.

    - switch from synthesizing their BCRs as integral membrane proteins to a soluble version;
    - differentiate into **plasma cells** that secrete these soluble BCRs, which we now call **antibodies**.



T Cells

The surface of each T cell also displays thousands of identical **T cell receptors** (**TCR**s).

There are two types of T cells that differ in their TCR:

- **alpha/beta** (αβ) T cells. Their TCR is a heterodimer of an alpha chain with a beta chain. Each chain has a variable (V) region and a constant (C) region. The V regions each contain 3 **hypervariable regions** that make up the antigen-binding site. [Link]
- **gamma/delta** (γδ) T cells. Their TCR is also a heterodimer of a gamma chain paired with a delta chain.

The discussion that follows now concerns alpha/beta T cells. Gamma/delta T cells, which are less well understood, are discussed at the end [Link].

The TCR (of alpha/beta T cells) binds a bimolecular complex displayed at the surface of **some other cell** called an **antigen-presenting cell** (**APC**). This complex consists of:

- a fragment of an antigen lying within the groove of a
- histocompatibility molecule

5.Mechanism of GVHR?

- ✓ Graft versus host reaction In some instance the graft tissue elicits an immune response against host antigen and that immune response is called graft versus host reaction
- ✓ Graft versus host reaction brings damage to host cells and host
- ✓ When grafted tissue has mature T cells, they will attack host tissue leading to GVHR.

Mechanism of GVHR:

- ✓ Graft lymphocytes aggregate in the host lymphoid organs

- ✓ Graft lymphocytes are stimulated by the host lymphocyte
- ✓ Stimulated lymphocytes of graft produce lymphokines
- ✓ Lymphokines activate host T- cell which produce polyclonal b-cell activation
- ✓ Activated b-cell react with the self antigens and cause damage to the host cell

6. Define antibodies ?and five antibody classis in mammals?

a blood protein produced in response to and counteracting a specific antigen. Antibodies combine chemically with substances which the body recognizes as alien, such as bacteria, viruses, and foreign substances in the blood.

- IgA (immunoglobin A):
  - **Human immunoglobulin A (IgA)** is the second most common human immunoglobulin in serum. It is secreted in milk and is also the most prevalent lg in secretions (e.g. tears, saliva and mucous).
  - IgA is resistant to digestion and can activate the complement pathway when aggregated. It should also be noted both subclasses of IgA (IgA1 and IgA2) bind fragment crystallization (Fc) receptor
-
- IgD (immunoglobin D):
  - Expressed on the surface of mature B cells, **human immunoglobulin D (IgD)** works with IgM in B cell development.
  - IgD is found in very low levels in serum and does not activate the complement pathway
-
- IgE (immunoglobin E):
  - **Human immunoglobulin E (IgE)** is expressed on the surface of mature B cells. Human immunoglobulin IgE is the least abundant Ig in the serum and does not activate the complement pathway.
  - Fragment crystallization (Fc) receptors for IgE are found on eosinophils and IgE binds Fc receptors on mast cells and basophils even before interacting with antigen. As a result of its binding to basophils and mast cells, IgE is involved in allergic reactions. This happens when allergen is bound to IgE on cells and releases various pharmacological mediators which cause allergies.
-
- IgG (immunoglobin G):

- Human **IgG (immunoglobulin G)** is expressed on the surface of mature B cells and is the most prevalent Ig in serum and the major Ig in extravascular spaces. **IgG1, IgG2** and **IgG3** are complement activators, with IgG3 being the strongest.
- Human immunoglobulin subclasses IgG1 and IgG3 tend to strongly bind fragment crystallization (Fc) receptors, whereas subclasses IgG2 and IgG4 bind weakly. IgG is also the only human immunoglobulin to pass from mother to fetus to transfer immunity.

- IgM (immunoglobin M):
  - **Human IgM (immunoglobulin M)** is expressed on the surface of immature and mature B cells as monomers. IgM is the third most abundant human immunoglobulin.
  - IgM is also the first human immunoglobulin to be made by a fetus and virgin B cells which are challenged with antigen. IgM is a strong complement activator and agglutinator due to its pentameric structure and binds fragment crystallization (Fc) receptors.

7. Hypersensitivity?

8. Memmory cell and Nk cell:

Natural killer cells (also known as **NK** cells, K cells, and **killer** cells) are a type of lymphocyte (a white blood cell) and a component of innate immune system. **NK** cells play a major role in the host-rejection of both tumours and virally infected cells.

Memory cells:

a long-lived lymphocyte capable of responding to a particular antigen on its reintroduction, long after the exposure that prompted its production

Bt302 - Immunology

1- What is antigen?

In immunology, an **antigen** is a molecule capable of inducing an immune response (to produce an antibody) in the host organism. Sometimes **antigens** are part of the host itself in an autoimmune disease. **Antigens** are "targeted" by antibodies.

2- Name two diseases that are caused by bacterial or viral infection used as vaccine?

Otitis media is the official name for an infection or inflammation of the middle ear. ... Respiratory tract infections include sore throat, bronchitis, sinusitis, and pneumonia. Bacteria or viruses may be responsible for respiratory tract infections. Tuberculosis is a type of bacterial lower respiratory tract infection.M

3- Name types of receptors of cytokines?

Type I receptor

Type II

Type III

Tyoe IV

4- Write the function of spleen?

The **spleen** plays multiple supporting roles in the body. It acts as a filter for blood as part of the immune system. Old red blood cells are recycled in the **spleen**, and platelets and white blood cells are stored there. The **spleen** also helps fight certain kinds of bacteria that cause pneumonia and meningitis.

5- Clinical symptoms of graft versus host reaction?

Clinical manifestations of **acute**GVHD include a classic **maculopapular rash**; **persistent nausea** and/or emesis; abdominal cramps with **diarrhea**; and a rising serum bilirubin concentration

6- Mechanism of graft versus host reaction?

7- What is allergic contact dermetitis?

Allergic contact dermatitis:

- Cell-mediated immune response
- Results in an intensely irritating skin rash
- Triggered by chemically modified skin proteins that

the body regards as foreign

- Acellular, fluid-filled blisters develop in severe cases
- Can be treated with glucocorticoids

8- Write the function of lymph nodes?

Lymph nodes are major sites of B and T lymphocytes, and other white blood cells. **Lymph nodes** are important for the proper functioning of the immune system, acting as filters for

foreign particles and cancer cells. **Lymph nodes** do not have a detoxification function, which is primarily dealt with by the liver and kidneys.

Che301

How Analytical chemistry is used for the environmental analysis (2)

Source of error (2)

Chracteriatics Absorption band (5)

What is sample preparation (5)

Non polar sorbent (3)

Clarification of chromatography (3

Write equation that show relation between energy and wavelength (3)

Uv spectroscopy , it's principle and application (5)

Parts of spectrometr (3)

Detail on micro bore column (3)

Define sorbent, matrix , analyte, washing , elution solvent (5)

.Functional Categories of cytokines?

2. signal of cell mediated recepter?

Receptor-mediated endocytosis (RME), also called clathrin-mediated endocytosis, is a process by which cells absorb metabolites, hormones, other proteins – and in some cases viruses – by the inward budding of plasma membrane vesicles containing proteins with receptor sites specific to the molecules being absorbed (endocytosis).

3. Three names of vaccines which are live attenuated?

4. Explain the structure of B cell and T cell under microscope?

5.Mechanism of GVHR?

6. Define antibodies ?and five antibody classis in mammals?

7. Hypersensitivity?

8. Memmory cell and Nk cell

Bt302 - Immunology

1- What is antigen?

2- Name two diseases that are caused by bacterial or viral infection used as vaccine?

3- Name types of receptors of cytokines?

4- Write the function of spleen?

5- Clinical symptoms of graft versus host reaction?
6- Mechanism of graft versus host reaction?
7- What is allergic contact dermetitis?
8- Write the function of lymph nodes?

Bt302
Cytokines and its types 5 mark:

- 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 are in the functional types of cytokines.

Cytotixix t cells 3 marks:

A **cytotoxic T cell** (also known as **T**$_C$, **cytotoxic T**lymphocyte, CTL, **T**-killer **cell**, cytolytic **T cell**, CD8+**T**-**cell** or killer **T cell**) is a **T** lymphocyte (a type of white blood **cell**) that kills cancer **cells**, **cells** that are infected (particularly with viruses), or **cells** that are damaged in other ways.

cytokines function, mode of action and recrptore types 10 mark

- 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

Cytokinase types .

Cytokines:

- 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

Functional Categories of Cytokines:

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

Three names of dissease from aulleated vaccine 3 mark
Name of oxygen independent antibiotics 3

What are t cells and two classes of t cells 2 mark

A **T** cell, or **T** lymphocyte, is a type of lymphocyte (a subtype of white blood cell) that plays a central role in cell-mediated immunity. **T cells** can be distinguished from other lymphocytes, such as B **cells** and natural killer **cells**, by the presence of a **T**-cell receptor on the cell surface.

Types:

Types

- Helper. T helper cells (T_H cells) assist other white blood cells in immunologic processes, including maturation of B cells into plasma cells and memory B cells, and activation of cytotoxic T cells and macrophages. ...
- Regulatory (suppressor) ...
- Natural killer T cell. ...
- Mucosal associated invariant. ...
- Gamma delta T cells.

Hypersensitive reaction type1 5 mark

- Commonly called allergy
- Mediated by IgE antibodies produced by plasma cells in

response to stimulation of Th2 cells by an antigens.

- The antigens that stimulate it are called allergens

(i.e. House dust, Pollens, Cosmetics, Insects, Clothing and Drug)

- Exposure may be ingested, inhalation, injection or direct

contact.

- Type I hypersensitivity reactions can be systemic (e.g.,

systemic anaphylaxis) or localized to a specific target

tissue or organ (e.g., allergic rhinitis, asthma).

Baki yad ni MCqs b ajeeb sy thy

Today's paper of BT 302(8:00am)
Define proto oncogene.
Define hypersensitivity.
Mechanism of hypersensitivity?
What you know about hypersensitivity type3.
Innate and adaptive immunity.
Define antibody and five types of antibody.