

What is a Chromosome?

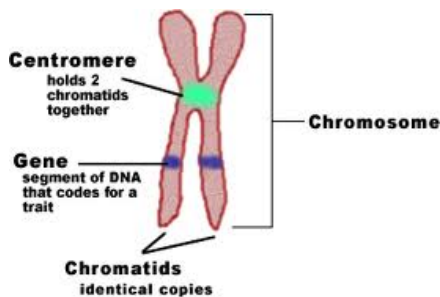
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Structure of the Chromosome



A chromosome is made up of DNA and protein present in the nucleus of the in cells.

It looks like a single piece of coiled DNA with many genes, regulatory elements and other nucleotide sequences. They also contain DNA-bound proteins that help to package the DNA and control its functions.



Chromosomes are present in the cell nucleus. It is the long DNA molecule is

compacted into a thread like structures. Each chromosome is made up of DNA which is tightly coiled around proteins called histones that support its structure.

Define Chromosome:

Chromosome is a very long DNA molecule and associated proteins, which carries portions of the hereditary information of an organism.

Chromosomes to DNA:

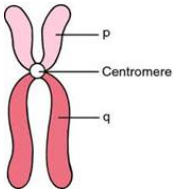
Chromosomes are not visible for naked eyes and even with the help of microscope too it is not visible in the nucleus before cell division. But the DNA which makes up the chromosomes becomes more compacted during cell division and is then it can be seen under a microscope.

Chromosome Structure:

Centromere is the constriction point of chromosomes. It divides the chromosome into two “arms.”

- The short arm of the chromosome is named as “p arm.”

- The long arm of the chromosome is named as “q arm.”



The centromere provides chromosomes its shape, and can be used to help describe the location of specific genes.

How many chromosomes do humans have?

The eggs and sperms present in human females and males respectively known as the reproductive cells.

In humans, each cell contains 46 chromosomes in total with 23 pairs of chromosomes. 22 pairs are called as autosomes, which are same in both males and females. But the 23rd pair is the special sex chromosomes, which decides the sex of the humans differs between males and females. Females have two copies of the X chromosome XX and the males have one X and one Y chromosome XY.

The mother always provides one X chromosome to the child. But, the father may transmit a X chromosome or a Y chromosome. So, it is the father that determines the sex of the child.

The right number of chromosomes with the correct structure of reproductive cells is very important in the reproduction process. If not the offspring may not develop properly.

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