

Unit 9 - Week 7

Course outline
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● Lecture 31 : Development of T Lymphocytes
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Assignment 7

The due date for submitting this assignment has passed.
As per our records you have not submitted this assignment.

Due on 2020-11-04, 23:59 IST.

Topics: T cell development, Negative/positive selection, co-stimulatory molecules

- 1) Which of the following organ is the origin of T cell progenitors? 1 point
- A. Thymus
B. Hepatocytes
C. Bone marrow
D. None of the above
- A.
 B.
 C.
 D.
- No, the answer is incorrect.
Score: 0
Accepted Answers:
C.
- 2) Immature thymocytes reside in the _____ region of thymus. 1 point
- A. Medulla
B. Cortex
C. Cortico-medullary junction
D. All of the above
- A.
 B.
 C.
 D.
- No, the answer is incorrect.
Score: 0
Accepted Answers:
B.
- 3) Which one of the following developmental stages of T cells first expresses the pre-T Cell Receptor (pre-TCR)? 1 point
- A. Double positive T cells
B. Single positive T cells
C. DN1 (Double negative 1) cells
D. DN3 (Double negative 3) cells
- A.
 B.
 C.
 D.
- No, the answer is incorrect.
Score: 0
Accepted Answers:
D.
- 4) γ : δ T cells are a minority population of T cells which lack – 1 point
- A. CD4
B. CD8
C. CD4 and CD8
D. CD3, CD4 and CD8
- A.
 B.
 C.
 D.
- No, the answer is incorrect.
Score: 0
Accepted Answers:
C.
- 5) In which of the following order rearrangement of a T cell receptor takes place? 1 point
- A. β chain rearrangement followed by α chain rearrangement
B. α and β chain rearrangement occurs simultaneously
C. α chain rearrangement followed by γ chain rearrangement
D. α chain rearrangement followed by β chain rearrangement
- A.
 B.
 C.
 D.
- No, the answer is incorrect.
Score: 0
Accepted Answers:
A.
- 6) The outcome of positive and negative selection is the generation of a mature conventional T-cell repertoire that is 1 point
- A. MHC-restricted
B. Self-tolerant
C. Both A and B
D. None of the above
- A.
 B.
 C.
 D.
- No, the answer is incorrect.
Score: 0
Accepted Answers:
C.
- 7) Unlike innate immune responses, adaptive immune responses are initiated in secondary lymphoid organs. However, the innate immune response to an infection in a tissue has a pivotal role in inducing T-cell responses in the nearest lymph node by activating tissue dendritic cells and inducing their migration to the lymph node. The above statement is - 1 point
- A. TRUE
B. FALSE
- A.
 B.
- No, the answer is incorrect.
Score: 0
Accepted Answers:
A.
- 8) When macrophages in the lung are infected with an intracellular bacterium, such as *Mycobacterium tuberculosis*, they are activated by the interactions of their pattern recognition receptors with the microbe. These activated macrophages will then: 1 point
- A. Migrate to the marginal sinus of the draining lymph node to activate naive CD4 T cells
B. Increase their phagocytic properties to scavenge dead and dying neighboring cells
C. Migrate to the red pulp of the spleen where they will remove immune complexes from the circulation
D. Up-regulate MHC class II and B7 molecules to amplify CD4 T cell responses in the lung
- A.
 B.
 C.
 D.
- No, the answer is incorrect.
Score: 0
Accepted Answers:
D.
- 9) Naive T cells scan the dendritic cells in the cortical region of the lymph node as they migrate. The initial encounter of T cells with dendritic cells is mediated by interactions between the T-cell receptor and the peptide:MHC complexes on the dendritic cell. The above statement is - 1 point
- A. TRUE
B. FALSE
- A.
 B.
- No, the answer is incorrect.
Score: 0
Accepted Answers:
B.
- 10) Cytotoxic effector T cells also produce inflammatory cytokines such as IFN- γ and TNF- α when their T-cell receptor recognizes peptide:MHC on a target cell. One effect of this cytokine secretion is to enhance the ability of CD8 effector T cells to recognize and kill other infected cells in the nearby vicinity. This enhanced activity is due to: 1 point
- A. The increased production of perforin and granzymes by CD8 cells
B. The up-regulation of MHC class I protein expression by IFN- γ
C. The ability of TNF- α to induce vascular leakage
D. The effect of IFN- γ to enhance viral replication leading to increased viral antigen presentation
- A.
 B.
 C.
 D.
- No, the answer is incorrect.
Score: 0
Accepted Answers:
B.