

## Introduction to 'Central Dogma of Life'

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1. Define the Central Dogma of Life and explain its importance in the field of biotechnology.
2. Identify and describe the structural and functional components of a cell, drawing parallels to a corporate house for better understanding.
3. Perform microscopic observation of cells to understand their morphology and organization.
4. Analyze the chemistry of the cell, including the biological macromolecules DNA, RNA, proteins, lipids, and carbohydrates, with a focus on biological membranes.
5. Demonstrate practical skills in techniques such as SDS-PAGE, agarose gel electrophoresis, and preparation of buffers to understand the chemical properties of amino acids.
6. Explain the role of enzymes as wonder molecules in the cell and compare their superiority over inorganic catalysts.
7. Conduct an enzyme assay to determine enzyme activity and specificity.
8. Explore Recombinant DNA Technology (RDT) as an outcome of cellular biochemistry and describe its basic protocol and applications in commercial production.
9. Perform a practical on blue-white screening to differentiate between recombinant and non-recombinant DNA.
10. Evaluate the application of biotechnology with whole microbial cells and enzymes, focusing on the immobilization technique for enhanced productivity.

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