

# A Short Note on Cancer Genetics

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## Editorial

The study of cancer genetics has revealed that many types of cancer are caused by changes in the DNA sequence. These changes, known as mutations, can be inherited or acquired during a person's lifetime. Inherited mutations are passed from parent to child, while acquired mutations occur in somatic cells and are not passed on to offspring. Some mutations are found in all cells of the body, while others are found only in certain tissues or organs. The location and type of mutation can determine whether it is likely to cause cancer. For example, mutations in the BRCA1 and BRCA2 genes, which are involved in DNA repair, are associated with an increased risk of breast and ovarian cancer. Mutations in the KRAS gene, which is involved in cell growth and division, are common in many types of cancer, including lung, colon, and pancreatic cancer. Understanding the genetic basis of cancer can help researchers develop new treatments and diagnostic tests. For example, targeted therapies are designed to block the activity of specific proteins that are overactive in cancer cells. These therapies are often more effective and have fewer side effects than traditional chemotherapy. In addition, genetic testing can be used to identify people who are at high risk of developing certain types of cancer, so they can be monitored more closely and treated early if needed. However, there are also ethical concerns about genetic testing, particularly regarding privacy and discrimination. It is important to have a thorough understanding of the risks and benefits of genetic testing before deciding whether to undergo the test.

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