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## Genes

A gene is a short piece of DNA. Genes tell the body how to build specific proteins. There are about 20,000 genes in each cell of the human body. Together, they make up the blueprint for the human body and how it works.

A person's genetic makeup is called a genotype.

## Information

Genes are made of DNA. Strands of DNA make up part of your chromosomes. Chromosomes have matching strands of DNA that make specific genes. Except for the sex chromosomes (X and Y), chromosomes are paired so there are 2 genes, 1 on each chromosome. The gene occurs in the same position on each chromosome.

Genetic traits, such as eye color, are dominant or recessive:

- Dominant traits are controlled by 1 gene in the pair of chromosomes.
- Recessive traits need both genes in the gene pair to work together.

Many personal characteristics, such as height, are determined by more than 1 gene. However, some diseases, such as sickle cell anemia, can be caused by a change in a single gene.

## References

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Updated by: Linda J. Vorvick, MD, Clinical Professor, Department of Family Medicine, UW Medicine, School of Medicine, University of Washington, Seattle, WA. Also reviewed by David C. Dugdale, MD, Medical Director, Brenda Conaway, Editorial Director, and the A.D.A.M. Editorial team.



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