

Assigned-10/27/2023. Due-11/01/2023, by 3:35 pm! Homework will not be accepted at the end of class!

-Dr. DeCoster

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Instructions: Short answers may be indicated on this sheet; add additional sheets for longer answers.

1. The release of cytochrome c from _____ (organelle), usually contributes to the process of _____.
2. Energy levels (ATP) are usually maintained or lost in active apoptosis?
3. Fast cell swelling would be expected mostly in necrosis or apoptosis?
4. True or false: apoptosis is only involved in disease and injury.
5. True or false: active apoptosis requires protein processing.
6. Caspases are proapoptotic or anti-apoptotic?
7. Put the following factors in order of likely appearance in apoptosis from upstream to downstream: 1) cytochrome C release; 2) ceramide generation; 3) endonuclease activation; 4) NGF withdrawal
8. True or false: impaired DNA repair mechanisms would be negative feedback for the process of apoptosis.
9. Bcl2 protein is positive or negative feedback effect on apoptosis?
10. True or false: caspases may activate other caspases.
11. Which process would be considered to cause more inflammation: necrosis or apoptosis?
12. LDH release would be considered to occur most likely in apoptosis or necrosis?

13. The process of neurotransmitter uptake by astrocytes at the synapse would be considered positive or negative feedback?
14. Glutamate released into the synaptic cleft would most likely communicate with which: A) the presynaptic cell or B) the postsynaptic cell?
15. True or false: the cellular morphology of neuronal dendrites and axons are almost identical?
16. Choose the best answer: inhibitory neurons work mainly by A) reuptake of inhibitory neurotransmitter; b) reuptake of excitatory neurotransmitter, or c) release of inhibitory neurotransmitter.
17. True or false: axons only synapse on dendrites.
18. Spinal motor neurons use what substance as their neurotransmitter?
19. Name the cell that is most responsible for uptake of glutamate in the brain.
20. Name the most likely enzyme that is a key to active coupling of neurotransmitter metabolism between neurons and astrocytes in the brain.
21. Name the structure that normally restricts the access of immune cells from the blood to the brain.
22. True or false: microglia in the brain retain the ability to divide (proliferate).
23. When functioning normally, glia in the brain mainly demonstrate positive or negative feedback?