

Cell Regulation & Cancer Notes

- The cell cycle is a very _____ process.
- Regulation of the cell cycle is important for _____ cell growth.
- To **regulate** means “to _____.”
- Throughout the cell’s cycle, there are built in “_____” that are designed to be a check and balance system for the cell.
- Information from both inside and outside the cell (internal and external) help _____ the cell cycle.
- Along the cell cycle, there are checkpoints to ensure that the cell is:
 - Growing Replicating DNA
 - Cell functions
- **External Factors**
 - There are external physical and chemical signals that help regulate the cell cycle.
 - Many cells release chemical signals that tell other cells to grow.
 - _____ are proteins that stimulate cell division.
 - Cut skin
- **Internal Factors**
 - External factors bind to a _____ on the cell membrane.
 - This starts a response inside the cell.
 - These internal factors include _____ and proteins that help a cell move through the cell cycle.
- **What happens if a cell fails at a checkpoint?**
- **Apoptosis**
 - Just as cells need to grow and divide, other cells need to _____.
 - Internal or external signals can start an orderly process of cell death.
 - The cell is broken down and its parts are _____ in building other molecules.
 - The process of programmed cell death is called _____.
- Uncontrolled cell division is known as _____.
- Cancer cells form disorganized clumps called _____.
 - _____ tumors remain clustered and can be removed.
 - _____ tumors metastasize, or break away, and can form more tumors.
- Cancer cells do not carry out necessary functions.
- Cancer cells come from normal cells with damage to genes involved in cell-cycle regulation.
- Substances that are known to cause or lead to cancer are called _____.
 - Air pollutants
 - Tobacco smoke
 - UV Rays