Cell Communication Quiz PDF

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Which components are involved in phosphorylation cascades? (Select all that apply)

- [ ] Protein kinases
- [ ] Phosphatases
- [ ] DNA polymerase
- [ ] Ribosomes

Which cellular responses can result from signal transduction? (Select all that apply)

- [ ] Gene expression
- [ ] Metabolic changes
- [ ] Protein synthesis
- [ ] Apoptosis

Describe the role of neurotransmitters in synaptic signaling and provide an example.

Which of the following are examples of direct contact signaling? (Select all that apply)

- [ ] Synaptic signaling
- [ ] Juxtacrine signaling
- [ ] Gap junctions
- [ ] Endocrine signaling

What is the term for programmed cell death as a response to signaling?

- ◯ Necrosis
- ◯ Apoptosis
- ◯ Autophagy
- ◯ Senescence

What is the primary role of neurotransmitters in the nervous system?

- ◯ Energy production
- ◯ Signal transmission
- ◯ Structural support
- ◯ Immune response

Which molecule acts as a second messenger in many signal transduction pathways?

- ◯ ATP
- ◯ cAMP
- ◯ DNA
- ◯ RNA

Which of the following are types of cell surface receptors? (Select all that apply)

- ☐ G-protein-coupled receptors
- ☐ Ion channel receptors
- ☐ Nuclear receptors
- ☐ Enzyme-linked receptors

Which disease is often associated with dysregulation of signaling pathways?

- ◯ Osteoporosis
- ◯ Cancer
- ◯ Asthma
- ◯ Hypertension

Which of the following are considered signaling molecules? (Select all that apply)

- ☐ Insulin
- ☐ Dopamine
- ☐ Glucose
- ☐ Estrogen

Which diseases are related to failures in cell communication? (Select all that apply)

- [ ] Diabetes
- [ ] Alzheimer's disease
- [ ] Influenza
- [ ] Cancer

Which process involves the removal of receptors from the cell surface?

- ◯ Receptor desensitization
- ◯ Endocytosis
- ◯ Degradation
- ◯ Phosphorylation

Discuss the role of second messengers in amplifying a signal within a cell.

Which type of cell signaling involves hormones traveling through the bloodstream to distant cells?

- ◯ Autocrine
- ◯ Paracrine
- ◯ Endocrine
- ◯ Juxtacrine

Why is it important for cells to have mechanisms to terminate signaling, and what could happen if these mechanisms fail?

What type of receptor is located inside the cell and binds to hydrophobic signaling molecules?

- ◯ Cell surface receptor
- ◯ Internal receptor
- ◯ G-protein-coupled receptor
- ◯ Ion channel receptor

Explain how paracrine signaling differs from endocrine signaling in terms of distance and mechanism.

How do G-protein-coupled receptors initiate a cellular response upon ligand binding?

What are some ways in which cells can alter their gene expression in response to external signals?

Which signaling molecule is primarily involved in the immune response?

- ◯ Hormone
- ◯ Neurotransmitter
- ◯ Cytokine
- ◯ Pheromone