

Question 1.

A term generally used to describe all white blood cells is _____ .

- a. hematopoietic cells
- b. myeloid progenitor
- c. dendritic cells
- d. monocytes
- e. leukocytes

Question 2.

The most abundant type of leukocyte in human peripheral blood is the _____ .

- a. B cell
- b. basophil
- c. neutrophil
- d. monocyte
- e. T cell

Question 3.

What does the term multipotent mean with respect to stem cells?

- a. Same thing as pluripotent.
- b. The cell can display multiple phenotypes at the same time.
- c. The cell appears to have multiple nuclei.
- d. The descendants of the cell can display a variety of phenotypes.
- e. The descendants of the cell can display a variety of genotypes.

Question 4.

Removal of which of the following organs would have the most devastating impact on a newborn infant's immune system?

- a. Spleen
- b. Tonsils
- c. Appendix
- d. Thymus
- e. A few lymph nodes

Question 5.

As an embryo/fetus, your liver played an important role in the development of your immune system.

As a young adult, does your liver play any role in your immune system?

- a. No, its functions only in digestion, metabolism and detoxification.
- b. Yes, it is still a source of HSCs.
- c. Yes, it produces many proteins that are involved in innate immunity.
- d. I don't know.

Question 6.

What is the best definition of a ligand?

- a. any type of cell-surface molecule that binds to a specific site on a protein
- b. any type soluble molecule that binds to a specific site on a protein
- c. a protein molecule that interacts with a carbohydrate structure on a cell
- d. any type of molecule that binds to any part of a cell surface protein
- e. more than one of the above

Question 7.

What is the best definition of a receptor?

- a. a cell surface protein that binds a ligand and initiates a response
- b. a cytosolic or nuclear protein that binds to a signal molecule
- c. a cell surface protein that acts as a cell adhesion molecule
- d. a cell surface protein that is always internalized after binding a ligand
- e. more than one of the above

Question 8.

What is the best definition of a cytokine?

- a. a small protein that affects the behaviour of other cells
- b. a small protein that acts as a chemoattract to recruit cells to a specific area
- c. a small protein that permeates the plasma membrane to modulate gene expression
- d. a small protein that affects gene expression in cells but not proliferation
- e. a small protein that binds to a specific ligand on the cell

Question 9

Mitogen-activated protein kinases (MAPKs) are a highly conserved family of S/T protein kinases involved in a variety of fundamental cellular processes such as proliferation, differentiation, motility, etc.

MAP kinase pathways are often activated by the GTPases.

The protein that is called “Raf” could be described as a:

- a. MAP kinase
- b. MAP kinase kinase
- c. MAP kinase kinase kinase
- d. a superkinase

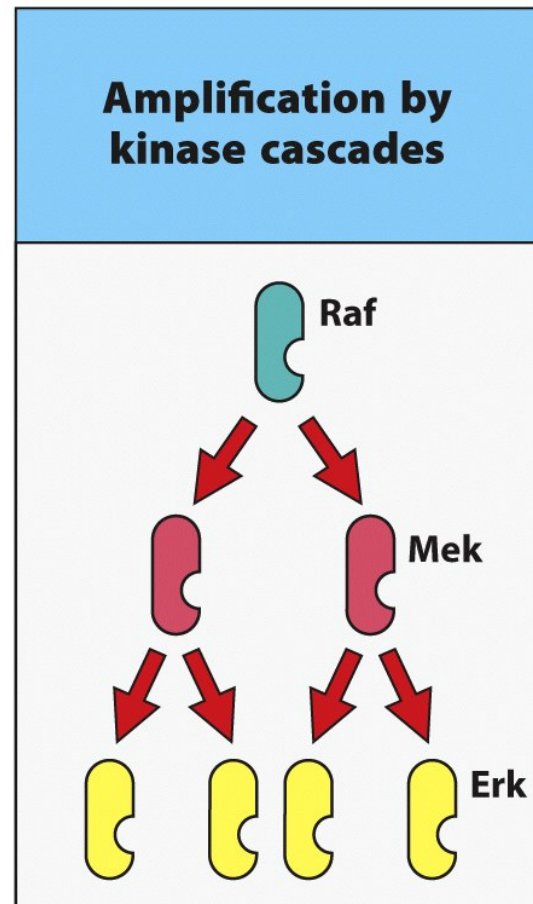


Figure 7.7 Janeway's Immunobiology, 8ed. (© Garland S

Answers:

E, C, D, D. C, E (a and b), E (a and b), A, C