

# Review Paper on Cancer: Classification, Molecular Insights, and Therapeutic Advancements with Emphasis on Breast and Lung Cancer

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**Abstract:** Cancer remains a leading cause of morbidity and mortality worldwide. Characterized by uncontrolled proliferation and spread of abnormal cells, it encompasses a heterogeneous group of diseases. This review provides a comprehensive overview of cancer classification, highlights the molecular mechanisms underlying oncogenesis, discusses advancements in diagnosis and therapy with a special focus on breast and lung cancers, and evaluates emerging treatment strategies such as immunotherapy, targeted therapy, CAR-T cell therapy, nanomedicine, and artificial intelligence in oncology. Cancer is a group of diseases characterized by the uncontrolled growth and spread of abnormal cells. If not controlled, it can result in death. The transformation of normal cells into cancerous ones involves multiple steps, typically progressing from a pre-cancerous lesion to malignant tumors.

**Keywords:** Cancer, Breast Cancer, Lung Cancer, Immunotherapy, CAR-T therapy, Nanomedicine, Artificial Intelligence, Targeted Therapy

