

# ABOUT GENETIC MUTATIONS AND CANCER

**A genetic mutation is a permanent alteration in the DNA sequence that makes up a gene.**

Not all genetic mutations are harmful, but those that are classified as “pathogenic” (disease-causing) or “suspected pathogenic” may increase the risk of cancer.



## Genes

Contain information to make proteins



## Proteins

Responsible for functions within cells, like cell growth



## Genetic mutations

Change how proteins function, such as by causing healthy cells to become cancerous



## Cancer-associated genetic mutations

Certain mutations in several different types of genes, including *BRCA1* and *BRCA2*, have been linked to a higher cancer risk

## Somatic mutations are non-hereditary

## Germline mutations are hereditary

